



## REPORT

# Geotechnical and Environmental Investigation Report

## *Liverpool Civic Place*

Submitted to:

**Built Pty Ltd**

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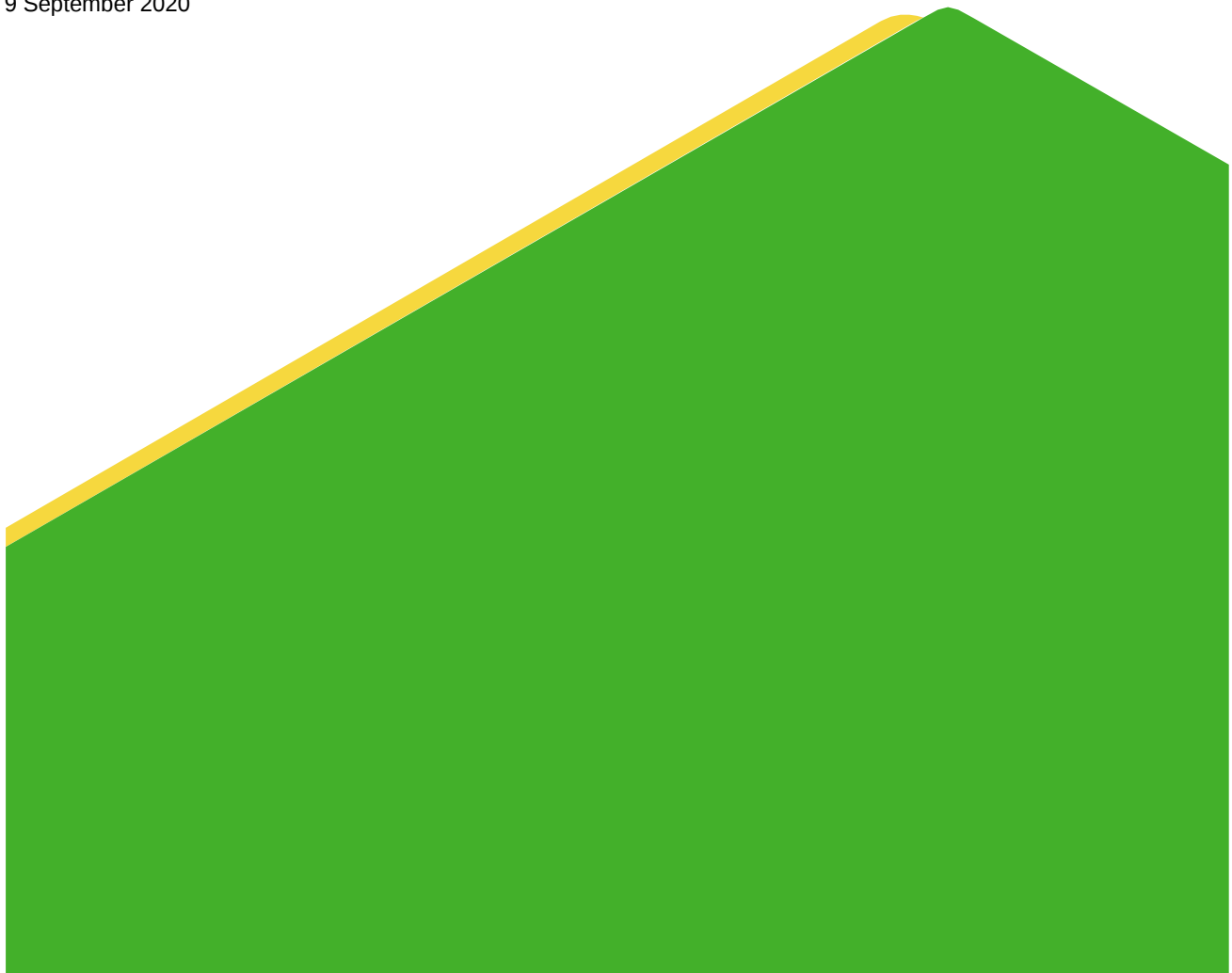
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# Distribution List

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# Table of Contents

|                                                        |           |
|--------------------------------------------------------|-----------|
| <b>1.0 COVER OF THIS REPORT .....</b>                  | <b>5</b>  |
| <b>2.0 INTRODUCTION .....</b>                          | <b>8</b>  |
| 2.1 Project Understanding.....                         | 8         |
| 2.2 Objective and Outcome.....                         | 9         |
| 2.3 Background information .....                       | 9         |
| <b>3.0 REGIONAL GEOLOGY .....</b>                      | <b>10</b> |
| <b>4.0 SCOPE OF WORK AND METHODOLOGY .....</b>         | <b>11</b> |
| 4.1 Borehole Investigation.....                        | 11        |
| 4.2 Installation of Groundwater Monitoring Wells ..... | 12        |
| 4.3 Groundwater sampling .....                         | 13        |
| 4.4 Permeability Tests.....                            | 13        |
| 4.5 Laboratory Testing .....                           | 14        |
| 4.5.1 Geotechnical Testing .....                       | 14        |
| 4.5.2 Soil Quality Testing .....                       | 14        |
| 4.5.3 Groundwater Quality Testing .....                | 14        |
| <b>5.0 RESULTS OF INVESTIGATION.....</b>               | <b>16</b> |
| 5.1 Subsurface Investigation.....                      | 16        |
| 5.2 Groundwater.....                                   | 16        |
| 5.2.1 Groundwater Level.....                           | 16        |
| 5.2.2 Permeability .....                               | 19        |
| 5.3 Results of Laboratory Testing .....                | 20        |
| 5.3.1 Unconfined Compression Test.....                 | 20        |
| 5.3.2 Soil Assessment Criteria .....                   | 20        |
| 5.3.3 Soil Analytical Results.....                     | 20        |
| 5.3.4 Groundwater Assessment Criteria .....            | 21        |
| 5.3.5 Groundwater Analytical Results.....              | 21        |
| <b>6.0 GROUND MODEL.....</b>                           | <b>24</b> |
| <b>7.0 DISCUSSION AND RECOMMENDATION .....</b>         | <b>26</b> |
| 7.1 Geotechnical Design Parameter .....                | 26        |

|            |                                                           |           |
|------------|-----------------------------------------------------------|-----------|
| 7.2        | Hydrogeological Assessment .....                          | 27        |
| 7.2.1      | Groundwater Inflow .....                                  | 27        |
| 7.2.2      | Groundwater Quality .....                                 | 28        |
| 7.3        | Recommended Retention System .....                        | 28        |
| 7.4        | In-Situ Stress .....                                      | 29        |
| 7.5        | Excavatability .....                                      | 30        |
| 7.6        | Impact on Surrounding Structures and Infrastructure ..... | 31        |
| 7.6.1      | Ground Movement .....                                     | 31        |
| 7.6.2      | Groundwater Level Drawdown .....                          | 32        |
| 7.6.3      | Vibration .....                                           | 32        |
| 7.7        | Monitoring Regime .....                                   | 32        |
| 7.8        | Foundation Options .....                                  | 32        |
| 7.9        | Indicative Waste Classification .....                     | 32        |
| 7.10       | Additional Investigation .....                            | 34        |
| <b>8.0</b> | <b>LIMITATIONS .....</b>                                  | <b>35</b> |

## TABLES

|           |                                                               |    |
|-----------|---------------------------------------------------------------|----|
| Table 1:  | Summary of groundwater standpipe construction details .....   | 13 |
| Table 2:  | Summary of boreholes .....                                    | 16 |
| Table 3:  | Summary Groundwater level measurements .....                  | 17 |
| Table 4:  | Summary permeability test results .....                       | 19 |
| Table 5:  | Summary of Unconfined Compression Test .....                  | 20 |
| Table 6:  | Field groundwater quality parameters .....                    | 21 |
| Table 7:  | Summary of groundwater exceedances .....                      | 22 |
| Table 8:  | Stratigraphic units .....                                     | 24 |
| Table 9:  | Ground conditions .....                                       | 25 |
| Table 10: | Design parameters for retaining structures and footings ..... | 26 |
| Table 11: | Estimated Preliminary Groundwater Inflow .....                | 27 |
| Table 12: | Exceedances of CT1 Waste Classification Criteria .....        | 33 |
| Table 13: | Summary of TCLP Results .....                                 | 33 |

## FIGURES

|           |                                                       |   |
|-----------|-------------------------------------------------------|---|
| Figure 1: | Indicative Photomontage of the Concept Proposal ..... | 6 |
|-----------|-------------------------------------------------------|---|

|                                                                             |    |
|-----------------------------------------------------------------------------|----|
| Figure 2: Site lot boundaries (site outlined red).....                      | 6  |
| Figure 3: Site aerial.....                                                  | 7  |
| Figure 4: Site layout.....                                                  | 8  |
| Figure 5: Geological map.....                                               | 10 |
| Figure 6: Site topography (value shown is in m AHD).....                    | 10 |
| Figure 7: Investigation layout plan.....                                    | 12 |
| Figure 8: Combined Hydrograph (data between July and August 2019) .....     | 17 |
| Figure 9: Combined Hydrograph (data between July 2019 and March 2020) ..... | 18 |
| Figure 10: Field measurements of excavations in rock.....                   | 30 |
| Figure 11: Excavatability of ground units.....                              | 31 |

## **APPENDICES**

### **APPENDIX A**

Borehole Location Plan

### **APPENDIX B**

Report of Borehole Logs

### **APPENDIX C**

Geotechnical Laboratory Test Certificates

### **APPENDIX D**

Waste Classification and Water Quality Analysis Test Certificates

### **APPENDIX E**

Hydraulic 'Slug' Tests

### **APPENDIX F**

Water Quality

### **APPENDIX G**

Important Information

## 1.0 COVER OF THIS REPORT

This Geotechnical and Environmental Investigation Report has been updated for Liverpool City Council (Council) in support of a Section 4.55(1A) Modification Application to Development Consent DA-906/2019 for site preparation and early works at 52 Scott Street, Liverpool (the site) also known as Liverpool Civic Place.

Development Application DA-906/2019 was approved by the Sydney Western City Planning Panel on 29 June 2020. The development consent relates to demolition of all structures, select tree removal and bulk earthworks including shoring through the use of piles.

The original DA relates to the broader Liverpool Civic Place site redevelopment plan which is detailed within the Concept DA (DA/485/2019) submitted to Council on 17 September 2019. Specifically, the Concept Proposal seeks approval for various uses within proposed building envelopes, including:

- A building envelope with a maximum height of RL 43.45 for the purpose of an information and education facility (public library) use.
- A building envelope with a maximum height of RL 84.25 for the purpose of a public administration building use, and either (or a combination of) commercial premises or child-care centre uses.
- A building envelope with a maximum height of RL 118.85 which will accommodate either (or a combination of) commercial premises, educational establishments, tourist and visitor accommodation or boarding house (student accommodation) uses.
- A landscaping and public domain concept including the provision of a public through-site link running north to south through the site, connecting Scott Street to the north through to Terminus Street to the south; and

A building envelope for a three-level shared basement car park across the entire site to accommodate parking for all future uses (approximately 413 spaces, to be determined as part of future detailed DAs) and accommodating a public car park to be owned by Council.

Following determination of DA-906/2019, development partners Built Development Group and Liverpool City Council recognised there was additional demand for public car parking within Liverpool Civic Place project. In addition, the original excavation works did not consider excavation to accommodate future pad footings. As such, this has necessitated a Section 4.55(1A) Modification Application to seek consent for deeper excavation and associated structure to accommodate an additional half level of basement.

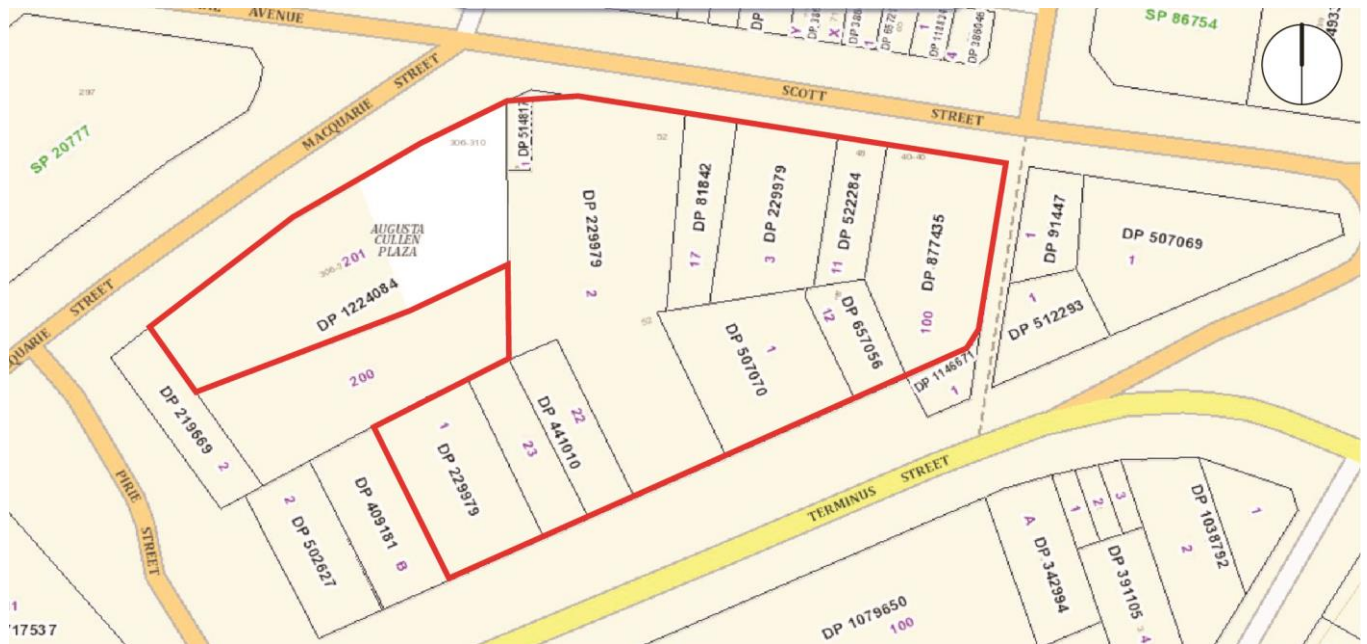
The Modification Application also seeks consent for a minor extension of the demolition works to existing planters and ramps on the adjoining lot to the west (Lot 201 in DP 1224084 also owned by Liverpool City Council).

The detailed design including the basement of the Liverpool Civic Place will be subject of separate Stage 2 DA(s). The benefits of this approach would allow the expedited local assessment and determination of an application for these additional 'early works', which are key to ensuring the development can be delivered in a timely manner.



**Figure 1: Indicative Photomontage of the Concept Proposal**

Source: FJMT



**Figure 2: Site lot boundaries (site outlined red)**

Source: Six Maps and Ethos Urban



**Figure 3: Site aerial**

*Source: Nearmap and Ethos Urban*

## 2.0 INTRODUCTION

This report presents the results of geotechnical and environmental investigations carried out by Golder Associates Pty Ltd (Golder) for the proposed mixed-use development known as Liverpool Civic Place at 52 Scott Street, Liverpool (the site).

The work was authorised by Built Pty Ltd (Built) in an email received on 27<sup>th</sup> June 2019. The investigation was conducted in accordance with our proposal (ref.: P19125312-001-P-Rev1) dated 20<sup>th</sup> June 2019.

In this revision, we have considered a bulk excavation level at RL +6.75 m AHD as instructed on 21 August 2020.

### 2.1 Project Understanding

The proposed mixed-use development is understood to consist of a public library, public administration building and a commercial building with a shared five basement-levels car park. Built have informed us that the bulk excavation is at RL+6.75 m AHD.

The site is irregular in shape and has a total area of 9,189.5 m<sup>2</sup> and has road frontages including a frontage to Scott Street to the north and Terminus Street to the south.

The site is currently occupied by a two-storey commercial building with a large frontage to Scott Street. The commercial building has an above-ground car parking structure at the rear with a frontage to Terminus Street. The eastern portion of the site is occupied by a two-storey retail building with an adjoining car park at the rear. The two existing buildings are divided by a central vacant lot.

The only adjacent building in the vicinity with a basement is located to the north-west of the site. Based on the site walkover with representatives from Built on 11<sup>th</sup> June 2019, the building appears to be a nine-storey mixed-use apartment block with two and a half levels of basement. We have been informed that it is a drained basement.

We understand that the development of the site may be staged with phases as shown in Figure 4.



Figure 4: Site layout

## 2.2 Objective and Outcome

The objective of the investigation is to identify potential ground related risks to support the design of the basement structures and building foundations for the development. This has been addressed through the following investigations:

- Auger drilled holes with Standard Penetration Test (SPT) at intervals to assess the soil condition and for collection of soil samples for laboratory testing
- Rock coring with Point Load Test at intervals to infer the rock strength and collection of rock core for laboratory testing; and
- Installation of groundwater monitoring wells in selected boreholes with in-situ permeability testing and collection of groundwater samples for laboratory testing.

The outcomes of the fieldwork program are to provide:

- Drained and undrained soil and rock design strength parameters
- Young's modulus of soils and rocks
- Advice on possible lateral retention and foundation options
- Estimated groundwater inflow to the excavation site
- Preliminary assessment of potential contamination issues that may pose a risk to the proposed development
- Characterisation of groundwater quality for water seepage treatment and disposal requirements
- Indicative waste classification of fill and underlying natural materials for off-site disposal; and
- Assessment and recommendation of additional investigations, testing and/or monitoring.

## 2.3 Background information

The following documents were reviewed in preparing this report:

- Preliminary Site (Contamination) Investigation (ref.: 85594.00.R.001.Rev1) by Douglas Partners (DP 2017a) dated 10<sup>th</sup> May 2017;
- Preliminary Groundwater Contamination and Waste Classification Assessment (ref.: 85594.00.R.002.Rev1) by Douglas Partners (DP 2017b) dated 10<sup>th</sup> May 2017;
- Preliminary Site Investigation (ref.: 85594.01.R.001) by Douglas Partners (DP 2019a) dated 15<sup>th</sup> April 2019
- Preliminary Geotechnical Investigation (ref.: 85594.01.R.001) by Douglas Partners (DP 2019b) dated 18<sup>th</sup> April 2019
- Architectural drawings (ref., BLCP SD-AR Rev E) by fmjt dated 28 August 2020; and
- Early Works (Stage 1 Works only) Structural Drawings received from RBG dated 28 August 2020

### 3.0 REGIONAL GEOLOGY

The Penrith 1:100,000 Geological Map<sup>1</sup> indicates that the site is predominantly underlain by the Bringelly Shale followed by Ashfield Shale of the Wianamatta Group. Minchinbury Sandstone may be present, sandwiched between Bringelly Shale and Ashfield Shale as shown in Figure 5.

Figure 6 shows the site topography extracted from DFSI Spatial Services in m referenced from Australian Height Datum (AHD). The ground level along the southern part of the site (i.e. ~28 m AHD at Terminus Street) is approximately 2 m higher than the northern side (i.e. ~26 m AHD at Scott Street). The general ground level of the area is sloping down to Georges River (~ 4 m AHD at the edge of the river), approximately 300 m eastwards from the site.

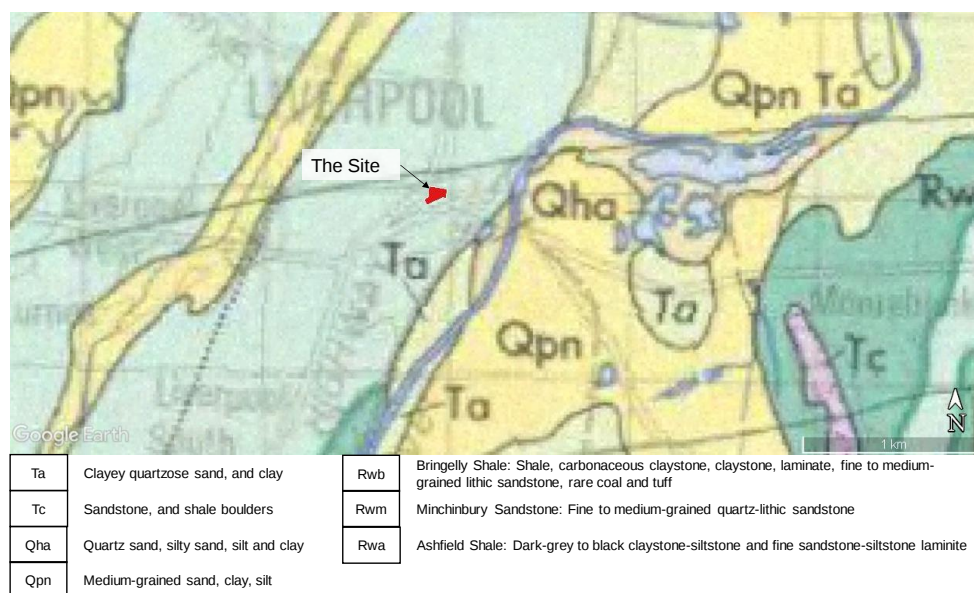


Figure 5: Geological map



Figure 6: Site topography (value shown is in m AHD)

<sup>1</sup> Clark N.R. and Jones D.C., 1991, Penrith 1:100 000 Geological Sheet 9030, 1st edition. Geological Survey of New South Wales, Sydney.

## 4.0 SCOPE OF WORK AND METHODOLOGY

The following summary describes the investigations carried out by Golder.

- Eight (8) boreholes to 15 m depth below ground level (bgl)
- Three (3) hand-augured holes extended to the underlying fill material or prior refusal
- Standard Penetration Test (SPT) was undertaken in selected boreholes
- Point Load Index Test was conducted at approximately 1 m interval on retrieved rock cores
- Two (2) groundwater monitoring wells was installed in selected boreholes
- Groundwater level in four (4) monitoring wells, including the two existing monitoring wells installed by Douglas Partners (DP 2017b) were monitored.
- Permeability (slug) tests were carried out in all four monitoring wells
- Representative soil samples, rock cores and groundwater samples were collected and were sent to NATA accredited laboratories for testing.

### 4.1 Borehole Investigation

Borehole locations (Figure 7) were surveyed using a hand-held GPS (accurate to within 3 to 5 m) and inferred from existing site features. The investigation layout plan is attached in APPENDIX A.

The drilling of boreholes commenced on the 8<sup>th</sup> July 2019 and finished on the 26<sup>th</sup> July 2019. Each investigation location was assessed for the presence of underground services using Dial Before You Dig Plans and an accredited underground service locator using passive scanning methods.

The boreholes were drilled by an experienced drilling subcontractor. Drill cuttings and drilling fluid were stored on-site during the investigation and subsequently disposed of by a licensed operator. Auger and rotary drilling techniques were used in soils and diamond bit coring in the rock to advance the boreholes. Standard Penetration Test (SPT) was carried out in soils and disturbed samples were recovered to assist with logging. Point Load Index Test and Unconfined Compression Test were carried out on recovered rock core.

The boreholes were logged in accordance with Australian Standard AS 1726-2017 “Geotechnical Site Investigations” and AS 1289.0-2000 “Method of Testing Soil for Engineering Purposes” and was supervised by a geotechnical engineer from Golder. The boreholes logs are attached in APPENDIX B.

The boreholes were grouted to the top of rock and backfilled with drilling cuttings with the surface being plugged, except for BH304 and BH306 where monitoring wells were installed.



Figure 7: Investigation layout plan

## 4.2 Installation of Groundwater Monitoring Wells

Groundwater monitoring wells were installed in BH304 and BH306. These locations were chosen to provide enough coverage with existing wells (i.e. BH1 and BH2) taking into account site access constraints.

Before installation of the monitoring wells, any drilling cuttings and water in the borehole were flushed out. The monitoring wells were constructed with 50 mm diameter acid-washed class 18 PVC casing and machine slotted well screen intervals. Joints were screw-threaded, thereby avoiding the potential interference of glues and solvents in groundwater quality results.

The annulus between the monitoring wells and the bore hole was backfilled with 2 mm filter gravel to 0.5 m above the top screen. A 1.0 m thick bentonite seal was installed above the gravel in each well, with the remaining annulus backfilled with gravel and cuttings. Each well was finished at surface level with a cement plug and covered with a gatic cover for protection. The well completion details for each monitoring well is attached in APPENDIX B with the respective borehole logs.

Following installation, BH304 and BH306 were developed by removing groundwater from the wells using a combination of bailers and foot valves with tubing. During the development, field parameters (i.e. pH, temperature, dissolved oxygen, electrical conductivity) were measured and recorded. Well development was finalised once ten well volumes were removed or until the well was dry three times and the field parameters had stabilized. The well construction details are summarised in Table 1.

**Table 1: Summary of groundwater standpipe construction details**

| Detail                                               | BH1<br>(DP 2017b)                                                   | BH2<br>(DP 2017b) | BH304                                   | BH306                                   |
|------------------------------------------------------|---------------------------------------------------------------------|-------------------|-----------------------------------------|-----------------------------------------|
| Ground Level                                         | RL23.1                                                              | RL23.6            | RL24.2 <sup>1</sup>                     | RL25.3 <sup>1</sup>                     |
| Bentonite seal thickness (m)                         | 0.5                                                                 | 0.5               | 1.0                                     | 1.0                                     |
| Screen Depth                                         | From the base of the well to between 1.0 and 1.1 below ground level |                   | From 15.2 m to 9.2 m below ground level | From 12.0 m to 9.0 m below ground level |
| Bottom of Well<br>(below ground level and elevation) | 11.7 m<br>RL11.7                                                    | 14.0 m<br>RL9.6   | 15.2 m<br>RL9.0                         | 15.1 m<br>RL10.2                        |
| Well development date                                | -                                                                   | -                 | 24 July 2019                            | 24 July 2019                            |

<sup>1</sup> – Estimated from architectural drawings and existing site features

### 4.3 Groundwater sampling

Groundwater samples were collected on 2 August 2019 and 27 March 2020 from all four monitoring wells (BH1, BH2, BH304 and BH306) using an electric powered peristaltic pump, which is a low flow sampling method.

During sampling a length of ¼-inch low-density polyethylene (LDPE), was connected to a base-fed flow-cell where measurements of fluid pH, electrical conductivity, redox potential, dissolved oxygen and temperature were recorded at regular intervals.

Groundwater samples were collected from the outflow tube once measurements of the above-listed field parameters had stabilized. Disposable nitrile gloves were used for sample collection and a new pair of nitrile gloves was used during the collection of each sample.

The groundwater samples were stored in containers provided by the laboratory. The containers were then immediately placed in a cool box in which ice was added to maintain the samples at a temperature of 4 °C or less and sent to the NATA credited laboratory.

### 4.4 Permeability Tests

Permeability tests (hydraulic ‘slug’ tests) were carried out between 23 and 26 July 2019 in all four monitoring wells to estimate the hydraulic conductivity of the formation. The tests were performed by removing one litre of groundwater using a bailer and measuring the subsequent groundwater level response using a water level meter and an automated groundwater level logger.

After removing 1 bailer of water from BH2 on 23 July 2019, the water level did not recover to its original level. This well was then bailed further until creating a 3.8 m groundwater level drawdown and the recovery was recorded.

It should be noted that at BH1 and BH2 the groundwater level is located within the screened section and as such all the conditions for analysing slug tests are not met.

The field records of the tests are presented in APPENDIX F-1.

## 4.5 Laboratory Testing

Laboratory testing of representative samples recovered from boreholes was carried out at the Macquarie Geotech Pty Ltd and ALS Environmental Pty Ltd NATA-accredited laboratories.

### 4.5.1 Geotechnical Testing

Four (4) unconfined compression strength (UCS) tests were carried out on selected rock cores.

### 4.5.2 Soil Quality Testing

Selected samples recovered from the boreholes were submitted to NATA-accredited laboratories for the following Constituents of Potential Concern (COPC):

- Total Recoverable Hydrocarbons (TRH)
- Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX)
- Volatile Organic Compounds (VOCs)
- Semi-Volatile Organic Compounds (SVOCs)
- Polycyclic Aromatic Hydrocarbons (PAHs)
- Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Zinc
- Polychlorinated Biphenyls (PCBs)
- Per- & polyfluoroalkyl substances (PFAS)
- Asbestos (presence/absence)
- Acid Sulfate Soil (ASS) screen
- Suspension Peroxide Oxidation Combined Acidity and Sulphur (SPOCAS); and
- Toxicity Characteristic Leaching Procedure (TCLP) for metals and PAHs.

Waste Classification and Water Quality Analysis Test Certificates are provided in APPENDIX D-1.

### 4.5.3 Groundwater Quality Testing

The groundwater samples collected on 2 August 2019 were analysed in a NATA-accredited laboratory for:

- Major anions (chloride, sulphate, carbonate, fluoride and bicarbonate)
- Major cations (magnesium, potassium, calcium and sodium)
- Dissolved heavy metals (arsenic, cadmium, chromium, copper, lead iron, manganese, nickel mercury and zinc)
- Nutrients (ammonia, nitrate, nitrite and total phosphorus)
- Benzene, Toluene, Ethylbenzene, Xylene and Napthalene (BTEXN), Total Recoverable Hydrocarbons (TRH) and Polynuclear Aromatic Hydrocarbons (PAH); and
- Per- and polyfluoroalkyl substances (PFAS).

Due to limited volume in the groundwater samples collected on 2 August 2019, PFAS were analysed in BH2 and BH306 and nutrients were analysed in BH1 and BH304, only.

Additional groundwater samples were collected from all four monitoring wells on 27 March 2020 and were analysed in a NATA-accredited laboratory for:

- TRH
- BTEXN; and
- PFAS compounds.

Measurement of pH, electrical conductivity, dissolved oxygen, oxidation-reduction potential and temperature were recorded at the time of sampling during both events.

The groundwater sampling records are presented in APPENDIX E-1 and the Certificates of Analysis are presented in APPENDIX E-2.

## 5.0 RESULTS OF INVESTIGATION

The results of the investigation are presented in the following sections.

### 5.1 Subsurface Investigation

Table 2 summarises the details of the borehole investigations including the location and the depth achieved on site. The investigation layout and cross-sections are attached in APPENDIX A.

**Table 2: Summary of boreholes**

| Borehole | Coordinates <sup>1</sup> |          | Ground Level <sup>2</sup><br>(m AHD) | Termination Depth <sup>3</sup><br>(m BGL) | Termination Reason   |
|----------|--------------------------|----------|--------------------------------------|-------------------------------------------|----------------------|
|          | Easting                  | Northing |                                      |                                           |                      |
| BH301    | 308040                   | 6244214  | 22.3                                 | 15.2                                      | Target depth         |
| BH302    | 308031                   | 6244139  | 22.3                                 | 15.2                                      | Target depth         |
| BH303    | 308018                   | 6244149  | 23.3                                 | 15.0                                      | Target depth         |
| BH304    | 308036                   | 6244123  | 24.2                                 | 15.2                                      | Target depth         |
| BH305    | 308073                   | 6244146  | 26.1                                 | 15.2                                      | Target depth         |
| BH306    | 308101                   | 6244174  | 25.3                                 | 15.1                                      | Target depth         |
| BH307    | 308125                   | 6244162  | 25.1                                 | 15.7                                      | Target depth         |
| BH309    | 308067                   | 6244209  | 22.4                                 | 15.0                                      | Target depth         |
| BH402    | 308044                   | 6244136  | 26.1                                 | 0.2                                       | Refusal <sup>4</sup> |
| BH403    | 308058                   | 6244144  | 26.1                                 | 0.4                                       | Refusal <sup>4</sup> |
| BH404    | 308085                   | 6244162  | 26.1                                 | 0.9                                       | Refusal <sup>4</sup> |

<sup>1</sup> – Handheld GPS accuracy to Map Grid of Australia (MGA94)

<sup>2</sup> – Referenced to Australian Height Datum (AHD), inferring from the provided architectural plans and existing site features

<sup>3</sup> – Below ground level (BGL)

<sup>4</sup> – Practical hand auger refusal encountered

## 5.2 Groundwater

### 5.2.1 Groundwater Level

Groundwater levels were measured manually regularly between 23 July and 2 August 2019 at BH1 and BH2 and between 23 July and 6 August 2019 at BH304 and BH306. Two loggers were also used during the permeability tests and for ongoing monitoring of the groundwater levels in BH304 and BH306.

Another round of manual measurements of groundwater level was carried out during the additional groundwater sampling event on 27 March 2020.

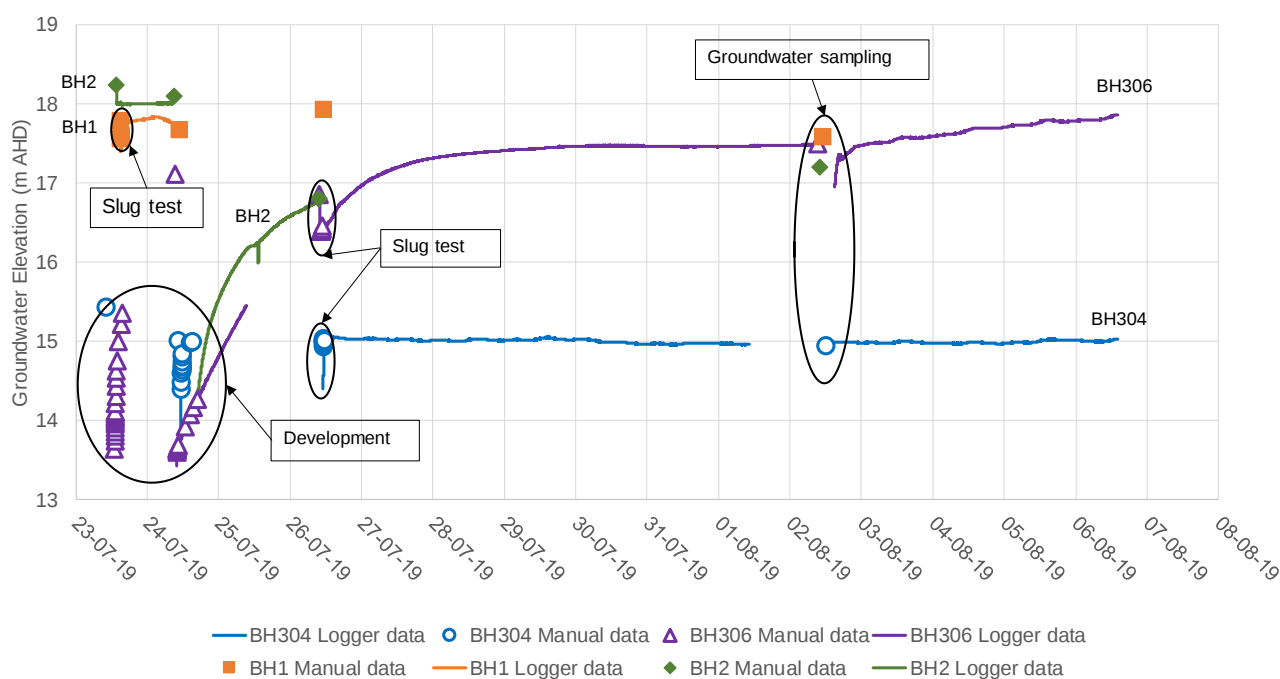
Table 3 includes the measurement of groundwater level at BH1 and BH2 as measured by Douglas Partners on 1 September 2016 (DP 2017b) and the recent groundwater levels measured before the groundwater sampling events on 2 August 2019 and 27 March 2020.

**Table 3: Summary Groundwater level measurements**

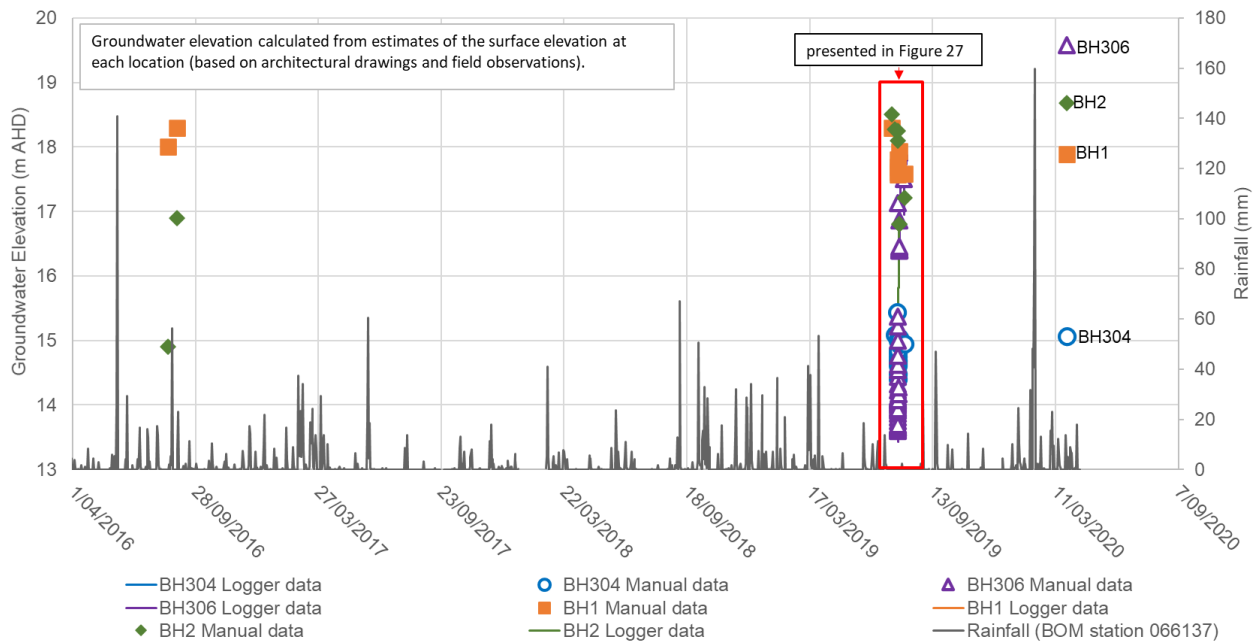
| Borehole | Water level measured on<br>1 September 2016 <sup>1</sup> |       | Water level measured on<br>2 August 2019 |       | Water level measured on<br>27 March 2020 |       |
|----------|----------------------------------------------------------|-------|------------------------------------------|-------|------------------------------------------|-------|
|          | m bgl                                                    | m AHD | m bgl                                    | m AHD | m bgl                                    | m AHD |
| BH1      | 4.8                                                      | 18.3  | 5.51                                     | 17.6  | 5.21                                     | 17.9  |
| BH2      | 6.7                                                      | 16.9  | 6.39                                     | 17.2  | 4.92                                     | 18.7  |
| BH304    | -                                                        | -     | 9.34                                     | 15.0  | 9.22                                     | 15.1  |
| BH306    | -                                                        | -     | 7.80                                     | 17.5  | 5.72                                     | 19.6  |

<sup>1</sup> – Extracted from DP 2017b

Two hydrographs showing the groundwater levels measured in all four monitoring wells are presented in Figure 8 and Figure 9). Figure 8 presents the groundwater level variation between 23 July 2019 and 6 August 2019 while Figure 9 presents the groundwater level variation between 23 July 2019 and 27 March 2020 in the four wells and the rainfall data recorded by the Bureau of Meteorology at Bankstown Airport (BOM station number 066137).



**Figure 8: Combined Hydrograph (data between July and August 2019)**



**Figure 9: Combined Hydrograph (data between July 2019 and March 2020)**

Groundwater level elevations onsite, as measured in March 2020, vary between approximately 15.1 m AHD (BH304) and 19.6 m AHD (BH306). The data collected show that BH306 presents the greatest variation in groundwater level with 1.7 m difference between the measurement in August 2019 and March 2020. As the wet months are usually from January to June while the drier months are from July to December, the groundwater level measurements do not necessarily represent the seasonal maximum and minimum groundwater levels at the site. There is currently insufficient data to provide the full range of site-specific seasonal variation in groundwater level, but the data suggest the seasonal fluctuations could be greater than 2 m.

The groundwater level measured at BH306 in 2019 and 2020 is consistent (i.e.,  $\pm 1$  m) with the groundwater level measured in the two existing DP wells and the groundwater table is at approximately 19.0 m AHD. The groundwater level measured at BH304 is approximately 2.5 m lower than the other wells (at 15.1 m AHD). The lower groundwater level measured at BH304 is considered to be related to the intersection of the more permeable fractured zone at this location (refer to section 5.2.2).

The regional groundwater flow is expected to follow the general regional topography towards the east and discharge into Georges River. This is consistent with the measured groundwater levels in 2016 and in August 2019 where the groundwater level measurements indicate a groundwater flow direction toward the east/northeast. However, in March 2020, the groundwater level elevation is higher in the eastern part of the site (BH2 and BH306) compared to BH1 located in the western part of the site, suggesting that during this the local groundwater flow direction across the site is toward the west. It should be noted that the permeabilities in BH2 and BH306 is very low (refer to section 5.2.2) and lower than in BH01. It is possible that the groundwater level response to the February 2020 storm event (where significant rainfall occurred) could have resulted in a greater increase in groundwater level and subsequent slower decline in the low permeability area, which would result in localised short-term changes in groundwater flow direction. This change in groundwater flow direction should not impact the groundwater inflow estimations.

The lower (and similar) groundwater level measured at BH304 (in 2019 and 2020), suggests that the intersected fracture zone and this location is not directly hydraulically connected to the bulk rock where the other wells on the site are screened and that it is not reacting directly to rainfall recharge as the other wells.

It should also be noted that no perched groundwater was identified while drilling through the shallow fill on top of the weathered rock, indicating that there was no perched groundwater in that unit during the time of drilling and no evidence of perching water during water sampling events. However, it is possible that temporary perched conditions could occur following rainfall events until the water has infiltrated into the below units.

### 5.2.2 Permeability

The permeability (hydraulic conductivity) was estimated from the hydraulic 'slug' tests field data using the Bouwer and Rice (1976)<sup>2</sup> method using the software *Aqtesolv*<sup>TM</sup>. The estimated hydraulic conductivities are provided in Table 4 and the *Aqtesolv*<sup>TM</sup> output are presented in APPENDIX F-2.

**Table 4: Summary permeability test results**

| Well                                | Estimated Permeability<br>K (m/s) | Comment                                                                                                                                                                                               |
|-------------------------------------|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BH1                                 | $2 \times 10^{-8}$                | -                                                                                                                                                                                                     |
| BH2                                 | -                                 | Groundwater level did not recover (over 12 hours) after removing 1 L with a bailer, suggesting low permeability                                                                                       |
| BH2 additional test during recovery | $6 \times 10^{-10}$               | Modified test carried out after failed slug test. Groundwater was removed from well to create a greater groundwater level drawdown hydraulic gradient toward the well and recovery was then recorded. |
| BH304                               | $3 \times 10^{-6}$                | Permeability may be up to $1 \times 10^{-5}$ m/s depending on the thickness of the fracture zone.                                                                                                     |
| BH306                               | $3 \times 10^{-9}$                | -                                                                                                                                                                                                     |

Based on the results of the slug tests carried out at BH1, BH2 and BH304 the average estimated hydraulic conductivity in the bulk rock is around  $9 \times 10^{-9}$  m/s, which is consistent with competent sandstone (Pells et al, 2019)<sup>3</sup>. The estimated hydraulic conductivity of  $3 \times 10^{-6}$  m/s in BH304 is believed to be associated with the fractured rock zone that the well has been screened across.

<sup>2</sup> Bouwer and Rice 1976. A slug test for determining hydraulic conductivity of unconfined aquifers with completely or partially penetrating wells, Water resources research, 1976.

<sup>3</sup> Pells P.J.N, Mostyn G., Bertuzzi R. & Wong P.K. (2019). Classification of sandstones and shales in the Sydney region: A forty year review. Australian Geomechanics, 54(2), 29-55.

## 5.3 Results of Laboratory Testing

### 5.3.1 Unconfined Compression Test

Table 5 summarises the results of unconfined compression test on the recovered rock core.

The test certificates are attached in APPENDIX C.

**Table 5: Summary of Unconfined Compression Test**

| Borehole | Depth (m bgl) | Material <sup>1</sup> | Uniaxial Compressive Strength (MPa) |
|----------|---------------|-----------------------|-------------------------------------|
| BH305    | 5.5 – 5.8     | Unit 3a L-M Laminite  | 22                                  |
| BH307    | 7.5 – 7.7     | Unit 3b M-H Laminite  | 18                                  |
| BH301    | 11.1 – 11.4   | Unit 4 H-VH Sandstone | 22                                  |
| BH304    | 13.5 – 13.8   | Unit 4 H-VH Sandstone | 32                                  |

<sup>1</sup> – Classification as summarised in Section 6.0 of this report

### 5.3.2 Soil Assessment Criteria

Screening levels for soil were selected with reference to the following:

- *Assessment of Site Contamination (ASC) (amended 2013), National Environmental Protection Measure (NEPM); and*
- *HSLs for Petroleum Hydrocarbons in Soil and Groundwater (Cooperative Research Centre, Contamination Assessment and Remediation of the Environment (CRC CARE)) (Friedel & Nadebaum, 2011).*

Based on the proximity of potentially impacted soil to the proposed basement car park walls and the potential for workers to come into contact with soil during excavation works, soil samples were screened against the following criteria:

- Health Screening Levels (HSLs) and Health Investigation Levels (HILs) for commercial/industrial land use (HSL-D); and
- HSLs for direct contact for intrusive maintenance workers.

### 5.3.3 Soil Analytical Results

Laboratory analytical results of soil samples collected as part of the investigation did not indicate concentrations of any COPC in excess of the nominated screening criteria. Asbestos was positively identified at one location (BH306). A copy of the laboratory analytical report and chain of custody documentation is included in APPENDIX D-1. Soil analytical results are summarised in a table and is attached in APPENDIX D-2.

### 5.3.4 Groundwater Assessment Criteria

Screening levels for groundwater were selected with reference to the following:

- ASC (amended 2013), NEPM; and
- *HSLs for Petroleum Hydrocarbons in Soil and Groundwater*, CRC CARE (Friedel & Nadebaum, 2011).
- *Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2018 (ANZG, 2018)*<sup>4</sup>.
- Per- and polyfluoroalkyl substances (PFAS) guideline values for aquatic ecosystems, published by the Heads of EPAs Australia and NEW Zealand (HEPA) (2018)<sup>5</sup>;

Screening levels for groundwater were based on the following considerations:

- Current and proposed land use of the site is commercial/industrial
- Surrounding land use is commercial/industrial
- The nearest surface water body (Georges River) is located approximately 300 m east of the Site
- Groundwater occurs at approximately 5.5 m bgl; and
- Lithology beneath the Site is generally comprised of laminate and sandstone.

Based on the information provided above, groundwater samples were screened against HSLs for commercial/industrial land use with a clay soil type at the 4 m to <8 m and 8 m+ depth intervals.

The groundwater quality criteria have been established for groundwater contamination assessment only, for construction dewatering and long-term seepage discharge disposal, the groundwater quality will need to be assessed against site-specific sewer and stormwater disposal criteria.

### 5.3.5 Groundwater Analytical Results

Table 6 presents the water quality field parameters measured during the sampling event on 2 August 2019.

**Table 6: Field groundwater quality parameters**

| Well                            | BH1       |            | BH2       |            | BH304     |            | BH306     |            |
|---------------------------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| Sampling date                   | 2/08/2019 | 27/03/2020 | 2/08/2019 | 27/03/2020 | 2/08/2019 | 27/03/2020 | 2/08/2019 | 27/03/2020 |
| pH                              | 7.53      | 7.35       | 7.33      | 7.23       | 7.62      | 7.25       | 7.49      | 7.20       |
| Electrical conductivity (µS/cm) | 1490      | 1619       | 4108      | 4622       | 1963      | 4269       | 2801      | 3080       |
| Dissolved oxygen (ppm)          | 4.76      | 0.07       | 0.44      | 0.79       | 0.78      | 0.60       | 0.5       | 0.49       |
| Oxidation Reduction             | -51.4     | 13.8       | 31.1      | 39.1       | -200      | -121.6     | 13.2      | -4.3       |

<sup>4</sup> ANZG 2018, Australian and New Zealand Guidelines for Fresh and Marine Water Quality, Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand, 2018. <https://www.waterquality.gov.au/anz-guidelines>, accessed 20 August 2019.

<sup>5</sup> HEPA 2018. PFAS National Environmental Management Plan, The Heads of EPAs Australia and New Zealand (HEPA), 2018.

| Well           | BH1 |  | BH2 |  | BH304 |  | BH306 |  |
|----------------|-----|--|-----|--|-------|--|-------|--|
| Potential (mV) |     |  |     |  |       |  |       |  |

A copy of the laboratory analytical report and chain of custody documentation is included in APPENDIX E-2 while all the analytical results are presented in the table APPENDIX E-3.

The groundwater quality results from the groundwater sample collected from all four groundwater monitoring wells indicate that:

- Groundwater is neutral and fresh (BH1) to brackish (BH2, BH304 and BH306).
- The dominant anion is chloride and the dominant cation is sodium.
- Total alkalinity ranges between 20 mg/l to 39 mg/L indicating minimal buffering capacity.

A summary of groundwater exceedances is provided in Table 7 along with the value of the criterion exceeded. It should be noted that criteria was only exceeded for the concentrations established in ANZG 2018 and HEPA 2018.

**Table 7: Summary of groundwater exceedances**

| Monitoring well | Analyte                             | Concentration (µg/L) | Criterion Value (µg/L) | Criterion Exceeded |
|-----------------|-------------------------------------|----------------------|------------------------|--------------------|
| BH1             | Nitrate as N                        | 4.26 mg/L            | 0.7 mg/L               | ANZG 2018          |
| BH2             | Dissolved Copper                    | 3                    | 1.3                    | ANZG 2018          |
| BH306           | Dissolved Zinc                      | 41                   | 15                     | ANZG 2018          |
|                 | Perfluorooctanesulfonic acid (PFOS) | 0.28 (02/08/19)      | 0.13                   | HEPA 2018          |
|                 |                                     | 0.18 (27/03/20)      |                        |                    |

In addition, the following contaminant analytes were detected:

- Various other Per- and polyfluoroalkyl substances (PFAS) were detected in BH1, BH304 and BH306 while no PFAS compounds were detected in BH2.
- TRH was detected in BH304 during both events.
- Benzene and Toluene were detected in BH304 at 3 µg/L and 6 µg/L, respectively, during the August 2019 sampling event only.
- Various dissolved metals were detected in the groundwater samples during the August 2019 sampling event:
  - Dissolved Manganese was present in the samples from all wells in concentrations varying between 6 µg/L (BH1) and 992 µg/L (BH304).
  - BH2 also presented concentrations in dissolved Arsenic, dissolved copper and dissolved Nickel of 4 µg/L, 3 µg/L and 5 µg/L, respectively.
  - BH304 also presented concentrations in dissolved Aluminium, dissolved Iron and dissolved Nickel of 60 µg/L, 240 µg/L and 6 µg/L, respectively.

- BH306 also presented concentrations in dissolved Aluminium, dissolved Arsenic, dissolved Nickel and dissolved Zinc of 20 µg/L, 3 µg/L, 7 µg/L and 6 µg/L, respectively.

Metals were not analysed as part of the March 2020 sampling event.

- No Polynuclear Aromatic Hydrocarbons (PAH) were detected in any samples collected.

Laboratory analytical results for BH1 and BH2 are generally consistent with the results from 2016 (DP 2017a).

Based on the laboratory analytical results the groundwater quality at BH304 is observed to be slightly different to the surrounding wells (BH1, BH2 and BH306) with various hydrocarbons detected in this well which were not detected in the surrounding wells. As discussed previously, the groundwater levels and the results of the permeability testing (section 5.2.1 and section 5.2.2) suggest that the fractured rock is in hydraulic connection with a zone of lower groundwater head. As the hydrocarbons were not detected in the surrounding wells this may suggest that these contaminants are coming from the fracture zone and are not present in the bulk rock at the site.

## 6.0 GROUND MODEL

Based on the results of the geotechnical investigation and associated testing, we have developed ground units to summarise the typical subsurface profile encountered across the site. Table 8 presents the ground model, which is broadly consistent with.

**Table 8: Stratigraphic units**

| Ground Unit <sup>1,2</sup>          | Inferred Subsurface Conditions                                                                                                                                                                                                                                                      |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Unit 1</b><br>Filling            | The fill generally comprised clay with variable proportions of gravel and sand. The thickness and composition of fill materials are expected vary across the footprint of the site.                                                                                                 |
| <b>Unit 2</b><br>St-H Residual clay | Residual clay was encountered underlying fill and was generally high plasticity and stiff consistency overlying a low to medium plasticity very stiff to hard sandy clay.                                                                                                           |
| <b>Unit 3a</b><br>L-M Laminite      | Laminite comprising interbedded siltstone and sandstone bands of varying thicknesses and degrees of weathering.<br>grades with depth from low to medium strength and was highly weathered.                                                                                          |
| <b>Unit 3b</b><br>M-H Laminite      | Laminite comprising interbedded siltstone and sandstone bands of varying thicknesses and degrees of weathering.<br><br>was generally medium to high strength and highly to moderately weathered. Interbedded with bands of low to medium strength siltstone of varying thicknesses. |
| <b>Unit 4</b><br>H-VH Sandstone     | Sandstone, generally high to very high strength and slightly weathered to fresh. Interbedded with bands of medium to high strength siltstone of varying thicknesses.                                                                                                                |

<sup>1</sup> – Stiff (St), Hard (H), Low to medium strength (L-M), Medium to high strength (M-H), High to very high strength (H-VH)

<sup>2</sup> – We note that the design basement levels have been deepened subsequent to the site investigation being completed. As a result, none of the boreholes drilled have been extended to the revised bulk excavation level (BEL). There is a risk that shale is present at or immediately beneath the currently proposed BEL, which could impact the proposed development.

**Table 9: Ground conditions**

| Ground Unit <sup>1</sup>            | Depth to Top of Unit (m) |                  |                |               |               |                |                |                |                |                |
|-------------------------------------|--------------------------|------------------|----------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|
|                                     | BH1 <sup>2</sup>         | BH2 <sup>2</sup> | BH301          | BH302         | BH303         | BH304          | BH305          | BH306          | BH307          | BH309          |
| <b>Unit 1</b><br>Filling            | 0<br>RL23.1              | 0<br>RL23.6      | 0<br>RL22.3    | 0<br>RL22.3   | 0<br>RL23.3   | 0<br>RL24.2    | 0<br>RL26.1    | 0<br>RL25.3    | 0<br>RL25.1    | 0<br>RL22.4    |
| <b>Unit 2</b><br>St-H Residual clay | -                        | 0.3<br>RL23.3    | 0.2<br>RL22.1  | 0.3<br>RL22.1 | 0.8<br>RL22.5 | 0.7<br>RL23.5  | 1.0<br>RL25.1  | 1.4<br>RL24.0  | 0.3<br>RL24.8  | 0.4<br>RL22.1  |
| <b>Unit 3a</b><br>L-M Laminite      | 0.4<br>RL22.7            | 1.3<br>RL22.3    | 2.8<br>RL19.5  | 2.6<br>RL19.7 | 3.5<br>RL19.8 | 4.0<br>RL20.2  | 4.9<br>RL21.2  | 4.4<br>RL20.9  | 4.1<br>RL21.0  | 2.5<br>RL19.9  |
| <b>Unit 3b</b><br>M-H Laminite      | 5.8<br>RL17.3            | -                | 5.9<br>RL16.4  | 4.3<br>RL18.0 | 6.7<br>RL16.6 | 5.8<br>RL18.4  | 7.6<br>RL18.5  | 7.9<br>RL17.4  | 6.7<br>RL18.4  | 7.0<br>RL15.4  |
| <b>Unit 4</b><br>H-VH Sandstone     | 9.5<br>RL13.6            | 7<br>RL16.6      | 10.8<br>RL11.5 | 9.0<br>RL13.3 | 9.5<br>RL13.8 | 10.9<br>RL13.3 | 12.7<br>RL13.4 | 12.5<br>RL12.8 | 11.6<br>RL13.5 | 10.4<br>RL12.0 |
| <b>End of Borehole</b>              | 11.7<br>RL11.4           | 14<br>RL9.6      | 15.2<br>RL7.1  | 15.2<br>RL7.1 | 15.0<br>RL8.3 | 15.2<br>RL9.0  | 15.2<br>RL10.9 | 15.1<br>RL10.2 | 15.7<br>RL9.4  | 15.2<br>RL7.2  |

<sup>1</sup> – Stiff (St), Hard (H), Low to medium strength (L-M), Medium to high strength (M-H), High to very high strength (H-VH)

<sup>2</sup> – Borehole investigation carried out by Douglas Partners (DP 2019a)

## 7.0 DISCUSSION AND RECOMMENDATION

### 7.1 Geotechnical Design Parameter

Table 10 summarises the design parameters that can be used for the design of retention systems and footings.

**Table 10: Design parameters for retaining structures and footings**

| Ground Unit                              | Bulk Unit Weight (kN/m <sup>3</sup> ) | Soil Effective Strength Parameters |        | Ultimate Bearing Pressure under Vertical Loading | Serviceability Bearing Pressure under Vertical Loading <sup>1</sup> | Elastic Modulus for loading (MPa) <sup>3</sup> | Poisson's Ratio | At Rest Earth Pressure Coefficient, K <sub>o</sub> | Ultimate Anchor Bond Strength (kPa) |
|------------------------------------------|---------------------------------------|------------------------------------|--------|--------------------------------------------------|---------------------------------------------------------------------|------------------------------------------------|-----------------|----------------------------------------------------|-------------------------------------|
|                                          |                                       | c' (kPa)                           | φ' (°) |                                                  |                                                                     |                                                |                 |                                                    |                                     |
| <b>Unit 1</b> Filling                    | 17                                    | -                                  | -      | -                                                | -                                                                   | 10                                             | 0.3             | 0.5                                                | -                                   |
| <b>Unit 2</b> St-H Residual clay         | 18                                    | 5                                  | 28     | -                                                | -                                                                   | 20                                             | 0.3             | 1.0                                                | 50                                  |
| <b>Unit 3a</b> L-M Laminite              | 24                                    | 50                                 | 38     | 3,000                                            | 1,000                                                               | 200                                            | 0.25            | 1.0                                                | 150                                 |
| <b>Unit 3b</b> M-H Laminite              | 24                                    | 200                                | 40     | 35,000                                           | 4,000                                                               | 1,200                                          | 0.2             | See Note <sup>2</sup>                              | 800                                 |
| <b><sup>4</sup>Unit 4</b> H-VH Sandstone | 24                                    | 400                                | 43     | 70,000                                           | 7,500                                                               | 2,000                                          | 0.2             | See Note <sup>2</sup>                              | 2,000                               |

<sup>1</sup> – Settlement of less than 1 % of the footing width is expected at the allowable bearing pressure

<sup>2</sup> – The anticipated horizontal stress is discussed in Section 7.4

<sup>3</sup> – An unloading modulus for retaining wall design can be estimated by applying a factor of 2 to the provided loading modulus values.

<sup>4</sup> – The parameters provided for Unit 4 assume that this unit extends at least 4 m beneath the currently proposed BEL of RL 6.75 m AHD. Should shale be present within this zone, reduced parameters might apply for Unit 4.

## 7.2 Hydrogeological Assessment

Based on the field information gathered onsite it is estimated that the base of the basement will be more than 12 m below the current static groundwater level (as measured in BH1, BH2 and BH306) and groundwater will flow into the excavation from the bulk rock (primary porosity) and more importantly from the fractured rock (secondary porosity).

### 7.2.1 Groundwater Inflow

Permeability of the bulk rock is estimated to be in the order of  $9 \times 10^{-9}$  m/s while the permeability of the intersected fracture zone in BH304 is estimated to be in the order of  $3 \times 10^{-6}$  m/s. Permeability though could vary significantly in different fracture zones pending their extent and connectivity to water-bearing features.

Preliminary groundwater inflow was estimated for the following three scenarios (for each it has been assumed that the rock mass between the toe of the existing boreholes and the currently proposed BEL does not contain additional fracture zones, such as that identified in BH304):

#### 1) Scenario 1 (all fractured zones treated):

We have assumed that all fracture zones are treated when encountered during excavation, which would minimize the inflow from these zones. The resulting groundwater inflow would, therefore, be from the exposed bulk rock through the walls and floor of the excavation. We note in this scenario it is assumed all fractured zones are treated, however not all fractures will require treatment, with the extent and the performance of treatment depending on observed seepage rates.

#### 2) Scenario 2 (fractured zone(s) not treated)

We have assumed groundwater inflow is from both the exposed bulk rock mass and the fracture zone identified in BH304. Flow, in this scenario, is through the walls (including larger flows through fractured zones of rock) and the floor of the excavation.

The permeability adopted for the fracture zone is based on the permeability measured from hydraulic testing in this borehole. It should be noted however that inflow from the fracture zone could be highly variable and this scenario assumes there are no additional equivalent fracture zones between the toe of the existing boreholes and proposed BEL for which there is currently no information.

#### 3) Scenario 3 (inflow from exposed Unit 4 only)

Assuming all the fractured zones and laminite (Unit 3a and Unit 3b) are sealed, via a tanked structure, but allowing groundwater inflow from Unit 4 and through the bottom of the basement.

Table 11 summarises the estimated groundwater inflow based on analytical calculations.

**Table 11: Estimated Preliminary Groundwater Inflow**

| Scenario | Boundary Conditions             | Construction Dewatering (kL/day <sup>†</sup> ) | Long-Term Seepage (ML/year <sup>‡</sup> ) |
|----------|---------------------------------|------------------------------------------------|-------------------------------------------|
| 1        | Fractured zones treated         | <5                                             | <0.4                                      |
| 2        | Fractured zone(s) not treated   | 10 to 19                                       | 1.3 to 2.6                                |
| 3        | Inflow from exposed Unit 4 only | -                                              | <0.2                                      |

**Notes:** <sup>†</sup> kilolitres per day

<sup>‡</sup> megalitres per day

Given that the revised bulk excavation level of RL+6.75 m AHD is beyond the termination depth of the boreholes, there is a risk of encountering sub-horizontal seams which may be a potential groundwater inflow path into the excavation. This could result in increased groundwater inflow during construction dewatering and long-term seepage.

We recommend additional assessments, including boreholes drilled and hydraulically tested below the proposed BEL, be undertaken to obtain a better estimate of long-term inflow rates (including potential numerical groundwater modelling) and assess the extent of off-site groundwater level drawdown, impacts of contaminants in groundwater on basement users and water treatment and disposal options.

### 7.2.2 Groundwater Quality

Based on the laboratory results presented in section 5.3.5 the groundwater quality results from all four groundwater monitoring wells indicate that:

- Groundwater is neutral and fresh (BH1) to brackish (BH2, BH304 and BH306).
- The dominant anion is chloride and the dominant cation is sodium.
- Various dissolved metals were detected in the groundwater (iron, manganese, aluminium, arsenic, copper, nickel and zinc) with varying concentrations depending on the monitoring well.
- Various other Per- and polyfluoroalkyl substances (PFAS) were detected in BH1, BH304 and BH306 while no PFAS were detected in BH2.
- TRH was detected in BH304, but not in other wells.

As described in section 5.3.5 hydrocarbons were only detected in groundwater monitoring well BH304 which may suggest they are localized in the fractured zone identified in this well and not present in the bulk rock at the site.

The groundwater quality results indicate some treatment of the groundwater would be required prior to disposal during both construction and for long-term seepage. Treatment requirements would depend on the ultimate discharge disposal option (e.g. stormwater or sewer) and assessed against site-specific criteria.

## 7.3 Recommended Retention System

An anchored retention system is recommended to be required from ground level to the bottom of lower strength Laminite layer (i.e. Units 1, 2 and 3a). Spot rock bolting would likely be then required to provide support to any potentially unstable wedges in Units 3b and 4. Should an additional unit of shale be encountered towards the bottom of the proposed excavation (i.e. beneath Unit 4, where boreholes have not penetrated), additional retention support may be required. Finite element modelling is recommended for the selected retention system. Golder can provide hydrogeological, geotechnical and structural analysis and design of basement retention systems and should be approached for further advice on this when required.

Based on the estimated groundwater inflow rate for the permanent condition (i.e. Table 11), it is anticipated that seepage into the excavation could be controlled by perimeter and subfloor drainage connected to a sump-and-pump system. On this basis, it's feasible that a drained basement may be considered for this site. A high-level overview of issues to be considered for a drained basement is included below:

- Temporary drainage would need to be provided during construction to manage estimated water inflows. Water would need to be managed from excavation walls and an allowance made for pumping and disposal of this water.

- The amount of groundwater inflow could be reduced by pre-grouting fractured zones within the rock. This method would also reduce the risk of the groundwater inflow causing adverse impacts to surrounding areas.
- Retention for a drained basement would likely require anchored soldier piles with shotcrete infill or an anchored shotcrete wall for Units 1, 2 and 3a.
- Vertical cuts can be carried out in the underlying competent rock (i.e. Units 3b and 4). Lateral movement of rock due to stress relief of horizontal stress of competent rock layer is expected and discussed in detail in the subsequent section, Section 7.4.
- At each excavation stage, the exposed rock faces shall be inspected and mapped by a suitably experienced geotechnical engineer or engineering geologist. Depending on the condition of the exposed rock, spot bolting may be required.
- Appropriate drainage systems or additional grouting would be required in zones where water inflow remained present during bulk excavation.
- Additional groundwater testing and numerical modelling would be required to further assess the inflow rates and potential external impacts as well as for grouting requirements to be assessed if this option is pursued.

## 7.4 In-Situ Stress

The existence of horizontal in situ stresses at shallow depths, exceeding the vertical stress due to gravity, is a well-established phenomenon in the Sydney Basin (McQueen, 2004). The adverse effects of these stresses, combined with horizontal bedding, have been demonstrated in various civil engineering excavations.

Site-specific consideration of in-situ stress should consider the method of excavation and the proximity to existing adjacent excavations if any. These excavations may have the effect of relieving horizontal in-situ stress or concentrating it if the area through which the stress is transmitted is reduced by excavation.

Stress deviations from those presented below may locally vary due to other factors such as:

- Layered rocks of varying thickness
- Topography
- Paleochannels
- Depth
- Geological structures
- Variation in rock mass stiffness
- Known future developments

The influence of the factors indicated above on this initial in-situ stress field should be assessed, prior to the modelling of the excavation to estimate the residual stress for design. If 2D models are being considered, then the geometry of the excavation should be considered as 3D buttressing effects near the corners of deep excavations should be accounted for.

Based on the suggested major horizontal stress from Bertuzzi (2014)<sup>6</sup>, the in-situ horizontal stress in competent rock (i.e. Unit 3b and Unit 4) is approximated to be in the range between 1.5 MPa to 2.5 MPa and not more than 3 MPa. This in-situ horizontal stress may be lower than expected as the site is located on relatively high ground in the region, with relief to the north-west direction in general, as well as to the east, towards Georges River. Higher stress may be concentrated and locked-in within the competent band of sandstone within the laminate in Unit 3b and Unit 4. Note that the previous excavation of the existing basement located to the north-west of the site may have also relieved part of the stresses within that area.

Based on measurements reported by Oliveira & Wong (2012)<sup>7</sup>, the lateral movement of rock due to stress relief of horizontal stress of this competent rock layer is expected to be in the order of 10 mm to 20 mm, towards the base of the excavation. The lateral movement induced by stress relief within the competent rock layer may influence the deflection of the shoring wall. Soil-structure interaction analysis will assist in understanding this interaction better.

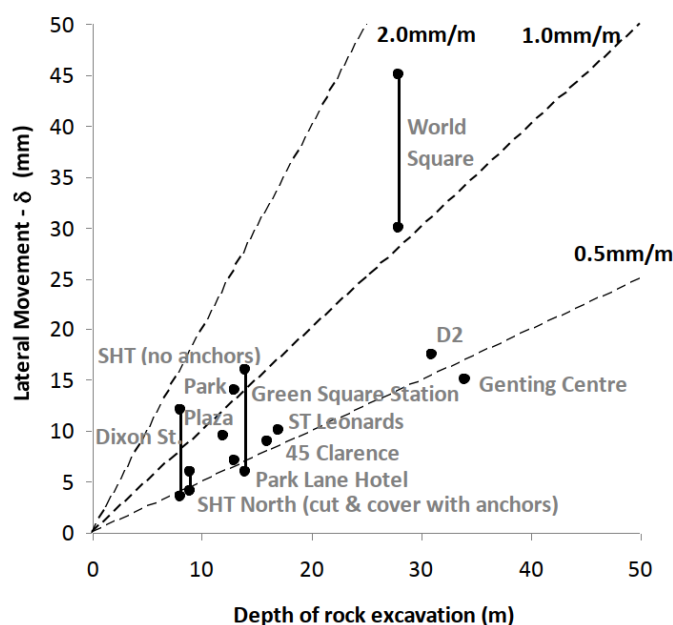


Figure 10: Field measurements of excavations in rock

## 7.5 Excavatability

An excavatability assessment is presented based on the material encountered during the investigation as shown in Figure 11. This assessment is based on the method of Pettifer and Fookes (1994)<sup>8</sup>. The fracture spacing and point load index for each material included on the figure are based on available borehole information.

The expected ground condition during excavation are presented in Section 6.0. Ground Unit 1 and Unit 2 are expected to be excavated using conventional earthmoving equipment. Rock excavation is expected to range from easy to extremely hard ripping with use of rock breakers in higher strength zones.

<sup>6</sup> Bertuzzi, R. (2014). Sydney sandstone and shale parameters for tunnel design. *Australian Geomechanics*, 49(1), 1-40.

<sup>7</sup> Oliveira, D. A. F., & Wong, P. K. (2012, July). Selection of Rock Mass Design Parameters for Assessing Excavation Induced Movements in the Sydney CBD. In *Proceedings: ANZ 2012 Conference*, Melbourne (pp. 15-18).

<sup>8</sup> Pettifer, G. S., & Fookes, P. G. (1994). A revision of the graphical method for assessing the excavatability of rock. *Quarterly Journal of Engineering Geology and Hydrogeology*, 27(2), 145-164.

When selecting plant for excavation in rock units, consideration should also be given to the joint spacing in laminite and sandstone which is often widely spaced relative to bedding. In places, sub-vertical jointing in the massively bedded Hawkesbury sandstone can be widely spaced, and hence the maximum block size can be large, as measured laterally. This can result in low ripping productivity, which can be improved by pre-cutting blocky formations (such as Class I, II or III) using rock saws or similar. The effects of vibration from rock cutting and rock breaking may have a significant impact on adjacent structures. Appropriate construction methodologies should be used to limit noise and vibrations to acceptable levels.

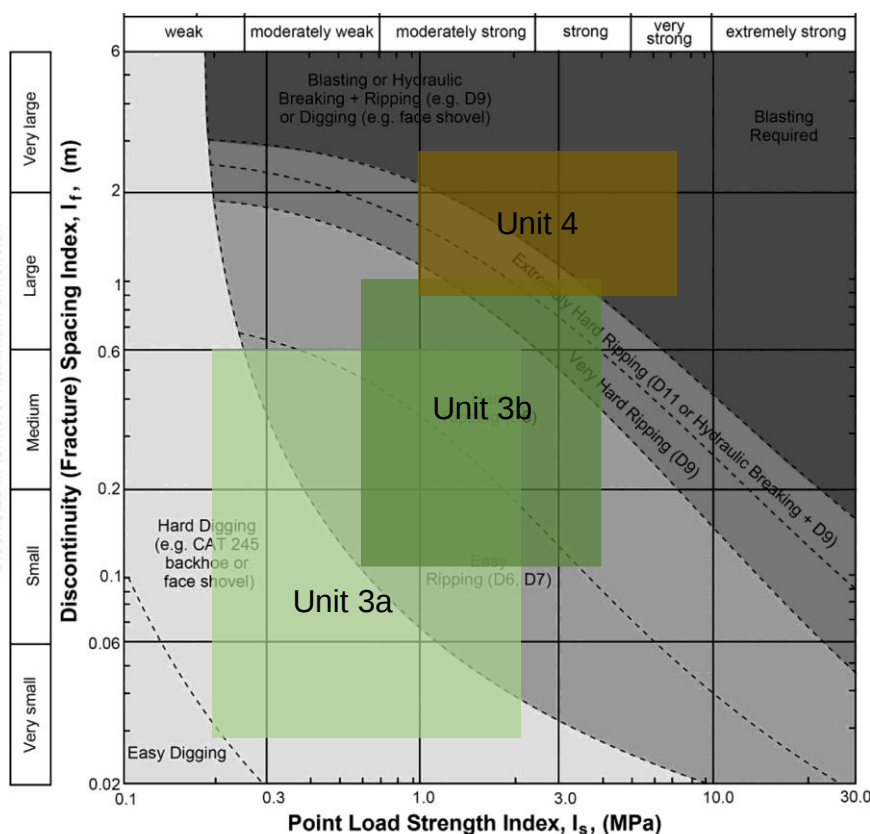


Figure 11: Excavatability of ground units

## 7.6 Impact on Surrounding Structures and Infrastructure

### 7.6.1 Ground Movement

There are existing buildings or roads on most sides of the proposed basement excavation. As such, the impacts of excavation on existing buildings, roads and services will need to be assessed. It is likely that a relatively stiff, i.e. anchored retention technique will be required to control ground movements.

Note that the top of base slab for the adjacent basement located at the north-west of the site is approximate at RL+17.8 m AHD, expected to be founded on Unit 3b, medium to high strength Laminite. We understand that the Project Structural Engineer is reviewing the as-built drawing of the adjacent basement (i.e. load transfer, footing plan etc). Mapping of the rockface will be required as excavation proceeds and application of shotcrete and/or spot rock bolting below existing building footings may be required to support the existing footings.

We recommend that dilapidation surveys are completed on adjacent buildings and infrastructure that may be affected by the excavation works. It should be undertaken before the commencement of excavation in order to allow assessment of damage due to excavation if any.

### 7.6.2 Groundwater Level Drawdown

Based on the groundwater monitoring results, the bulk excavation is expected to lie approximately 12 m below the existing groundwater table. Further groundwater drawdown analysis in the permanent condition can be carried out for a drained basement upon confirmation from Built.

### 7.6.3 Vibration

Adjacent buildings that are founded on sandstone can be highly susceptible to damage from vibrations when rock excavations are made in the immediate vicinity. The use of impact-based devices such as hydraulic impact breakers or rock hammers may generate vibrations that adversely impact the adjacent temporary shoring structures and existing buildings. The amount of acceptable vibration will be dependent on several aspects such as the type of building structure, current structure condition and vibration frequencies of the excavating plant relative to the natural frequencies of the affected structure. The use of rock saws may help to reduce this risk and may also have the benefit of reducing overbreak during excavation works.

## 7.7 Monitoring Regime

Prior to and during excavation works, a monitoring regime should be in operation. This monitoring should include movement trigger levels, based on predicted movements of retention systems, which allow unexpected behaviour to be identified and addressed.

We anticipate that monitoring during excavation for this site could include the following:

- Three-dimensional survey targets/monitoring points.
- Settlement monitoring points on adjacent buildings and roads.
- Groundwater monitoring wells.
- Vibration monitoring.

## 7.8 Foundation Options

We anticipate the foundation for the proposed structure will generally comprise of pad footings. The borehole investigations were terminated generally above the proposed bulk excavation level of RL+6.75 m AHD. As this site is within the Wianamatta Group, comprising interbeds of shale and sandstone as described in Section 3.0, there is a possibility that the Unit 4 (H-VH Sandstone) encountered at the termination depth of the boreholes is underlain by bands of weaker shale or siltstone.

In the absence of further borehole drilling across the site, it may be prudent to carry out selected proof coring following bulk excavation beneath targeted footings to assess the underlying rock condition and for the presence of horizontal seams. Bands of siltstone were encountered in most of the boreholes (except BH306) which may require further assessment, depending on the bearing capacity required for footings.

All footings should be inspected by a geotechnical engineer prior to pouring concrete or installing steel reinforcement, to verify the actual ground conditions against the proposed design parameters.

The geotechnical reduction factor to be applied to the ultimate capacities will depend on the foundation type, structural redundancy and level of testing, in accordance with AS2159 – 2009.

## 7.9 Indicative Waste Classification

Laboratory analytical results of soil samples collected as part of this investigation were screened against values published in the NSW EPA *Waste Classification Guidelines Part 1: Classifying waste* (EPA, 2014). The exceedances of CT1 (General Solid Waste (GSW)) and CT2 (Restricted Solid Waste) values as shown in Table 12 were noted.

**Table 12: Exceedances of CT1 Waste Classification Criteria**

| Sample ID_Depth | Constituent/Concentration   | Criteria Exceeded/Concentration |
|-----------------|-----------------------------|---------------------------------|
| BH301_0.15      | Lead – 285 mg/kg            | CT1 – 100 mg/kg                 |
| BH306_0.5       | Lead - 205mg/kg             | CT1 – 100 mg/kg                 |
| BH306_0.5       | Nickel – 76 mg/kg           | CT1 – 40 mg/kg                  |
| BH404_0.1       | Nickel – 44 mg/kg           | CT1 – 40 mg/kg                  |
| BH404_0.5       | Lead - 217                  | CT1 – 100 mg/kg                 |
| BH305_0.4       | Benzo(a)pyrene – 17.5 mg/kg | CT2 – 3.2 mg/kg                 |

Samples BH301\_0.15 and BH305\_0.4 were analysed against the Toxicity Characteristic Leaching Procedure (TCLP) which returned the following results shown in Table 13.

**Table 13: Summary of TCLP Results**

| Sample ID_depth | Constituent/TCLP Concentration | CT1 or CT2 TCLP Criteria Exceeded |
|-----------------|--------------------------------|-----------------------------------|
| BH301_0.15      | Lead - 2800                    | Nil                               |
| BH305_0.4       | Benzo(a)pyrene - <0.5          | Nil                               |

Asbestos was positively identified in borehole BH306 which is consistent with previous investigations conducted by Douglas Partners that identified asbestos in test pits proximal to BH306. Material from this area should be excavated under an appropriate Asbestos Management Plan.

Based on results of the soil samples collected, the fill layer (i.e. Unit 1) can be indicatively be classified as General Solid Waste. Soil in the vicinity of BH305 may be considered Restricted Solid Waste (RSW) due to the presence of benzo(a)pyrene. Although the TCLP result for B(a)P in sample BH305\_0.4 was below laboratory detection limits, the detection limit of 0.5mg/L is below the CT1 for RSW of 0.016mg/L, indicating the actual concentration of B(a)P may exceed the CT1 value. Soils excavated from the vicinity of BH306 should be treated as 'Special Waste' due to the presence of asbestos or asbestos containing material (ACM). Additional sampling would be required to demonstrate that the occurrence of the ACM is not widespread. If such sampling and analysis was not successful in demonstrating that the extent of the Special Waste is limited to near BH306, larger volumes of the material may be classified as 'Special Waste', which is generally more expensive to dispose of off-site. Additional samples would also be required to meet sample density requirements for material removed from the site for disposal. The detection of petroleum hydrocarbons in groundwater samples collected from BH304 warrants further assessment as it may impact the ability to classify some of the excavated material as Virgin Excavated Natural Material (VENM). Laboratory analytical reports for waste classification samples are provided in APPENDIX D-1. Waste classification analytical results are summarised in a table and is attached in APPENDIX D-2.

The two contamination reports prepared in May 2017 (identified in Section 2.0) provide some information on the soil and groundwater quality beneath the site as follows:

- Douglas Partners (DP 2017a) sampled and analysed groundwater quality in monitoring wells at BH1 and BH2, located in the northern site boundary. It is reported the contaminants such as BTEX, TRH, VOC, PAH, OCP, PCB and phenols were below laboratory reporting limits.
- Chloroform, bromodichloromethane and per- and poly-fluoroalkyl substances (PFAS) were detected at low concentrations in BH2. Chloroform and bromodichloromethane were both rationalised as being associated with the use of water during coring. It is understood that this borehole was located near to a former fire station, which is consistent with the detections of these compounds, which are used in fire-fighting foams.
- The concentration of heavy metals was reported to be below the groundwater investigation level adopted by Douglas Partners (DP 2017a).

Similarly, contaminants such as BTEX, TRH, VOC, PFAS, OCP, PCB, phenols and cadmium measured in soil samples were reported to be below the laboratory reporting limits.

- Low levels of heavy metals were reported. Two samples recorded elevated nickel and lead concentrations which were above the respective GSW threshold concentrations.
- TCLP results indicated low leaching potential for these metals.
- The fill from the samples was reported to be within the criteria for GSW.

## 7.10 Additional Investigation

The proposed design parameters are based on the understanding of a typical retention system and foundation. We have carried out some finite element analysis (ref.: 19125312-002-L-Rev4) at the request of Built. Further assessments could be undertaken to confirm the design approach adopted by the designer of the retention system and foundation is consistent with the context of the proposed design parameters.

Laboratory analytical results of soil and groundwater samples did not indicate evidence of gross contamination warranting additional investigation. Two rounds of groundwater sampling have been conducted in support of the application. PFAS compounds have been detected above laboratory reporting limits in three of the four monitoring wells and petroleum hydrocarbons have been detected in one monitoring well. Water quality monitoring should be conducted during excavation works to verify the selected disposal option for groundwater entering the excavation remains appropriate.

Groundwater monitoring wells beyond the excavation boundary may be required (depending on the requirement from the council) to monitor the groundwater level during excavation. For basement other than tanked, permanent monitoring wells beyond the excavation boundary may be required for long term monitoring. Additional permeability tests and a numerical assessment would need to be undertaken to provide a better estimate of groundwater inflow rates.

Additional waste classification samples are recommended to adequately classify the volume of soil anticipated to be excavated as part of the site's redevelopment. These investigations would provide information to assess cost implications for waste management at the site. The amount of investigation required after the demolition of existing buildings would depend on the scope of the overall site development.

Additionally, as the current boreholes across the site do not extend beneath the newly proposed BEL, it may be prudent to consider the drilling of additional boreholes to extend at least 3 m below BEL at targeted locations.

## 8.0 LIMITATIONS

Your attention is drawn to the document “Limitations”, which is attached to APPENDIX G of this report. The statements presented in this document are intended to advise you of what your realistic expectations of this report should be and to present you with recommendations on how to minimise the risks associated with the services provided for this project. The document is not intended to reduce the level of responsibility accepted by Golder Associates, but rather to ensure that all parties who may rely on this report are aware of the responsibilities each assumes in so doing.

# Signature Page

## Golder Associates Pty Ltd



Eric Woon  
*Senior Geotechnical Engineer*



Bernie Francis  
*Principal Geotechnical Engineer*

EW/BJF/ew

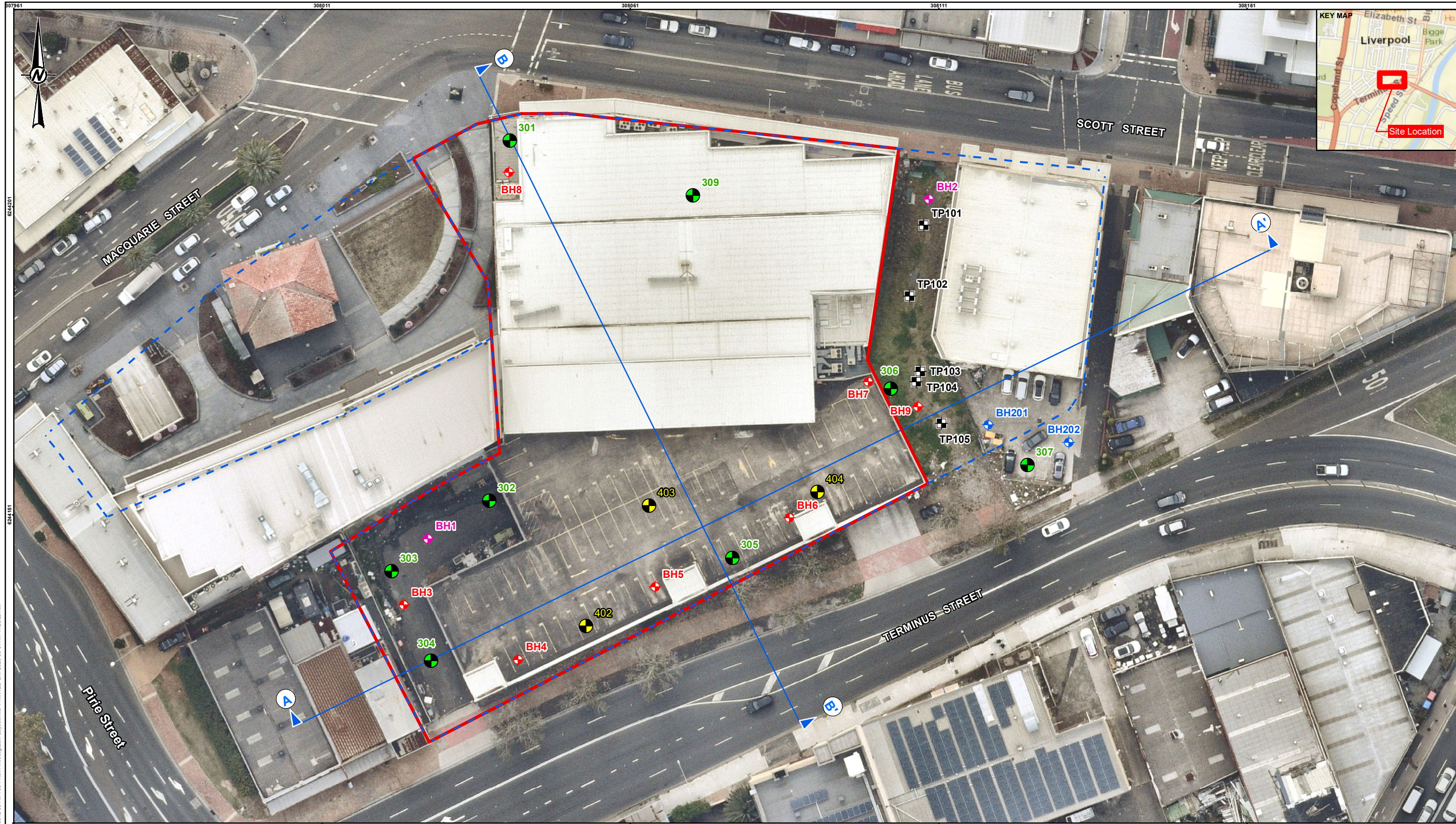
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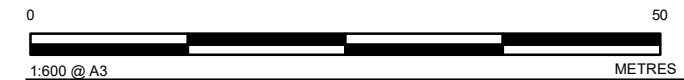
**APPENDIX A**

# Investigation Layout Plan



**LEGEND**

- Shallow soil bore (Douglas Partners, 2017)
- Contamination bore (Douglas Partners, 2019)
- Deeper cored bore with groundwater well installed (Douglas Partners, 2017)
- Contamination test pits (Douglas Partners, 2019)
- Golder auger holes
- Golder boreholes
- Stage 1 Boundary
- Site Boundary
- Geotechnical Cross Sections



CLIENT  
BUILT DEVELOPMENT GROUP PTY LTD

|            |            |            |
|------------|------------|------------|
| CONSULTANT | DD-MM-YYYY | 31-08-2020 |
|            | DESIGNED   | HPB        |
|            | PREPARED   | HPB        |
|            | REVIEWED   | EW         |
|            | APPROVED   | EW         |



**NOTE(S)**  
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 56  
2. TEST LOCATIONS ARE APPROXIMATE ONLY AND ARE SHOWN WITH REFERENCE TO EXISTING FEATURES.

**REFERENCE(S)**  
SOURCES: ESRI, HERE, GARMIN, USGS, INTERMAP, INCREMENT P, NRCAN, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), ESRI KOREA, ESRI (THAILAND), NGCC, (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY  
NEARMAP: CAPTURED 3RD AUGUST 2020.

PROJECT  
LIVERPOOL CIVIC PLACE  
52 SCOTT ST, LIVERPOOL

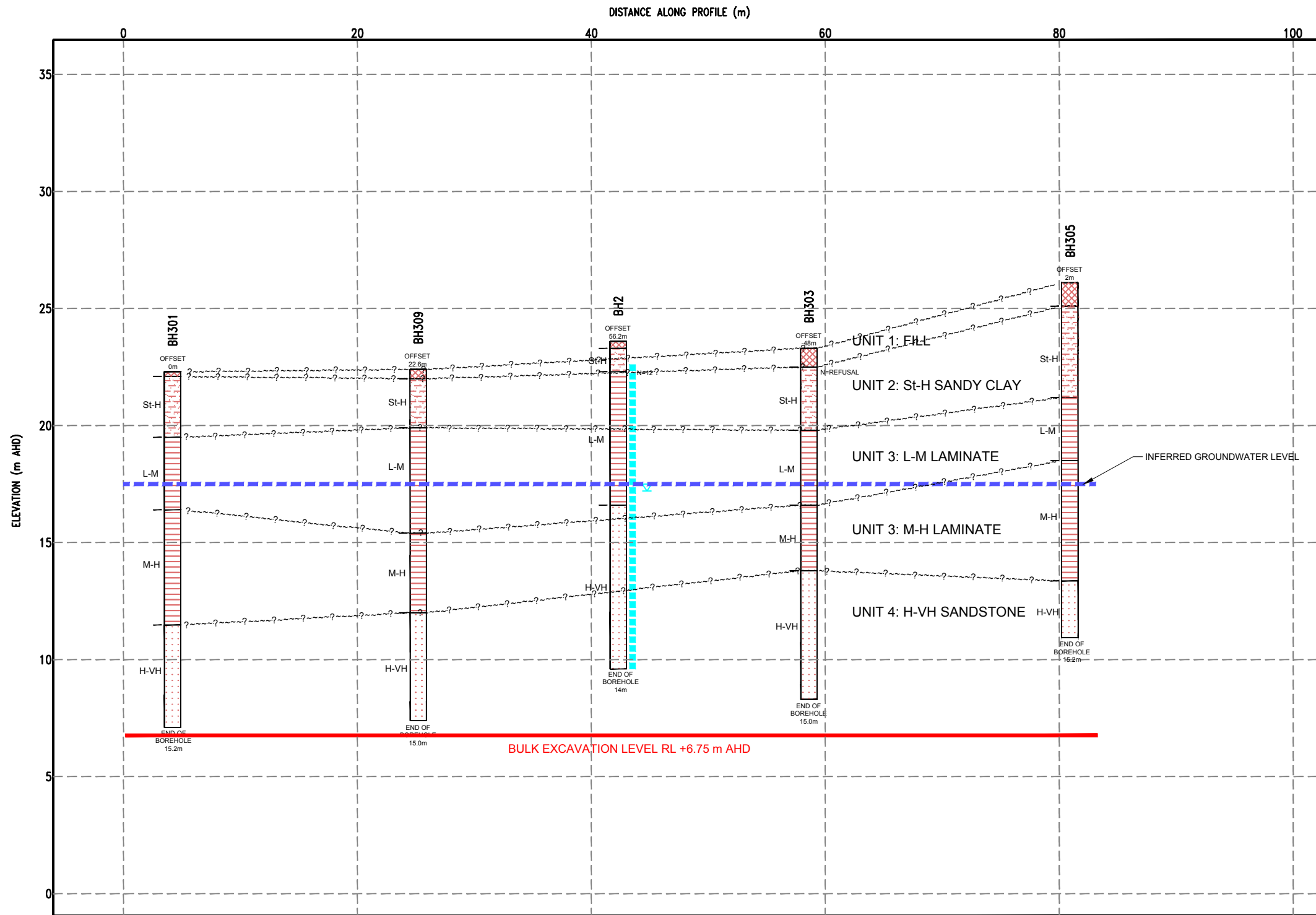
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|---------------------------|-------------|---------|------|--------|
| TITLE                     | PROJECT NO. | CONTROL | REV. | FIGURE |
| INVESTIGATION LAYOUT PLAN | 19125312    | 001     | 1    | 1      |

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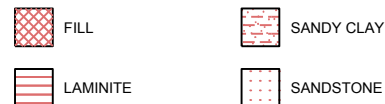
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#### LEGEND



GROUNDWATER LEVEL

EXTENT OF SCREEN IN GROUNDWATER MONITORING WELL

N - STANDARD PENETRATION TEST VALUE

#### ROCK STRENGTH

EL - EXTREMELY LOW  
VL - VERY LOW  
L - LOW  
M - MEDIUM  
H - HIGH  
VH - VERY HIGH

#### NOTE(S)

- SUBSURFACE CONDITIONS ARE ACCURATE AT THE BOREHOLE LOCATION ONLY AND VARIATIONS MAY OCCUR AWAY FROM THE BOREHOLE LOCATION.
- STRATA LAYERS AND ROCK CLASSIFICATION SHOWN IS GENERALISED AND EACH LAYER CAN INCLUDE BANDS OF LESS OR MORE FRACTURED ROCK.
- BOREHOLE STRIPS SHOWN HAS BEEN SIMPLIFIED AND SHOULD BE READ IN CONJUNCTION WITH DETAILED LOGS.

#### SOIL CONSISTENCY

St - STIFF  
Vst - VERY STIFF  
H - HARD

#### CLIENT

BUILT DEVELOPMENT GROUP PTY LTD

#### CONSULTANT



|            |            |
|------------|------------|
| YYYY-MM-DD | 2019-08-08 |
| DESIGNED   | EW         |
| PREPARED   | JF         |
| REVIEWED   | EW         |
| APPROVED   | EW         |

#### PROJECT

LIVERPOOL CIVIC PLACE  
52 SCOTT ST, LIVERPOOL

#### TITLE

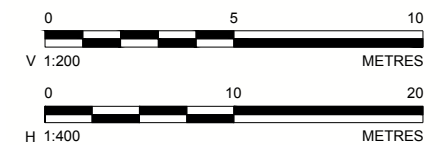
SECTION B-B

PROJECT NO.  
19125312

CONTROL  
001

REV.  
0

FIGURE  
3



25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ISO A3

**APPENDIX B**

# Borehole Logs and Explanatory Notes



### DRILLING/EXCAVATION METHOD

|         |                            |      |                           |       |                              |
|---------|----------------------------|------|---------------------------|-------|------------------------------|
| ADH     | Hollow auger drilling      | EX   | Excavator                 | PQ3   | Diamond core - 83 mm         |
| ADT     | Auger drilling with tc-bit | HA   | Hand auger                | PT    | Push tube sampling           |
| ADV     | Auger drilling with v-bit  | HAND | Excavated by hand methods | RAB   | Rotary air blast             |
| AIRCORE | Aircore                    | HMLC | Diamond core - 63 mm      | RC    | Reverse circulation          |
| AT      | Air track                  | HQ3  | Diamond core - 61 mm      | RT    | Rock roller                  |
| BH      | Backhoe bucket             | JET  | Jetting                   | SONIC | Sonic drilling               |
| CT      | Cable tool rig             | MZ   | Mazier tube sampling      | SPT   | Standard penetration testing |
| DTC     | Diatube coring             | NDD  | Non-destructive digging   | U     | Undisturbed tube sampling    |
| EE      | Existing excavation        | NMLC | Diamond core - 52 mm      | WB    | Washbore drilling            |
| EPT     | Extruded push tube         | NQ3  | Diamond core - 45 mm      |       |                              |

### PENETRATION/EXCAVATION RESISTANCE

|                                                                                                                                                                                          |                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>L</b>                                                                                                                                                                                 | <b>Low resistance.</b> Rapid penetration possible with little effort from the equipment used.                                                          |
| <b>M</b>                                                                                                                                                                                 | <b>Medium resistance.</b> Excavation/possible at an acceptable rate with moderate effort from the equipment used.                                      |
| <b>H</b>                                                                                                                                                                                 | <b>High resistance</b> to penetration/excavation. Further penetration is possible at a slow rate and requires significant effort from the equipment.   |
| <b>R</b>                                                                                                                                                                                 | <b>Refusal or Practical Refusal.</b> No further progress possible without the risk of damage or unacceptable wear to the digging implement or machine. |
| These assessments are subjective and are dependent on many factors including the equipment power, weight, condition of excavation or drilling tools, and the experience of the operator. |                                                                                                                                                        |

### WATER

|                                                                                   |                                                                                                                                                                                                                  |                                                                                   |                     |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------|
|  | Water level at date shown                                                                                                                                                                                        |  | Partial water loss  |
|  | Water inflow                                                                                                                                                                                                     |  | Complete water loss |
| GROUNDWATER NOT OBSERVED                                                          | The observation of groundwater, whether present or not, was not possible due to drilling water, surface seepage or cave in of the borehole/test pit.                                                             |                                                                                   |                     |
| GROUNDWATER NOT ENCOUNTERED                                                       | The borehole/test pit was dry soon after excavation. However, groundwater could be present in less permeable strata. Inflow may have been observed had the borehole/test pit been left open for a longer period. |                                                                                   |                     |

### SAMPLING AND TESTING

|             |                                                                                                      |
|-------------|------------------------------------------------------------------------------------------------------|
| SPT         | Standard Penetration Test to AS1289.6.3.1-2004                                                       |
| 4,7,11 N=18 | 4,7,11 = Blows per 150mm. N = Blows per 300mm penetration following 150mm seating                    |
| 30/80 mm    | Where practical refusal occurs, the blows and penetration for that interval are reported             |
| RW          | Penetration occurred under the rod weight only                                                       |
| HW          | Penetration occurred under the hammer and rod weight only                                            |
| HB          | Hammer double bouncing on anvil                                                                      |
| DS          | Disturbed sample                                                                                     |
| BDS         | Bulk disturbed sample                                                                                |
| G           | Gas Sample                                                                                           |
| W           | Water Sample                                                                                         |
| FP          | Field permeability test over section noted                                                           |
| FV          | Field vane shear test expressed as uncorrected shear strength (sv = peak value, sr = residual value) |
| PID         | Photoionisation Detector reading in ppm                                                              |
| PM          | Pressuremeter test over section noted                                                                |
| PP          | Pocket penetrometer test expressed as instrument reading in kPa                                      |
| U63         | Thin walled tube sample - number indicates nominal sample diameter in millimetres                    |
| WPT         | Water pressure test                                                                                  |
| DCP         | Dynamic cone penetration test                                                                        |
| CPT         | Cone penetration test                                                                                |
| CPTu        | Cone penetration test with pore pressure (u) measurement                                             |

### RANKING OF VISUALLY OBSERVABLE CONTAMINATION AND ODOUR (for specific soil contamination assessment projects)

|       |                                          |       |                                        |
|-------|------------------------------------------|-------|----------------------------------------|
| R = 0 | No visible evidence of contamination     | R = A | No non-natural odours identified       |
| R = 1 | Slight evidence of visible contamination | R = B | Slight non-natural odours identified   |
| R = 2 | Visible contamination                    | R = C | Moderate non-natural odours identified |
| R = 3 | Significant visible contamination        | R = D | Strong non-natural odours identified   |

### ROCK CORE RECOVERY

| TCR = Total Core Recovery (%)                                                    | RQD = Rock Quality Designation (%)                                                                  | SCR = Solid Core Recovery (%)                                                                     | F = Fracture Frequency                                      |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| $= \frac{\text{Length of core recovered}}{\text{Length of core run}} \times 100$ | $= \frac{\sum \text{Axial lengths of core} > 100 \text{ mm}}{\text{Length of core run}} \times 100$ | $= \frac{\sum \text{Length of cylindrical core recovered}}{\text{Length of core run}} \times 100$ | $= \frac{\text{No. of defects}}{\text{Length of zone (m)}}$ |



### SYMBOLS

|  |                           |  |                              |
|--|---------------------------|--|------------------------------|
|  | FILL                      |  | CLAY (CL, CI or CH)          |
|  | GRAVEL (GW, GP, GM or GC) |  | ORGANIC SOILS (OL, OH or Pt) |
|  | SAND (SW, SP, SM or SC)   |  | COBBLES or BOULDERS          |
|  | SILT (ML or MH)           |  |                              |

Combinations of these basic symbols may be used to indicate mixed materials such as sandy clay.

### CLASSIFICATION AND INFERRED STRATIGRAPHY

Soil and Rock is classified and described in Reports of Boreholes and Test Pits using the preferred method given in AS1726-2017. The material properties are assessed in the field by visual/tactile methods.

| Particle Size |              |                   | Plasticity Properties |
|---------------|--------------|-------------------|-----------------------|
| Soil Group    | Sub Division | Particle Size     |                       |
| BOULDERS      |              | > 200 mm          |                       |
| COBBLES       |              | 63 to 200 mm      |                       |
| GRAVEL        | Coarse       | 19 to 63 mm       |                       |
|               | Medium       | 6.7 to 19 mm      |                       |
|               | Fine         | 2.36 to 6.7 mm    |                       |
| SAND          | Coarse       | 0.6 to 2.36 mm    |                       |
|               | Medium       | 0.21 to 0.6 mm    |                       |
|               | Fine         | 0.075 to 0.21 mm  |                       |
| SILT          |              | 0.002 to 0.075 mm |                       |
| CLAY          |              | < 0.002 mm        |                       |

### MOISTURE CONDITION

| Symbol | Term  | Description                                                                                 |
|--------|-------|---------------------------------------------------------------------------------------------|
| D      | Dry   | Sands and gravels are free flowing. Clays and silts may be brittle or friable and powdery.  |
| M      | Moist | Soils are darker than in dry condition and may feel cool. Sands and gravels tend to cohere. |
| W      | Wet   | Soils exude free water. Sand and gravels tend to cohere.                                    |

Moisture condition for fine grained soils is described relative to the plastic limit or liquid limit as specified in AS1726-2017.

### CONSISTENCY AND DENSITY

| Fine Grained Soils |            |                          | Coarse Grained Soils |              |                   |
|--------------------|------------|--------------------------|----------------------|--------------|-------------------|
| Symbol             | Term       | Undrained Shear Strength | Symbol               | Term         | Density Index (%) |
| VS                 | Very Soft  | 0 to 12 kPa              | VL                   | Very Loose   | Less than 15      |
| S                  | Soft       | 12 to 25 kPa             | L                    | Loose        | 15 to 35          |
| F                  | Firm       | 25 to 50 kPa             | MD                   | Medium Dense | 35 to 65          |
| St                 | Stiff      | 50 to 100 kPa            | D                    | Dense        | 65 to 85          |
| VSt                | Very Stiff | 100 to 200 kPa           | VD                   | Very Dense   | Above 85          |
| H                  | Hard       | Above 200 kPa            |                      |              |                   |
| Fr                 | Friable    | -                        |                      |              |                   |

In the absence of test results, consistency and density may be assessed from correlations with the observed behaviour of the material.

\* SPT correlations are not stated in AS1726-2017, and may be subject to corrections for overburden pressure and equipment type.

### CEMENTATION

|                     |                                                                      |
|---------------------|----------------------------------------------------------------------|
| Weakly Cemented     | The soil may be easily disaggregated by hand in air or water.        |
| Moderately Cemented | Effort is required to disaggregate the soil by hand in air or water. |



# GOLDER

## TERMS FOR ROCK MATERIAL STRENGTH & WEATHERING AND ABBREVIATIONS FOR DEFECT DESCRIPTIONS

### STRENGTH

| Symbol | Term           | UCS (MPa) | Field Guide                                                                                                                                                                                                                                                               |
|--------|----------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VL     | Very Low       | 0.6 to 2  | Material crumbles under firm blows with sharp end of pick; can be peeled with knife; too hard to cut a triaxial sample by hand. Pieces up to 30 mm can be broken by finger pressure.                                                                                      |
| L      | Low            | 2 to 6    | Easily scored with a knife; indentations 1 mm to 3 mm show in the specimen with firm blows of pick point; has dull sound under hammer. A piece of core 150 mm long by 50 mm diameter may be broken by hand. Sharp edges of core may be friable and break during handling. |
| M      | Medium         | 6 to 20   | Readily scored with a knife; a piece of core 150 mm long by 50 mm diameter can be broken by hand with difficulty.                                                                                                                                                         |
| H      | High           | 20 to 60  | A piece of core 150 mm long by 50 mm diameter cannot be broken by hand but can be broken with pick with a single firm blow; rock rings under hammer.                                                                                                                      |
| VH     | Very High      | 60 to 200 | Hand specimen breaks with pick after more than one blow; rock rings under hammer.                                                                                                                                                                                         |
| EH     | Extremely High | >200      | Specimen requires many blows with geological pick to break through intact material; rock rings under hammer.                                                                                                                                                              |

Material with strength less than 'Very Low' shall be described using soil characteristics. The presence of an original rock structure, fabric or texture should be noted, if relevant.

### ROCK MATERIAL WEATHERING

| ROCK MATERIAL WEATHERING |                     |                      | Field Guide                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------|---------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Symbol                   | Term                |                      |                                                                                                                                                                                                                                                                                                                                                                                         |
| RS                       | Residual Soil       |                      | Material is weathered to such an extent that it has soil properties. Mass structure and material texture and fabric of original rock are no longer visible, but the soil has not been significantly transported.                                                                                                                                                                        |
| XW                       | Extremely Weathered |                      | Material is weathered to such an extent that it has soil properties. Mass structure and material texture and fabric of original rock are still visible.                                                                                                                                                                                                                                 |
| DW                       | HW                  | Highly Weathered     | The whole of the rock material is discoloured, usually by iron staining or bleaching to the extent that the colour of the original rock is not recognizable. Rock strength is significantly changed by weathering. Some primary minerals have weathered to clay minerals. Porosity may be increased by leaching, or may be decreased due to deposition of weathering products in pores. |
|                          | MW                  | Moderately Weathered | The whole of the rock material is discoloured, usually by iron staining or bleaching to the extent that the colour of the original rock is not recognizable, but shows little or no change of strength from fresh rock.                                                                                                                                                                 |
| SW                       | Slightly Weathered  |                      | Rock is partially discoloured with staining or bleaching along joints but shows little or no change of strength from fresh rock.                                                                                                                                                                                                                                                        |
| FR                       | Fresh               |                      | Rock shows no sign of decomposition of individual minerals or colour changes.                                                                                                                                                                                                                                                                                                           |

### ABBREVIATIONS FOR DEFECT TYPES AND DESCRIPTIONS

| Defect Type                  | Coating or Infilling                                                                      | Roughness                                                                                                                                                                                                                 |
|------------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P Parting                    | Cn Clean                                                                                  | VRo Very Rough                                                                                                                                                                                                            |
| X Foliation                  | Sn Stain                                                                                  | Ro Rough                                                                                                                                                                                                                  |
| L Cleavage                   | Ve Veneer                                                                                 | Sm Smooth                                                                                                                                                                                                                 |
| C Contact                    | Ct Coating                                                                                | Po Polished                                                                                                                                                                                                               |
| J Joint                      | In Infill                                                                                 | Sl Slickensided                                                                                                                                                                                                           |
| SSu Sheared Surface          | <b>Planarity</b><br>Pl Planar<br>Cv Curved<br>Un Undulating<br>St Stepped<br>Ir Irregular | <b>Vertical Boreholes</b> – The dip (inclination from horizontal) of the defect is given.<br><b>Inclined Boreholes</b> – The inclination is measured as the acute angle between the core axis and the vertical direction. |
| SS Sheared Seam              |                                                                                           |                                                                                                                                                                                                                           |
| SZ Sheared Zone              |                                                                                           |                                                                                                                                                                                                                           |
| CS Crushed Seam              |                                                                                           |                                                                                                                                                                                                                           |
| IS Infilled Seam             |                                                                                           |                                                                                                                                                                                                                           |
| EWS Extremely Weathered Seam |                                                                                           |                                                                                                                                                                                                                           |
| V Vein                       |                                                                                           |                                                                                                                                                                                                                           |



# GOLDER

## REPORT OF BOREHOLE: BH301

SHEET: 1 OF 5

DRILL RIG: Kamutsu

CONTRACTOR: Nealings Drilling

LOGGED: RAM DATE: 24/7/19

CHECKED: BJF DATE: 31/7/19

CLIENT: Built

COORDS: 308040 m E 6244214 m N MGA94 56

PROJECT: Proposed Mixed Development

SURFACE RL: 22.30 m DATUM: AHD

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

JOB NO: 19125312

HOLE DEPTH: 15.20 m

| Drilling |                        |       |                | Sampling |                                                                                                     | Field Material Description |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|----------|------------------------|-------|----------------|----------|-----------------------------------------------------------------------------------------------------|----------------------------|-------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|---------|------------------------------------------------------------|
| METHOD   | PENETRATION RESISTANCE | WATER | DEPTH (metres) | DEPTH RL | SAMPLE OR FIELD TEST                                                                                | RECOVERED                  | GRAPHIC LOG | GROUP SYMBOL | SOIL/ROCK MATERIAL DESCRIPTION                                                                                                                                                            | MOISTURE CONDITION | CONSISTENCY | DENSITY | STRUCTURE AND ADDITIONAL OBSERVATIONS                      |
| CC       | H                      |       | 0.0            | 22.30    | BH301/0.15E<br>0.15 m<br>1xJar, 1xPFAS, 1xAsb<br>R = 1A<br>PP 0.30 m =125 kPa<br>PP 0.40 m =150 kPa |                            |             | GC           | CONCRETE                                                                                                                                                                                  |                    |             |         | 0.13 - 0.20 m; trace fragments of brick up to 30mm in size |
|          |                        |       | 0.13           |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       | 0.20           |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       | 22.10          |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       | 0.5            |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       | 0.80           |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       | 21.50          |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       | 1.0            |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       | 1.5            |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       | 2.0            |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
| 2.5      |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
| ADT      | L-M                    | GNE   |                |          |                                                                                                     |                            |             | CH           | FILL: Clayey GRAVEL<br>fine to coarse grained, sub-angular, brown, low plasticity clay, with fine to coarse grained sand                                                                  | M                  |             |         | RESIDUAL SOIL                                              |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             | CI           | Sandy CLAY<br>medium plasticity, orange brown and grey, fine to medium grained sand, trace fine to coarse grained, sub-angular, siltstone gravel, inferred very stiff to hard consistency |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |
|          |                        |       |                |          |                                                                                                     |                            |             |              |                                                                                                                                                                                           |                    |             |         |                                                            |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F01a  
RL3



# REPORT OF BOREHOLE: BH301

DRILL RIG: Kamutsu

CONTRACTOR: Nealings Drilling

LOGGED: RAM      DATE: 24/7/19

CHECKED: BJF      DATE: 31/7/19

CLIENT: Built  
PROJECT: Proposed Mixed Development  
LOCATION: 52 Scott Street, Liverpool  
JOB NO: 19125312

COORDS: 308040 m E 6244214 m N MGA94 56  
SURFACE RL: 22.30 m DATUM: AHD  
INCLINATION: -90°  
HOLE DEPTH: 15.20 m

| Drilling |       |     |           |                | Field Material Description |             |                                                                                                                                        |            |                           | Defect Information |  |                            |                                                                                                                                                                                                          |                             |    |    |     |     |      |      |
|----------|-------|-----|-----------|----------------|----------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------|------------|---------------------------|--------------------|--|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----|----|-----|-----|------|------|
| METHOD   | WATER | TCR | RQD (SCR) | DEPTH (metres) | DEPTH RL                   | GRAPHIC LOG | ROCK / SOIL MATERIAL DESCRIPTION                                                                                                       | WEATHERING | INFERRED STRENGTH UCS MPa |                    |  | LABORATORY STRENGTH (MPa)  | DEFECT DESCRIPTION & Additional Observations                                                                                                                                                             | AVERAGE DEFECT SPACING (mm) |    |    |     |     |      |      |
|          |       |     |           | 0.0            |                            |             |                                                                                                                                        |            | 0.08                      |                    |  |                            |                                                                                                                                                                                                          |                             | 10 | 30 | 100 | 300 | 1000 | 3000 |
|          |       |     |           | 0.5            |                            |             |                                                                                                                                        |            | VL                        | SL                 |  |                            |                                                                                                                                                                                                          |                             |    |    |     |     |      |      |
|          |       |     |           | 1.0            |                            |             |                                                                                                                                        |            | L                         | CL                 |  |                            |                                                                                                                                                                                                          |                             |    |    |     |     |      |      |
|          |       |     |           | 1.5            |                            |             |                                                                                                                                        |            | IL                        | OL                 |  |                            |                                                                                                                                                                                                          |                             |    |    |     |     |      |      |
|          |       |     |           | 2.0            |                            |             |                                                                                                                                        |            | SL                        | CL                 |  |                            |                                                                                                                                                                                                          |                             |    |    |     |     |      |      |
|          |       |     |           | 2.5            |                            |             |                                                                                                                                        |            | IL                        | OL                 |  |                            |                                                                                                                                                                                                          |                             |    |    |     |     |      |      |
|          |       |     |           | 2.80           |                            |             |                                                                                                                                        |            | SL                        | CL                 |  |                            |                                                                                                                                                                                                          |                             |    |    |     |     |      |      |
|          |       |     |           | 2.80           |                            |             | Continuation of Sheet 1                                                                                                                |            |                           |                    |  |                            |                                                                                                                                                                                                          |                             |    |    |     |     |      |      |
|          |       |     |           | 3.0            | 19.46                      |             | Core loss<br>LAMINITE<br>fine to medium grained, orange brown and grey, with<br>irregular and indistinct silty laminations at 0° to 5° | XW<br>HW   |                           |                    |  |                            | 2.84-2.90 m: EWS, clay<br>2.93 m: J, 30°, Pl, Sm, Cn<br><br>3.12 m: B, 0-5°, Pl, Sm, clay Ve<br>3.18 m: B, 0-5°, Pl, Sm, clay Ve<br>3.22 m: B, 0-5°, Pl, Sm, clay Ve<br>3.33 m: B, 0-5°, Pl, Sm, clay Ve |                             |    |    |     |     |      |      |
|          |       |     |           | 3.5            | 3.45<br>18.85              |             | fine grained, dark red brown to grey black, indistinctly<br>laminated at 0° to 5°                                                      |            |                           |                    |  | PLI(D)=0.12<br>PLI(A)=1.17 | 3.52 m: B, 0-5°, Pl, Sm, clay Ve<br><br>3.68-3.72 m: Jx2, 30°, sp = 40 mm, Pl, Sm, Cn<br>3.78-3.83 m: EWS, gravelley clay<br><br>3.99 m: B, 0-5°, Pl, Sm, clay Ve                                        |                             |    |    |     |     |      |      |
|          |       |     |           | 4.0            |                            |             |                                                                                                                                        | XW<br>HW   |                           |                    |  |                            | 4.18-4.23 m: EWS, clay                                                                                                                                                                                   |                             |    |    |     |     |      |      |
|          |       |     |           | 4.5            |                            |             |                                                                                                                                        | XW<br>HW   |                           |                    |  | PLI(D)=0.23<br>PLI(A)=0.34 | 4.71 m: B, 0-5°, Pl, Sm, clay Ve                                                                                                                                                                         |                             |    |    |     |     |      |      |
|          |       |     |           | 5.0            |                            |             |                                                                                                                                        |            |                           |                    |  |                            |                                                                                                                                                                                                          |                             |    |    |     |     |      |      |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3

GAP 8\_16.7 LIB.GLB Log GAP CORED BOREHOLE 19125312.GPJ <DrawingFile>> 12-08-2019 17:26 8.30.004 Datgel Tools



# GOLDER

## REPORT OF BOREHOLE: BH301

CLIENT: Built  
PROJECT: Proposed Mixed Development  
LOCATION: 52 Scott Street, Liverpool  
JOB NO: 19125312

COORDS: 308040 m E 6244214 m N MGA94 56  
SURFACE RL: 22.30 m DATUM: AHD  
INCLINATION: -90°  
HOLE DEPTH: 15.20 m

SHEET: 3 OF 5  
DRILL RIG: Kamutsu  
CONTRACTOR: Nealings Drilling  
LOGGED: RAM DATE: 24/7/19  
CHECKED: BJF DATE: 31/7/19

| Drilling |            |     |           |                | Field Material Description |             |                                                                                                                        |                                                     |                           | Defect Information         |                                                                                                |                                              |
|----------|------------|-----|-----------|----------------|----------------------------|-------------|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|---------------------------|----------------------------|------------------------------------------------------------------------------------------------|----------------------------------------------|
| METHOD   | WATER      | TCR | RQD (SCR) | DEPTH (metres) | DEPTH RL                   | GRAPHIC LOG | ROCK / SOIL MATERIAL DESCRIPTION                                                                                       | WEATHERING                                          | INFERRED STRENGTH UCS MPa | LABORATORY STRENGTH (MPa)  | DEFECT DESCRIPTION & Additional Observations                                                   | AVERAGE DEFECT SPACING (mm)                  |
|          |            |     |           |                |                            |             |                                                                                                                        | VL 0.8<br>L 2.0<br>M 6.0<br>H 20<br>VH 60<br>EH 200 |                           |                            |                                                                                                | 10<br>20<br>50<br>100<br>300<br>1000<br>3000 |
| NMLC     | 95% RETURN |     | 100       | 85 (90)        | 5.0                        |             | LAMINITE<br>fine to medium grained, orange brown and grey, with irregular and indistinct silty laminations at 0° to 5° | HW                                                  |                           | PLI(D)=0.23<br>PLI(A)=0.39 | 5.23 m: B, 0-5°, Pl, Sm, clay Ve<br>5.29-5.33 m: EWS, clay                                     |                                              |
|          |            |     |           |                | 5.3                        |             |                                                                                                                        | XW                                                  |                           |                            |                                                                                                |                                              |
|          |            |     |           |                | 5.5                        |             |                                                                                                                        | MW                                                  |                           |                            |                                                                                                |                                              |
|          |            |     |           |                | 5.83                       |             |                                                                                                                        | HW                                                  |                           |                            |                                                                                                |                                              |
|          |            |     |           |                | 5.97                       |             |                                                                                                                        |                                                     |                           |                            |                                                                                                |                                              |
|          |            |     |           |                | 6.0                        |             | with lenses of sandstone                                                                                               |                                                     |                           |                            |                                                                                                |                                              |
|          |            |     |           |                | 6.38                       |             | fine to medium grained, grey and orange brown, with irregular and indistinct silty laminations at 0° to 5°             |                                                     |                           |                            | 5.95 m: B, 0-5°, Pl, Sm, clay Ve                                                               |                                              |
|          | 95% RETURN |     | 100       | 90 (95)        | 6.5                        |             |                                                                                                                        |                                                     |                           | PLI(D)=0.22<br>PLI(A)=0.75 |                                                                                                |                                              |
|          |            |     |           |                | 6.88                       |             |                                                                                                                        |                                                     |                           |                            |                                                                                                |                                              |
|          |            |     |           |                | 7.0                        |             | fine grained, dark grey to black and orange brown, indistinctly laminated at 0° to 5°                                  |                                                     |                           |                            | 6.99 m: B, 0-5°, Pl, Sm, clay Ve                                                               |                                              |
|          |            |     |           |                | 7.20                       |             |                                                                                                                        |                                                     |                           |                            |                                                                                                |                                              |
|          |            |     |           |                | 7.54                       |             | dark grey to black                                                                                                     |                                                     |                           |                            | 7.23-7.27 m: EWS, clay<br>7.32 m: B, 0-5°, Pl, Sm, clay Ve<br>7.35 m: B, 0-5°, Pl, Sm, clay Ve |                                              |
|          | 95% RETURN |     | 100       | 75 (95)        | 7.5                        |             | with irregular and indistinct silty laminations at 0° to 5°                                                            | MW                                                  |                           | PLI(D)=0.86<br>PLI(A)=1.98 |                                                                                                |                                              |
|          |            |     |           |                | 8.01                       |             | fine grained, dark grey to black, indistinctly laminated at 0° to 5°                                                   |                                                     |                           |                            | 8.14 m: B, 0-5°, Pl, Sm, clay Ve<br>8.22 m: B, 0-5°, Pl, Sm, clay Ve                           |                                              |
|          |            |     |           |                | 8.43                       |             |                                                                                                                        |                                                     |                           |                            | 8.38 m: B, 0-5°, Pl, Sm, clay Ve                                                               |                                              |
|          |            |     |           |                | 8.5                        |             | with lenses of sandstone                                                                                               |                                                     |                           | PLI(D)=0.61<br>PLI(A)=0.79 |                                                                                                |                                              |
|          |            |     |           |                | 8.71                       |             | fine to medium grained, grey, with irregular and indistinct silty laminations at 0° to 5°                              |                                                     |                           |                            | 8.76 m: B, 0-5°, Pl, Sm, Cn                                                                    |                                              |
|          |            |     |           |                | 9.0                        |             |                                                                                                                        |                                                     |                           |                            |                                                                                                |                                              |
|          | 95% RETURN |     | 100       | 85 (90)        | 9.5                        |             |                                                                                                                        |                                                     |                           | PLI(D)=0.77<br>PLI(A)=2.00 |                                                                                                |                                              |
|          |            |     |           |                | 9.58                       |             |                                                                                                                        |                                                     |                           |                            | 9.69 m: B, 0-5°, Pl, Sm, clay Ve<br>9.74 m: B, 0-5°, Pl, Sm, clay Ve                           |                                              |
|          |            |     |           |                | 10.0                       |             | fine grained, dark grey to black, indistinctly laminated at 0° to 5°                                                   |                                                     |                           |                            |                                                                                                |                                              |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



# GOLDER

## REPORT OF BOREHOLE: BH301

SHEET: 4 OF 5

DRILL RIG: Kamutsu

CONTRACTOR: Nealings Drilling

LOGGED: RAM DATE: 24/7/19

CHECKED: BJF DATE: 31/7/19

CLIENT: Built

COORDS: 308040 m E 6244214 m N MGA94 56

PROJECT: Proposed Mixed Development

SURFACE RL: 22.30 m DATUM: AHD

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

JOB NO: 19125312

HOLE DEPTH: 15.20 m

| Drilling |            |     |           |                | Field Material Description |             |                                                                                                                        |            |                           | Defect Information         |                                                                                                                                                                                                                      |                             |
|----------|------------|-----|-----------|----------------|----------------------------|-------------|------------------------------------------------------------------------------------------------------------------------|------------|---------------------------|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| METHOD   | WATER      | TCR | RQD (SCR) | DEPTH (metres) | DEPTH RL                   | GRAPHIC LOG | ROCK / SOIL MATERIAL DESCRIPTION                                                                                       | WEATHERING | INFERRED STRENGTH UCS MPa | LABORATORY STRENGTH (MPa)  | DEFECT DESCRIPTION & Additional Observations                                                                                                                                                                         | AVERAGE DEFECT SPACING (mm) |
|          |            |     |           |                |                            |             |                                                                                                                        |            |                           |                            |                                                                                                                                                                                                                      |                             |
| NMLC     | 95% RETURN | 100 | 85 (90)   | 10.0           |                            |             | LAMINITE<br>fine to medium grained, orange brown and grey, with irregular and indistinct silty laminations at 0° to 5° | MW         |                           |                            | 10.04 m: B, 0-5°, Pl, Sm, clay Ve<br>10.09 m: B, 0-5°, Pl, Sm, clay Ve                                                                                                                                               |                             |
|          |            |     |           | 10.5           |                            |             |                                                                                                                        |            |                           |                            | 10.26 m: B, 0-5°, Pl, Sm, clay Ve<br>10.29 m: B, 0-5°, Pl, Sm, clay Ve<br>10.39 m: J, 30°, Pl, Sm, Cn<br>10.41 m: B, 0-5°, Pl, Sm, clay Ve<br>10.46 m: B, 0-5°, Pl, Sm, clay Ve<br>10.51 m: B, 0-5°, Pl, Sm, clay Ve |                             |
|          |            |     |           | 10.62          |                            |             |                                                                                                                        |            |                           |                            |                                                                                                                                                                                                                      |                             |
|          |            |     |           | 11.68          |                            |             | with lenses of sandstone                                                                                               |            |                           | PLI(D)=0.33<br>PLI(A)=0.45 |                                                                                                                                                                                                                      |                             |
|          |            |     |           | 10.82          |                            |             |                                                                                                                        |            |                           |                            |                                                                                                                                                                                                                      |                             |
|          |            |     |           | 11.48          |                            |             | SANDSTONE<br>fine to medium grained, grey, with irregular and indistinct silty laminations at 0° to 5°                 | FR - MW    |                           | UCS=22.0                   |                                                                                                                                                                                                                      |                             |
|          |            |     |           | 11.5           |                            |             |                                                                                                                        |            |                           |                            |                                                                                                                                                                                                                      |                             |
|          |            |     |           | 12.0           |                            |             |                                                                                                                        |            |                           | PLI(D)=3.55<br>PLI(A)=6.96 |                                                                                                                                                                                                                      |                             |
|          |            |     |           | 12.29          |                            |             |                                                                                                                        |            |                           |                            |                                                                                                                                                                                                                      |                             |
|          |            |     |           | 10.01          |                            |             | SILTSTONE<br>fine grained, dark grey to black, indistinctly laminated at 0° to 5°                                      |            |                           |                            |                                                                                                                                                                                                                      |                             |
| NMLC     | 95% RETURN | 100 | 100 (100) | 12.43          |                            |             |                                                                                                                        |            |                           |                            |                                                                                                                                                                                                                      |                             |
|          |            |     |           | 9.87           |                            |             | SANDSTONE<br>fine to medium grained, massive, grey                                                                     |            |                           |                            |                                                                                                                                                                                                                      |                             |
|          |            |     |           | 12.58          |                            |             | with lenses of siltstone                                                                                               |            |                           | PLI(D)=0.77<br>PLI(A)=1.57 |                                                                                                                                                                                                                      |                             |
|          |            |     |           | 9.72           |                            |             | massive                                                                                                                |            |                           |                            |                                                                                                                                                                                                                      |                             |
|          |            |     |           | 9.68           |                            |             |                                                                                                                        |            |                           |                            |                                                                                                                                                                                                                      |                             |
|          |            |     |           | 12.91          |                            |             | with irregular and indistinct silty laminations at 0° to 5°                                                            |            |                           |                            | 12.94 m: B, 0-5°, Pl, Sm, clay Ve                                                                                                                                                                                    |                             |
|          |            |     |           | 9.39           |                            |             |                                                                                                                        |            |                           |                            |                                                                                                                                                                                                                      |                             |
|          |            |     |           | 13.20          |                            |             | with lenses of siltstone                                                                                               |            |                           |                            |                                                                                                                                                                                                                      |                             |
|          |            |     |           | 13.27          |                            |             | SILTSTONE<br>fine grained, dark grey to black, indistinctly laminated at 0° to 5°                                      |            |                           | PLI(D)=3.53<br>PLI(A)=6.42 |                                                                                                                                                                                                                      |                             |
|          |            |     |           | 9.03           |                            |             | with lenses of sandstone                                                                                               |            |                           |                            |                                                                                                                                                                                                                      |                             |
| NMLC     | 95% RETURN | 100 | 100 (100) | 13.45          |                            |             | indistinctly laminated at 0° to 5°                                                                                     |            |                           |                            |                                                                                                                                                                                                                      |                             |
|          |            |     |           | 8.85           |                            |             |                                                                                                                        |            |                           |                            |                                                                                                                                                                                                                      |                             |
|          |            |     |           | 13.59          |                            |             |                                                                                                                        |            |                           |                            |                                                                                                                                                                                                                      |                             |
|          |            |     |           | 8.71           |                            |             |                                                                                                                        |            |                           |                            |                                                                                                                                                                                                                      |                             |
|          |            |     |           | 13.80          |                            |             | SANDSTONE<br>fine to medium grained, dark grey to grey, with irregular and indistinct silty laminations at 0° to 5°    |            |                           | PLI(D)=0.44<br>PLI(A)=0.75 |                                                                                                                                                                                                                      |                             |
|          |            |     |           | 8.50           |                            |             |                                                                                                                        |            |                           |                            |                                                                                                                                                                                                                      |                             |
|          |            |     |           | 14.0           |                            |             |                                                                                                                        |            |                           |                            |                                                                                                                                                                                                                      |                             |
|          |            |     |           | 14.5           |                            |             |                                                                                                                        |            |                           |                            |                                                                                                                                                                                                                      |                             |
|          |            |     |           | 15.0           |                            |             |                                                                                                                        |            |                           |                            |                                                                                                                                                                                                                      |                             |
|          |            |     |           |                |                            |             |                                                                                                                        |            |                           |                            |                                                                                                                                                                                                                      |                             |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



# GOLDER

## REPORT OF BOREHOLE: BH301

SHEET: 5 OF 5

DRILL RIG: Kamutsu

CONTRACTOR: Nealings Drilling

LOGGED: RAM      DATE: 24/7/19

CHECKED: BJF      DATE: 31/7/19

CLIENT: Built

COORDS: 308040 m E 6244214 m N MGA94 56

PROJECT: Proposed Mixed Development

SURFACE RL: 22.30 m DATUM: AHD

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

JOB NO: 19125312

HOLE DEPTH: 15.20 m

| Drilling |       |     |           |                | Field Material Description |             |                                  |            |                           |  |  | Defect Information |                           |                                              |                             |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| METHOD   | WATER | TCR | RQD (SCR) | DEPTH (metres) | DEPTH RL                   | GRAPHIC LOG | ROCK / SOIL MATERIAL DESCRIPTION | WEATHERING | INFERRED STRENGTH UCS MPa |  |  |                    | LABORATORY STRENGTH (MPa) | DEFECT DESCRIPTION & Additional Observations | AVERAGE DEFECT SPACING (mm) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|          |       |     |           |                |                            |             |                                  |            | VL 0.5                    |  |  |                    |                           |                                              |                             |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.



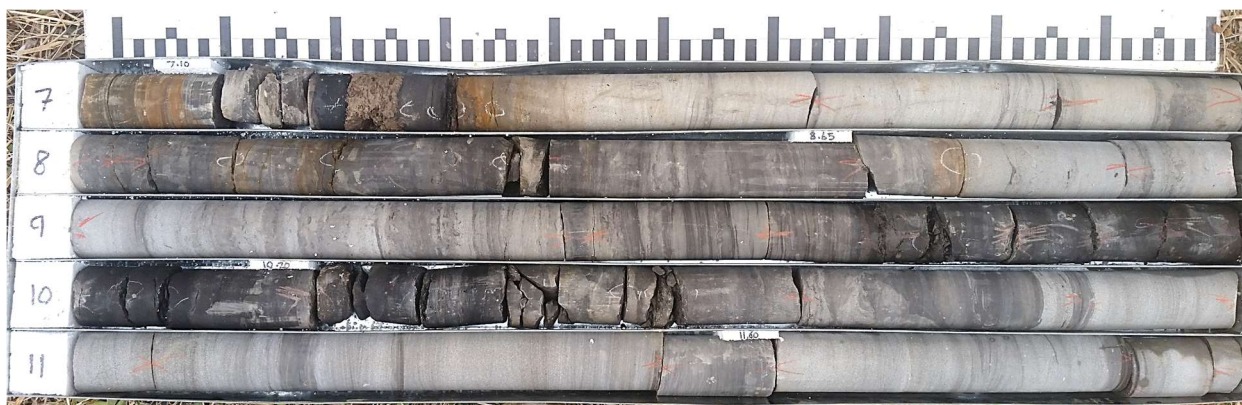
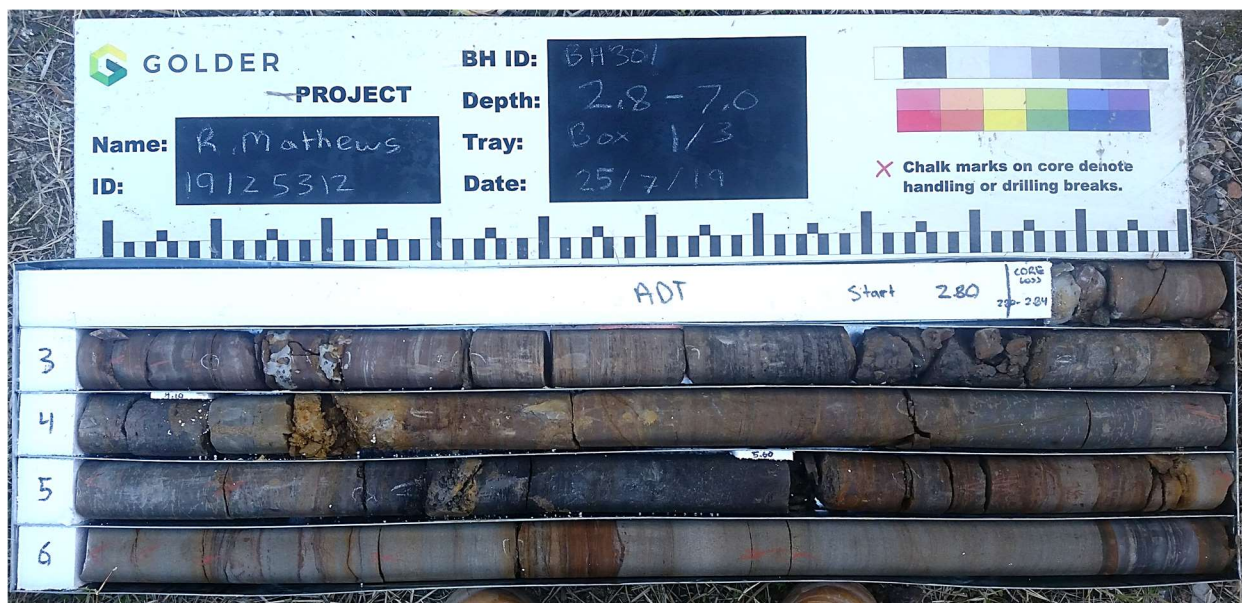
# GOLDER

## REPORT OF CORE PHOTOGRAPHS: BH301

CLIENT: Built  
PROJECT: Proposed Mixed Development  
LOCATION: 52 Scott Street, Liverpool  
JOB NO: 19125312

COORDS: 308040 m E 6244214 m N MGA94 56  
SURFACE RL: 22.30 m DATUM: AHD  
INCLINATION: -90°  
HOLE DEPTH: 15.20 m

SHEET: 1 OF 1  
DRILL RIG: Kamatsu  
CONTRACTOR: Nealings Drilling  
LOGGED: RAM DATE: 24/7/19  
CHECKED: BJF DATE: 31/7/19



This report of core photographs must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F28  
RL1



# GOLDER

## REPORT OF BOREHOLE: BH302

SHEET: 1 OF 5

CLIENT: Built

COORDS: 308031 m E 6244139 m N MGA94 56 (hhGPS)

DRILL RIG: Edson

PROJECT: Proposed Mixed Development

SURFACE RL: 22.30 m DATUM: AHD

CONTRACTOR: Nealings Drilling

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

LOGGED: RAM DATE: 16/7/19

JOB NO: 19125312

HOLE DEPTH: 15.20 m

CHECKED: BJF DATE: 31/7/19

| Drilling                          |                        |       |                | Sampling |                                                              | Field Material Description |                                                                                   |              |                                                                                                                                       |                    |             |         |                                       |
|-----------------------------------|------------------------|-------|----------------|----------|--------------------------------------------------------------|----------------------------|-----------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|---------|---------------------------------------|
| METHOD                            | PENETRATION RESISTANCE | WATER | DEPTH (metres) | DEPTH RL | SAMPLE OR FIELD TEST                                         | RECOVERED                  | GRAPHIC LOG                                                                       | GROUP SYMBOL | SOIL/ROCK MATERIAL DESCRIPTION                                                                                                        | MOISTURE CONDITION | CONSISTENCY | DENSITY | STRUCTURE AND ADDITIONAL OBSERVATIONS |
| ADT                               | M-H                    | GNE   | 0.0            | 0.06     |                                                              |                            |  | GP           | ASPHALT                                                                                                                               |                    |             |         | 0.06 - 0.25 m; inferred base course   |
|                                   |                        |       | 0.06           | 22.24    |                                                              |                            |                                                                                   |              | FILL: Sandy GRAVEL<br>fine to coarse grained, blue grey, fine to coarse grained sand                                                  | D                  |             |         |                                       |
|                                   |                        |       | 0.25           | 22.05    | SPT01<br>1.00-1.07 m<br>SPT 1.00-1.07 m<br>25/70mm HB<br>N=R |                            |                                                                                   | CI           | Sandy CLAY<br>medium plasticity, grey brown, fine to coarse grained sand, trace fine to coarse grained, sub-angular, siltstone gravel |                    |             |         | RESIDUAL SOIL                         |
|                                   | H                      |       | 0.5            |          |                                                              |                            |                                                                                   |              | w < PL                                                                                                                                | H                  |             |         |                                       |
| For Continuation Refer to Sheet 2 |                        |       |                |          |                                                              |                            |                                                                                   |              |                                                                                                                                       |                    |             |         |                                       |
|                                   |                        |       | 1.5            |          |                                                              |                            |                                                                                   |              |                                                                                                                                       |                    |             |         |                                       |
|                                   |                        |       | 2.0            |          |                                                              |                            |                                                                                   |              |                                                                                                                                       |                    |             |         |                                       |
|                                   |                        |       | 2.5            |          |                                                              |                            |                                                                                   |              |                                                                                                                                       |                    |             |         |                                       |
|                                   |                        |       | 3.0            |          |                                                              |                            |                                                                                   |              |                                                                                                                                       |                    |             |         |                                       |
|                                   |                        |       | 3.5            |          |                                                              |                            |                                                                                   |              |                                                                                                                                       |                    |             |         |                                       |
|                                   |                        |       | 4.0            |          |                                                              |                            |                                                                                   |              |                                                                                                                                       |                    |             |         |                                       |
|                                   |                        |       | 4.5            |          |                                                              |                            |                                                                                   |              |                                                                                                                                       |                    |             |         |                                       |
|                                   |                        |       | 5.0            |          |                                                              |                            |                                                                                   |              |                                                                                                                                       |                    |             |         |                                       |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F01a  
RL3



# GOLDER

## REPORT OF BOREHOLE: BH302

SHEET: 2 OF 5

CLIENT: Built

COORDS: 308031 m E 6244139 m N MGA94 56 (hhGPS)

DRILL RIG: Edson

PROJECT: Proposed Mixed Development

SURFACE RL: 22.30 m DATUM: AHD

CONTRACTOR: Nealings Drilling

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

LOGGED: RAM DATE: 16/7/19

JOB NO: 19125312

HOLE DEPTH: 15.20 m

CHECKED: BJF DATE: 31/7/19

| Drilling |       |     |           |                |          | Field Material Description |                                                                                           |                                  |                           |                            |  | Defect Information                                                                                                                      |                             |  |  |
|----------|-------|-----|-----------|----------------|----------|----------------------------|-------------------------------------------------------------------------------------------|----------------------------------|---------------------------|----------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|--|--|
| METHOD   | WATER | TCR | RQD (SCR) | DEPTH (metres) | DEPTH RL | GRAPHIC LOG                | ROCK / SOIL MATERIAL DESCRIPTION                                                          | WEATHERING                       | INFERRED STRENGTH UCS MPa | LABORATORY STRENGTH (MPa)  |  | DEFECT DESCRIPTION & Additional Observations                                                                                            | AVERAGE DEFECT SPACING (mm) |  |  |
|          |       |     |           | 0.0            |          |                            |                                                                                           |                                  |                           |                            |  |                                                                                                                                         |                             |  |  |
|          |       |     |           | 0.5            |          |                            |                                                                                           |                                  |                           |                            |  |                                                                                                                                         |                             |  |  |
|          |       |     |           | 1.0            |          |                            |                                                                                           |                                  |                           |                            |  |                                                                                                                                         |                             |  |  |
|          |       |     |           | 1.35           |          |                            |                                                                                           |                                  |                           |                            |  |                                                                                                                                         |                             |  |  |
|          |       |     |           | 20.95          |          |                            |                                                                                           |                                  |                           |                            |  |                                                                                                                                         |                             |  |  |
|          |       |     |           | 1.5            |          |                            | Continuation of Sheet 1                                                                   |                                  |                           |                            |  |                                                                                                                                         |                             |  |  |
|          |       |     |           | 1.5            |          |                            | LAMINITE<br>fine grained, grey black and red brown, indistinctly laminated at 0° to 5°    | HW                               |                           | PLI(D)=0.63<br>PLI(A)=0.96 |  | 1.40 m: J, 30°, Pl, Sm, Cn<br><br>1.64 m: B, 0-5°, Pl, Sm, clay Ve<br>1.69 m: B, 0-5°, Pl, Sm, clay Ve                                  |                             |  |  |
|          |       |     |           | 2.0            |          |                            |                                                                                           | XW<br>HW                         |                           |                            |  | 1.89-1.91 m: EWS, clayey gravel                                                                                                         |                             |  |  |
|          |       |     |           | 2.5            |          |                            |                                                                                           | XW<br>HW                         |                           | PLI(D)=0.09<br>PLI(A)=0.09 |  | 2.23-2.27 m: EWS, clay                                                                                                                  |                             |  |  |
|          |       |     |           | 3.0            |          |                            |                                                                                           | XW<br>HW                         |                           |                            |  | 2.93 m: J, 30°, Pl, Sm, Cn                                                                                                              |                             |  |  |
|          |       |     |           | 3.5            |          |                            |                                                                                           |                                  |                           | PLI(D)=0.49<br>PLI(A)=0.40 |  | 3.23 m: J, 30°, Cv, Sm, Cn                                                                                                              |                             |  |  |
|          |       |     |           | 4.0            |          |                            |                                                                                           | XW<br>HW<br>XW<br>HW<br>XW<br>HW |                           |                            |  | 3.71 m: B, 0-5°, Pl, Sm, clay Ve<br>3.84-3.93 m: EWS, gravelley clay<br>3.95-4.02 m: EWS, gravelley clay                                |                             |  |  |
|          |       |     |           | 4.27           |          |                            |                                                                                           | XW<br>HW                         |                           | PLI(D)=0.45<br>PLI(A)=0.59 |  | 4.07 m: B, 0-5°, Pl, Sm, clay Ve<br>4.09 m: B, 0-5°, Pl, Sm, clay Ve<br>4.11-4.17 m: EWS, sandy clay                                    |                             |  |  |
|          |       |     |           | 18.03          |          |                            | fine to medium grained, grey, with irregular and indistinct silty laminations at 0° to 5° | HW<br>MW<br>HW                   |                           |                            |  | 4.27 m: J, 0-5°, Un, Sm, Cn<br>4.41 m: B, 0-5°, Pl, Sm, clay Ve<br>4.61 m: B, 0-5°, Pl, Sm, clay Ve<br>4.82 m: B, 0-5°, Pl, Sm, clay Ve |                             |  |  |
|          |       |     |           | 5.0            |          |                            |                                                                                           |                                  |                           |                            |  |                                                                                                                                         |                             |  |  |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



SHEET: 3 OF 5

CLIENT: Built

COORDS: 308031 m E 6244139 m N MGA94 56 (hhGPS)

DRILL RIG: Edson

PROJECT: Proposed Mixed Development

SURFACE RL: 22.30 m DATUM: AHD

CONTRACTOR: Nealings Drilling

LOCATION: 52 Scott Street, Liverpool

INCLINATION:  $-90^{\circ}$

LOGGED: RAM      DATE: 16/7/19

JOB NO: 19125312

HOLE DEPTH: 15.20 m

CHECKED: BJF      DATE: 31/7/19

|            |     |            |
|------------|-----|------------|
| 75% RETURN | 100 | 75<br>(90) |
|------------|-----|------------|

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



# GOLDER

## REPORT OF BOREHOLE: BH302

SHEET: 4 OF 5

CLIENT: Built

COORDS: 308031 m E 6244139 m N MGA94 56 (hhGPS)

DRILL RIG: Edson

PROJECT: Proposed Mixed Development

SURFACE RL: 22.30 m DATUM: AHD

CONTRACTOR: Nealings Drilling

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

LOGGED: RAM DATE: 16/7/19

JOB NO: 19125312

HOLE DEPTH: 15.20 m

CHECKED: BJF DATE: 31/7/19

| Drilling |            |     |           |                | Field Material Description |             |                                                                                                            |            |                           | Defect Information        |                                              |                             |
|----------|------------|-----|-----------|----------------|----------------------------|-------------|------------------------------------------------------------------------------------------------------------|------------|---------------------------|---------------------------|----------------------------------------------|-----------------------------|
| METHOD   | WATER      | TCR | RQD (SCR) | DEPTH (metres) | DEPTH RL                   | GRAPHIC LOG | ROCK / SOIL MATERIAL DESCRIPTION                                                                           | WEATHERING | INFERRED STRENGTH UCS MPa | LABORATORY STRENGTH (MPa) | DEFECT DESCRIPTION & Additional Observations | AVERAGE DEFECT SPACING (mm) |
|          |            |     |           |                |                            |             |                                                                                                            |            |                           |                           |                                              |                             |
| NMLC     | 90% RETURN | 100 | 90 (90)   | 10.0           |                            |             | SANDSTONE<br>fine to medium grained, massive, grey                                                         | MW         |                           |                           |                                              |                             |
|          |            |     |           | 10.15          |                            |             | with irregular and indistinct silty laminations at 0° to 5°                                                |            |                           |                           |                                              |                             |
|          |            |     |           | 10.31          |                            |             |                                                                                                            |            |                           |                           |                                              |                             |
|          |            |     |           | 11.99          |                            |             | massive                                                                                                    |            |                           |                           |                                              |                             |
|          |            |     |           | 10.5           |                            |             |                                                                                                            |            |                           |                           |                                              |                             |
|          |            |     |           | 10.70          |                            |             | with irregular and indistinct silty laminations at 0° to 5°                                                |            |                           |                           | 10.70 m: B, 0-5°, Pl, Sm, clayey gravel Ve   |                             |
|          | 95% RETURN | 100 | 95 (100)  | 11.60          |                            |             |                                                                                                            |            |                           |                           |                                              |                             |
|          |            |     |           | 10.86          |                            |             | massive                                                                                                    |            |                           |                           | 10.83 m: B, 0-5°, Pl, Sm, clay gravel Ve     |                             |
|          |            |     |           | 11.44          |                            |             |                                                                                                            |            |                           |                           |                                              |                             |
|          |            |     |           | 11.0           |                            |             |                                                                                                            |            |                           |                           |                                              |                             |
|          |            |     |           | 11.5           |                            |             |                                                                                                            |            |                           |                           |                                              |                             |
|          |            |     |           | 11.52          |                            |             | SILTSTONE<br>indistinctly laminated at 0° to 5°                                                            |            |                           |                           |                                              |                             |
|          |            |     |           | 10.78          |                            |             |                                                                                                            |            |                           |                           |                                              |                             |
|          |            |     |           | 11.63          |                            |             | SANDSTONE<br>fine to medium grained, grey, with irregular and indistinct silty laminations at 0° to 5°     |            |                           |                           |                                              |                             |
|          |            |     |           | 10.67          |                            |             |                                                                                                            |            |                           |                           |                                              |                             |
|          |            |     |           | 12.0           |                            |             |                                                                                                            |            |                           |                           |                                              |                             |
|          |            |     |           | 12.45          |                            |             |                                                                                                            |            |                           |                           |                                              |                             |
|          |            |     |           | 9.85           |                            |             | massive                                                                                                    |            |                           |                           |                                              |                             |
|          | 95% RETURN | 100 | 95 (100)  | 12.5           |                            |             |                                                                                                            |            |                           |                           |                                              |                             |
|          |            |     |           | 12.68          |                            |             | SILTSTONE<br>fine to medium grained, dark grey to black, indistinctly laminated at 0° to 5°                |            |                           |                           | 12.68 m: J, 0°, Pl, Sm, Cn                   |                             |
|          |            |     |           | 9.62           |                            |             |                                                                                                            |            |                           |                           |                                              |                             |
|          |            |     |           | 12.96          |                            |             |                                                                                                            |            |                           |                           |                                              |                             |
|          |            |     |           | 9.34           |                            |             | SANDSTONE<br>fine to medium grained, grey, with irregular and indistinct silty laminations at 0° to 5°     |            |                           |                           |                                              |                             |
|          |            |     |           | 13.0           |                            |             |                                                                                                            |            |                           |                           |                                              |                             |
|          | 95% RETURN | 100 | 100 (100) | 13.28          |                            |             | massive                                                                                                    |            |                           |                           |                                              |                             |
|          |            |     |           | 9.02           |                            |             |                                                                                                            |            |                           |                           |                                              |                             |
|          |            |     |           | 13.44          |                            |             | with irregular and indistinct silty laminations at 0° to 5°                                                |            |                           |                           |                                              |                             |
|          |            |     |           | 8.86           |                            |             |                                                                                                            |            |                           |                           |                                              |                             |
|          | 95% RETURN | 100 | 100 (100) | 13.5           |                            |             |                                                                                                            |            |                           |                           |                                              |                             |
|          |            |     |           | 13.64          |                            |             | SILTSTONE<br>fine grained, dark grey to black, indistinctly laminated at 0° to 5° with lenses of sandstone |            |                           |                           | 13.73 m: B, 0-5°, Pl, Sm, clay Ve            |                             |
|          |            |     |           | 8.66           |                            |             |                                                                                                            |            |                           |                           | 13.80 m: B, 0-5°, Pl, Sm, clay Ve            |                             |
|          |            |     |           | 14.0           |                            |             |                                                                                                            |            |                           |                           |                                              |                             |
|          |            |     |           | 14.5           |                            |             |                                                                                                            |            |                           |                           | 14.55 m: B, 0-5°, Pl, Sm, clay Ve            |                             |
|          | 95% RETURN | 100 | 100 (100) | 15.0           |                            |             |                                                                                                            |            |                           |                           | 14.70 m: B, 0-5°, Pl, Sm, clay Ve            |                             |
|          |            |     |           |                |                            |             |                                                                                                            |            |                           |                           |                                              |                             |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



# GOLDER

## REPORT OF BOREHOLE: BH302

CLIENT: Built

COORDS: 308031 m E 6244139 m N MGA94 56 (hhGPS)

SHEET: 5 OF 5

PROJECT: Proposed Mixed Development

SURFACE RL: 22.30 m DATUM: AHD

DRILL RIG: Edson

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

CONTRACTOR: Nealings Drilling

JOB NO: 19125312

HOLE DEPTH: 15.20 m

LOGGED: RAM DATE: 16/7/19

CHECKED: BJF DATE: 31/7/19

| Drilling |       |     |           |                | Field Material Description |             |                                                                                                            |            |                           | Defect Information         |                                              |                             |    |      |
|----------|-------|-----|-----------|----------------|----------------------------|-------------|------------------------------------------------------------------------------------------------------------|------------|---------------------------|----------------------------|----------------------------------------------|-----------------------------|----|------|
| METHOD   | WATER | TCR | RQD (SCR) | DEPTH (metres) | DEPTH RL                   | GRAPHIC LOG | ROCK / SOIL MATERIAL DESCRIPTION                                                                           | WEATHERING | INFERRED STRENGTH UCS MPa | LABORATORY STRENGTH (MPa)  | DEFECT DESCRIPTION & Additional Observations | AVERAGE DEFECT SPACING (mm) |    |      |
| NMLC     |       |     |           |                |                            |             |                                                                                                            |            |                           |                            |                                              | 10                          | 20 | 3000 |
|          |       | 100 | 100 (100) | 15.0           | 15.20                      |             | SILTSTONE<br>fine grained, dark grey to black, indistinctly laminated at 0° to 5° with lenses of sandstone | MW         |                           | PLI(D)=0.12<br>PLI(A)=1.45 |                                              |                             |    |      |
|          |       |     |           | 7.10           |                            |             | END OF BOREHOLE @ 15.20 m<br>TARGET DEPTH<br>BACKFILLED                                                    |            |                           |                            |                                              |                             |    |      |
|          |       |     |           | 15.5           |                            |             |                                                                                                            |            |                           |                            |                                              |                             |    |      |
|          |       |     |           | 16.0           |                            |             |                                                                                                            |            |                           |                            |                                              |                             |    |      |
|          |       |     |           | 16.5           |                            |             |                                                                                                            |            |                           |                            |                                              |                             |    |      |
|          |       |     |           | 17.0           |                            |             |                                                                                                            |            |                           |                            |                                              |                             |    |      |
|          |       |     |           | 17.5           |                            |             |                                                                                                            |            |                           |                            |                                              |                             |    |      |
|          |       |     |           | 18.0           |                            |             |                                                                                                            |            |                           |                            |                                              |                             |    |      |
|          |       |     |           | 18.5           |                            |             |                                                                                                            |            |                           |                            |                                              |                             |    |      |
|          |       |     |           | 19.0           |                            |             |                                                                                                            |            |                           |                            |                                              |                             |    |      |
|          |       |     |           | 19.5           |                            |             |                                                                                                            |            |                           |                            |                                              |                             |    |      |
|          |       |     |           | 20.0           |                            |             |                                                                                                            |            |                           |                            |                                              |                             |    |      |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



# GOLDER

## REPORT OF CORE PHOTOGRAPHS: BH302

CLIENT: Built  
PROJECT: Proposed Mixed Development  
LOCATION: 52 Scott Street, Liverpool  
JOB NO: 19125312

COORDS: 308031 m E 6244139 m N MGA94 56 (hhGPS)  
SURFACE RL: 22.30 m DATUM: AHD  
INCLINATION: -90°  
HOLE DEPTH: 15.20 m

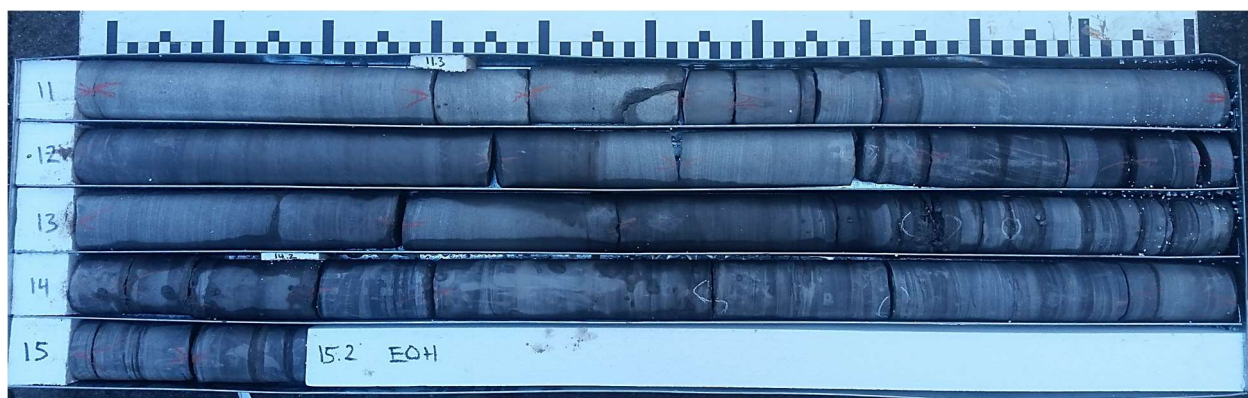
SHEET: 1 OF 1

DRILL RIG: Edson

CONTRACTOR: Nealings Drilling

LOGGED: RAM DATE: 16/7/19

CHECKED: BJF DATE: 31/7/19



This report of core photographs must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F28  
RL1



# GOLDER

## REPORT OF BOREHOLE: BH303

SHEET: 1 OF 4

CLIENT: Built

COORDS: 308018 m E 6244149 m N MGA94 56 (hhGPS)

DRILL RIG: Edson

PROJECT: Proposed Mixed Development

SURFACE RL: 23.30 m DATUM: AHD

CONTRACTOR: Nealings Drilling

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

LOGGED: RAM DATE: 15/7/19

JOB NO: 19125312

HOLE DEPTH: 15.00 m

CHECKED: BJF DATE: 31/7/19

| Drilling |                        |       |                | Sampling |                                                                 | Field Material Description |             |              |                                                                                                                                               |                    |                     |                                            |                                                                                                                                        |                                                                     |
|----------|------------------------|-------|----------------|----------|-----------------------------------------------------------------|----------------------------|-------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------------|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| METHOD   | PENETRATION RESISTANCE | WATER | DEPTH (metres) | DEPTH RL | SAMPLE OR FIELD TEST                                            | RECOVERED                  | GRAPHIC LOG | GROUP SYMBOL | SOIL/ROCK MATERIAL DESCRIPTION                                                                                                                | MOISTURE CONDITION | CONSISTENCY DENSITY | STRUCTURE AND ADDITIONAL OBSERVATIONS      |                                                                                                                                        |                                                                     |
| ADT      | M-H                    | GNE   | 0.0            | 23.27    | BH303/0.2E<br>0.20 m<br>1xJar, 1xAsb, 1xPFAS<br>R = 1A          |                            |             | GP           | ASPHALT                                                                                                                                       | D                  | w < PL              | St                                         | 0.03 - 0.15 m; inferred base course                                                                                                    |                                                                     |
|          |                        |       |                | 0.15     |                                                                 |                            |             | 23.15        | SC                                                                                                                                            |                    |                     |                                            | FILL: Sandy GRAVEL<br>fine to coarse grained, sub-angular, blue grey, fine to coarse grained sand                                      | 0.15 - 0.80 m; trace fragments of brick and tile up to 30mm in size |
|          | M                      |       |                | 0.5      |                                                                 |                            |             |              |                                                                                                                                               |                    |                     |                                            | FILL: Sandy CLAY<br>low plasticity, brown, fine to coarse grained sand, with fine to coarse grained, sub-rounded to sub-angular gravel |                                                                     |
|          |                        |       |                | 0.80     |                                                                 |                            |             | 22.50        | CH                                                                                                                                            |                    |                     |                                            | CLAY<br>high plasticity, red and grey, trace fine to coarse grained sand                                                               |                                                                     |
|          |                        |       | 1.0            | 22.30    | PP 0.90 m =150 kPa                                              |                            |             | CL-Cl        | Sandy CLAY<br>low to medium plasticity, orange brown and grey, fine grained sand, trace fine to coarse grained, sub-angular, siltstone gravel |                    | H                   | 1.0 - 1.5 m; extremely weathered siltstone |                                                                                                                                        |                                                                     |
|          | H                      |       | 1.5            |          | SPT01<br>1.00-1.16 m<br>SPT 1.00-1.16 m<br>24, 5/10mm HB<br>N>5 |                            |             |              |                                                                                                                                               |                    |                     |                                            |                                                                                                                                        |                                                                     |
|          |                        |       | 2.0            |          |                                                                 |                            |             |              | For Continuation Refer to Sheet 2                                                                                                             |                    |                     |                                            |                                                                                                                                        |                                                                     |
|          |                        |       | 2.5            |          |                                                                 |                            |             |              |                                                                                                                                               |                    |                     |                                            |                                                                                                                                        |                                                                     |
|          |                        |       | 3.0            |          |                                                                 |                            |             |              |                                                                                                                                               |                    |                     |                                            |                                                                                                                                        |                                                                     |
|          |                        |       | 3.5            |          |                                                                 |                            |             |              |                                                                                                                                               |                    |                     |                                            |                                                                                                                                        |                                                                     |
|          |                        |       | 4.0            |          |                                                                 |                            |             |              |                                                                                                                                               |                    |                     |                                            |                                                                                                                                        |                                                                     |
|          |                        |       | 4.5            |          |                                                                 |                            |             |              |                                                                                                                                               |                    |                     |                                            |                                                                                                                                        |                                                                     |
|          |                        |       | 5.0            |          |                                                                 |                            |             |              |                                                                                                                                               |                    |                     |                                            |                                                                                                                                        |                                                                     |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F01a  
RL3



# GOLDER

## REPORT OF BOREHOLE: BH303

CLIENT: Built

COORDS: 308018 m E 6244149 m N MGA94 56 (hhGPS)

SHEET: 2 OF 4

PROJECT: Proposed Mixed Development

SURFACE RL: 23.30 m DATUM: AHD

DRILL RIG: Edson

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

CONTRACTOR: Nealings Drilling

JOB NO: 19125312

HOLE DEPTH: 15.00 m

LOGGED: RAM

DATE: 15/7/19

CHECKED: BJF

DATE: 31/7/19

| Drilling |            |         |           |                | Field Material Description |             |                                                                                                 |                      |                           |      | Defect Information |      |                           |                                              |                                                                                                    |  |    |    |     |     |      |      |
|----------|------------|---------|-----------|----------------|----------------------------|-------------|-------------------------------------------------------------------------------------------------|----------------------|---------------------------|------|--------------------|------|---------------------------|----------------------------------------------|----------------------------------------------------------------------------------------------------|--|----|----|-----|-----|------|------|
| METHOD   | WATER      | TCR     | RQD (SCR) | DEPTH (metres) | DEPTH RL                   | GRAPHIC LOG | ROCK / SOIL MATERIAL DESCRIPTION                                                                | WEATHERING           | INFERRED STRENGTH UCS MPa |      |                    |      | LABORATORY STRENGTH (MPa) | DEFECT DESCRIPTION & Additional Observations | AVERAGE DEFECT SPACING (mm)                                                                        |  |    |    |     |     |      |      |
|          |            |         |           |                |                            |             |                                                                                                 |                      | VL 0.5                    | L 20 | M 60               | H 20 | VH 60                     | EH 200                                       |                                                                                                    |  | 10 | 30 | 100 | 300 | 1000 | 3000 |
| NMLC     |            |         |           |                | 0.0                        |             |                                                                                                 |                      |                           |      |                    |      |                           |                                              |                                                                                                    |  |    |    |     |     |      |      |
|          |            |         |           |                |                            |             |                                                                                                 |                      |                           |      |                    |      |                           |                                              |                                                                                                    |  |    |    |     |     |      |      |
|          |            |         |           |                |                            |             |                                                                                                 |                      |                           |      |                    |      |                           |                                              |                                                                                                    |  |    |    |     |     |      |      |
|          |            |         |           |                |                            |             |                                                                                                 |                      |                           |      |                    |      |                           |                                              |                                                                                                    |  |    |    |     |     |      |      |
|          |            |         |           |                |                            |             |                                                                                                 |                      |                           |      |                    |      |                           |                                              |                                                                                                    |  |    |    |     |     |      |      |
|          |            |         |           |                |                            |             |                                                                                                 |                      |                           |      |                    |      |                           |                                              |                                                                                                    |  |    |    |     |     |      |      |
|          |            |         |           |                |                            |             |                                                                                                 |                      |                           |      |                    |      |                           |                                              |                                                                                                    |  |    |    |     |     |      |      |
|          |            |         |           |                |                            |             |                                                                                                 |                      |                           |      |                    |      |                           |                                              |                                                                                                    |  |    |    |     |     |      |      |
|          |            |         |           |                |                            |             |                                                                                                 |                      |                           |      |                    |      |                           |                                              |                                                                                                    |  |    |    |     |     |      |      |
|          |            |         |           |                |                            |             |                                                                                                 |                      |                           |      |                    |      |                           |                                              |                                                                                                    |  |    |    |     |     |      |      |
|          |            |         |           |                | 1.70                       |             | Continuation of Sheet 1                                                                         |                      |                           |      |                    |      |                           |                                              |                                                                                                    |  |    |    |     |     |      |      |
|          | 90% RETURN | 95      | 95 (95)   |                | 21.58                      |             | CORE LOSS LAMINITE<br>fine grained, red brown to grey black, indistinctly laminated at 0° to 5° | HW                   |                           |      |                    |      |                           |                                              | PLI(D)=0.58<br>PLI(A)=0.54                                                                         |  |    |    |     |     |      |      |
|          | 90% RETURN | 100     | 95 (95)   |                | 2.22<br>21.08              |             | grey to black                                                                                   |                      |                           |      |                    |      |                           |                                              | PLI(D)=0.30<br>PLI(A)=0.72                                                                         |  |    |    |     |     |      |      |
|          | 90% RETURN | 100     | 100 (100) |                | 2.48<br>20.82              |             | red brown to grey black                                                                         |                      |                           |      |                    |      |                           |                                              |                                                                                                    |  |    |    |     |     |      |      |
|          | 90% RETURN | 100     | 100 (100) |                | 3.46<br>19.84              |             | grey to black                                                                                   | XW<br>HW<br>MW<br>HW |                           |      |                    |      |                           |                                              | 2.76-2.78 m: EWS, clay<br>2.96-3.00 m: EWS, gravelley clay<br>3.46-3.55 m: J, 30°, Pl, Sm, clay Ve |  |    |    |     |     |      |      |
|          | 90% RETURN | 100     | 95 (95)   |                | 4.19<br>19.11              |             | grey black to red brown                                                                         | HW                   |                           |      |                    |      |                           |                                              | PLI(D)=0.65<br>PLI(A)=0.48<br>PLI(D)=0.39<br>PLI(A)=0.53                                           |  |    |    |     |     |      |      |
|          | 100        | 95 (95) |           | 4.93<br>18.37  |                            |             | fine to medium grained, grey, with irregular and                                                | XW<br>HW<br>XW<br>HW |                           |      |                    |      |                           |                                              | 4.68-4.70 m: EWS, sandy clay<br>4.74-4.78 m: EWS, sandy clay                                       |  |    |    |     |     |      |      |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



# GOLDER

## REPORT OF BOREHOLE: BH303

SHEET: 3 OF 4

CLIENT: Built

COORDS: 308018 m E 6244149 m N MGA94 56 (hhGPS)

DRILL RIG: Edson

PROJECT: Proposed Mixed Development

SURFACE RL: 23.30 m DATUM: AHD

CONTRACTOR: Nealings Drilling

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

LOGGED: RAM

DATE: 15/7/19

JOB NO: 19125312

HOLE DEPTH: 15.00 m

CHECKED: BJF

DATE: 31/7/19

| Drilling |            |     |           |                | Field Material Description |             |                                                                                                                             |               |                           | Defect Information         |                                                                                                                                              |                             |
|----------|------------|-----|-----------|----------------|----------------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| METHOD   | WATER      | TCR | RQD (SCR) | DEPTH (metres) | DEPTH RL                   | GRAPHIC LOG | ROCK / SOIL MATERIAL DESCRIPTION                                                                                            | WEATHERING    | INFERRED STRENGTH UCS MPa | LABORATORY STRENGTH (MPa)  | DEFECT DESCRIPTION & Additional Observations                                                                                                 | AVERAGE DEFECT SPACING (mm) |
|          |            |     |           |                |                            |             |                                                                                                                             |               |                           |                            |                                                                                                                                              |                             |
| NMLC     | 95% RETURN | 100 | 95 (95)   | 5.0            |                            |             | indistinct silty laminations at 0° to 5° LAMINITE fine grained, red brown to grey black, indistinctly laminated at 0° to 5° | MW - HW       |                           | PLI(D)=0.07<br>PLI(A)=0.88 | 5.23 m: B, 0-5°, Pl, Sm, clay Ve<br>5.29 m: B, 0-5°, Pl, Sm, clay Ve<br>5.37 m: B, 0-5°, Pl, Sm, clay Ve<br>5.47 m: B, 0-5°, Pl, Sm, clay Ve |                             |
|          |            |     |           | 5.66           | 17.64                      |             | grey and orange brown                                                                                                       | HW            |                           |                            | 5.66 m: B, 0-5°, Pl, Sm, clay Ve<br>5.68 m: B, 0-5°, Pl, Sm, clay Ve<br>5.81-5.85 m: EWS, gravelley clay                                     |                             |
|          |            |     |           | 6.00           | 17.30                      |             | grey                                                                                                                        | XW<br>HW      |                           |                            | 5.98-6.00 m: EWS, clay                                                                                                                       |                             |
|          |            |     |           | 6.66           | 16.64                      |             | fine to medium grained, massive                                                                                             |               |                           | PLI(D)=0.81<br>PLI(A)=1.13 |                                                                                                                                              |                             |
|          | 95% RETURN | 100 | 90 (90)   | 7.10           | 16.20                      |             | fine grained, dark grey to black, indistinctly laminated at 0° to 5°                                                        | XW<br>HW      |                           |                            | 7.16 m: B, 0-5°, Pl, Sm, clay Ve<br>7.19-7.23 m: EWS, clay                                                                                   |                             |
|          |            |     |           | 7.37           |                            |             |                                                                                                                             | XW<br>HW      |                           |                            | 7.37-7.40 m: EWS, clay<br>7.47-7.53 m: EWS, clay                                                                                             |                             |
|          |            |     |           | 7.90           | 15.40                      |             | fine to medium grained, massive, grey                                                                                       | XW<br>HW      |                           | PLI(D)=0.17<br>PLI(A)=1.19 | 7.68-7.73 m: EWS, clay<br>7.85-7.87 m: EWS, clay                                                                                             |                             |
|          |            |     |           | 8.16           | 15.14                      |             | with irregular and indistinct silty laminations at 0° to 5°                                                                 |               |                           |                            |                                                                                                                                              |                             |
|          | 95% RETURN | 100 | 85 (85)   | 8.62           | 14.68                      |             | fine grained, grey to black, indistinctly laminated at 0° to 5°, with zones of fine grained sandstone                       | XW<br>HW      |                           | PLI(D)=0.88<br>PLI(A)=1.41 | 8.69-8.83 m: EWS, clay<br>8.91-9.00 m: EWS, gravelley clay<br>9.02-9.08 m: EWS, gravelley clay                                               |                             |
|          |            |     |           | 9.22           |                            |             |                                                                                                                             | XW<br>HW      |                           | PLI(D)=0.54<br>PLI(A)=0.55 | 9.22-9.33 m: EWS, gravelley clay                                                                                                             |                             |
|          |            |     |           | 9.46           | 13.84                      |             | SANDSTONE fine to medium grained, grey, with irregular and indistinct silty laminations at 0° to 5°                         | MW - HW<br>MW |                           |                            | 9.90-9.96 m: EWS, gravelley clay                                                                                                             |                             |
|          |            |     |           |                |                            |             |                                                                                                                             |               |                           |                            |                                                                                                                                              |                             |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



# GOLDER

## REPORT OF BOREHOLE: BH303

SHEET: 4 OF 4

CLIENT: Built

COORDS: 308018 m E 6244149 m N MGA94 56 (hhGPS)

DRILL RIG: Edson

PROJECT: Proposed Mixed Development

SURFACE RL: 23.30 m DATUM: AHD

CONTRACTOR: Nealings Drilling

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

LOGGED: RAM

DATE: 15/7/19

JOB NO: 19125312

HOLE DEPTH: 15.00 m

CHECKED: BJF

DATE: 31/7/19

| Drilling   |            |         |           |                | Field Material Description |                                                                                                        |                                                                                                        |            |                            | Defect Information                                            |                                                                                                             |                                   |                                              |                              |  |
|------------|------------|---------|-----------|----------------|----------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|------------|----------------------------|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------------------------|------------------------------|--|
| METHOD     | WATER      | TCR     | RQD (SCR) | DEPTH (metres) | DEPTH RL                   | GRAPHIC LOG                                                                                            | ROCK / SOIL MATERIAL DESCRIPTION                                                                       | WEATHERING | INFERRED STRENGTH UCS MPa  |                                                               |                                                                                                             | LABORATORY STRENGTH (MPa)         | DEFECT DESCRIPTION & Additional Observations | AVERAGE DEFECT SPACING (mm)  |  |
|            |            |         |           |                |                            |                                                                                                        |                                                                                                        |            | VL 0.8                     | L 20                                                          | M 60                                                                                                        | H 20                              | VH 60                                        | EH 200                       |  |
| NMLC       | 95% RETURN | 100     | 85 (85)   | 10.0           |                            |                                                                                                        | SANDSTONE<br>fine to medium grained, grey, with irregular and indistinct silty laminations at 0° to 5° | MW         |                            |                                                               |                                                                                                             |                                   |                                              | 10.08 m: B, 0-5°, Pl, Sm, Cn |  |
|            |            |         |           | 10.5           |                            |                                                                                                        |                                                                                                        |            |                            | PLI(D)=0.65<br>PLI(A)=1.18                                    |                                                                                                             |                                   |                                              |                              |  |
|            |            |         |           | 10.61          | 12.69                      |                                                                                                        | massive                                                                                                |            |                            |                                                               |                                                                                                             |                                   |                                              |                              |  |
|            |            |         |           | 10.84          | 12.46                      |                                                                                                        | with irregular and indistinct silty laminations at 0° to 5°                                            |            |                            |                                                               |                                                                                                             |                                   |                                              |                              |  |
|            | 95% RETURN | 100     | 90 (95)   | 11.0           |                            |                                                                                                        |                                                                                                        |            |                            |                                                               | PLI(D)=2.03<br>PLI(A)=4.05                                                                                  | 11.05 m: B, 0-5°, Pl, Sm, clay Ve |                                              |                              |  |
|            |            |         |           | 11.5           |                            |                                                                                                        |                                                                                                        |            |                            |                                                               | 11.32 m: B, 0-5°, Pl, Sm, clay Ve                                                                           |                                   |                                              |                              |  |
|            |            |         |           | 12.0           |                            |                                                                                                        |                                                                                                        |            |                            |                                                               | 11.46 m: B, 0-5°, Pl, Sm, clay Ve                                                                           |                                   |                                              |                              |  |
|            |            |         |           | 12.29          | 11.01                      |                                                                                                        | with lenses of siltstone                                                                               |            |                            |                                                               |                                                                                                             |                                   |                                              |                              |  |
|            |            |         |           | 12.56          | 10.74                      |                                                                                                        | SILTSTONE<br>fine grained, grey to black, indistinctly laminated at 0° to 5°                           |            |                            | PLI(D)=0.64<br>PLI(A)=0.85                                    | 12.49 m: B, 0-5°, Pl, Sm, clay Ve<br>12.51 m: B, 0-5°, Pl, Sm, clay Ve<br>12.56 m: B, 0-5°, Pl, Sm, clay Ve |                                   |                                              |                              |  |
|            |            |         |           | 13.0           |                            |                                                                                                        |                                                                                                        |            |                            |                                                               | 12.77 m: B, 0-5°, Pl, Sm, clay Ve<br>12.80 m: B, 0-5°, Pl, Sm, clay Ve                                      |                                   |                                              |                              |  |
| 95% RETURN | 100        | 90 (95) | 13.39     | 9.91           |                            | SANDSTONE<br>fine to medium grained, massive, grey                                                     | XW<br>MW<br>HW<br>MW                                                                                   |            | PLI(D)=2.17<br>PLI(A)=2.05 | 13.15-13.21 m: EWS, clay<br>13.25 m: B, 0-5°, Pl, Sm, clay Ve |                                                                                                             |                                   |                                              |                              |  |
|            |            |         | 14.0      |                |                            | with irregular and indistinct silty laminations at 0° to 5°                                            |                                                                                                        |            |                            |                                                               |                                                                                                             |                                   |                                              |                              |  |
|            |            |         | 14.26     |                |                            |                                                                                                        |                                                                                                        |            |                            |                                                               |                                                                                                             |                                   |                                              |                              |  |
|            |            |         | 14.34     | 8.96           |                            | SILTSTONE<br>fine grained, grey to black, indistinctly laminated at 0° to 5°                           |                                                                                                        |            | PLI(D)=0.52<br>PLI(A)=1.27 |                                                               |                                                                                                             |                                   |                                              |                              |  |
|            |            |         | 14.5      |                |                            | SANDSTONE<br>fine to medium grained, grey, with irregular and indistinct silty laminations at 0° to 5° |                                                                                                        |            |                            | 14.69 m: B, 0-5°, Pl, Sm, clay Ve                             |                                                                                                             |                                   |                                              |                              |  |
|            |            |         | 14.84     | 8.46           |                            | with lenses of siltstone                                                                               |                                                                                                        |            |                            | 14.84 m: B, 0-5°, Pl, Sm, clay Ve                             |                                                                                                             |                                   |                                              |                              |  |
|            |            |         |           |                | 15.0                       |                                                                                                        | END OF BOREHOLE @ 15.00 m<br>TARGET DEPTH                                                              |            |                            |                                                               |                                                                                                             |                                   |                                              |                              |  |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



# GOLDER

## REPORT OF CORE PHOTOGRAPHS: BH303

CLIENT: Built

PROJECT: Proposed Mixed Development

LOCATION: 52 Scott Street, Liverpool

JOB NO: 19125312

COORDS: 308018 m E 6244149 m N MGA94 56 (hhGPS)

SURFACE RL: 23.30 m DATUM: AHD

INCLINATION: -90°

HOLE DEPTH: 15.00 m

SHEET: 1 OF 1

DRILL RIG: Edson

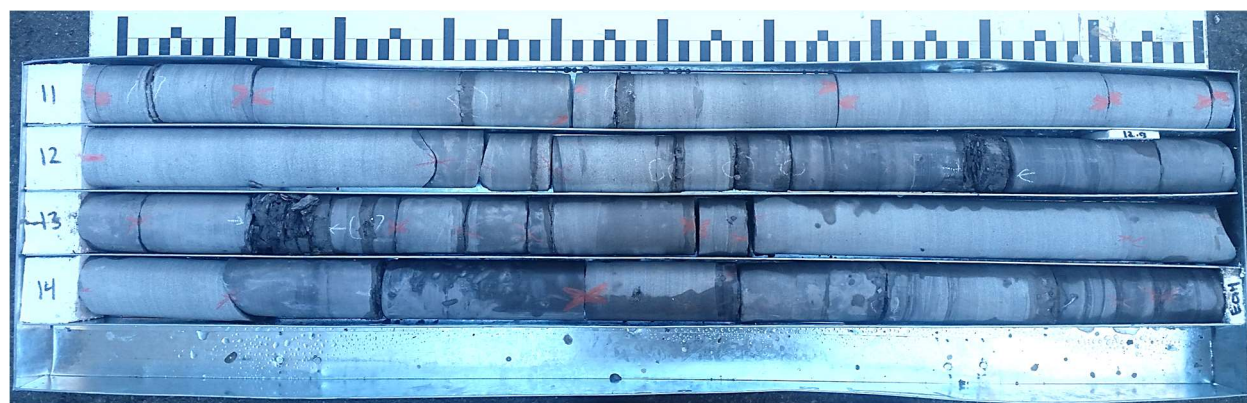
CONTRACTOR: Nealings Drilling

LOGGED: RAM

DATE: 15/7/19

CHECKED: BJF

DATE: 31/7/19



This report of core photographs must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F28  
RL1



# GOLDER

## REPORT OF BOREHOLE: BH304

SHEET: 1 OF 5

CLIENT: Built

COORDS: 308036 m E 6244123 m N MGA94 56 (hhGPS)

DRILL RIG: Edson

PROJECT: Proposed Mixed Development

SURFACE RL: 24.20 m DATUM: AHD

CONTRACTOR: Nealings Drilling

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

LOGGED: RAM DATE: 11/7/19

JOB NO: 19125312

HOLE DEPTH: 15.21 m

CHECKED: BJF DATE: 31/7/19

| Drilling |                        |       |                | Sampling |                                                                                                                                                                                                                                                              | Field Material Description |              |                                                                                                                              |                    |                     |                                       |
|----------|------------------------|-------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------|------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------------|---------------------------------------|
| METHOD   | PENETRATION RESISTANCE | WATER | DEPTH (metres) | DEPTH RL | SAMPLE OR FIELD TEST                                                                                                                                                                                                                                         | RECOVERED GRAPHIC LOG      | GROUP SYMBOL | SOIL/ROCK MATERIAL DESCRIPTION                                                                                               | MOISTURE CONDITION | CONSISTENCY DENSITY | STRUCTURE AND ADDITIONAL OBSERVATIONS |
| CC       |                        |       | 0.0            | 24.16    |                                                                                                                                                                                                                                                              |                            | GP           | ASPHALT<br>FILL: Sandy GRAVEL<br>fine to coarse grained, sub-angular, grey blue, fine to coarse grained sand                 |                    |                     | 0.04 - 0.70 m; inferred base course   |
| ADT      | M-H                    |       | 0.5            |          |                                                                                                                                                                                                                                                              |                            |              |                                                                                                                              | D                  |                     |                                       |
|          |                        |       | 0.70           | 23.50    | BH304/0.7E<br>0.70 m<br>1xJar, 1xAsb, 1xPFAS,<br>1xASS<br>R = 0A<br>PP 0.80 m =125 kPa<br>PP 0.85 m =150 kPa<br>SPT01/1<br>1.00-1.30 m<br>SPT 1.00-1.36 m<br>6, 10, 15/60mm HB<br>N>25<br>PP 1.20 m >600 kPa<br>SPT01/2<br>1.30-1.36 m<br>PP 1.30 m >600 kPa |                            | CH           | CLAY<br>high plasticity, red and grey, trace fine to medium grained sand                                                     |                    | St                  | RESIDUAL SOIL                         |
|          | M                      |       | 1.0            | 23.20    |                                                                                                                                                                                                                                                              |                            | CL-CH        | CLAY<br>medium to high plasticity, orange brown and grey, with fine to medium grained sand                                   |                    | w < PL              |                                       |
|          | M-H                    |       | 1.5            | 22.90    |                                                                                                                                                                                                                                                              |                            | CL-CI        | Sandy CLAY<br>low to medium plasticity, grey, fine grained sand, trace fine to medium grained, sub-angular, siltstone gravel |                    | H                   |                                       |
|          |                        |       | 2.0            |          |                                                                                                                                                                                                                                                              |                            |              | For Continuation Refer to Sheet 2                                                                                            |                    |                     |                                       |
|          |                        |       | 2.5            |          |                                                                                                                                                                                                                                                              |                            |              |                                                                                                                              |                    |                     |                                       |
|          |                        |       | 3.0            |          |                                                                                                                                                                                                                                                              |                            |              |                                                                                                                              |                    |                     |                                       |
|          |                        |       | 3.5            |          |                                                                                                                                                                                                                                                              |                            |              |                                                                                                                              |                    |                     |                                       |
|          |                        |       | 4.0            |          |                                                                                                                                                                                                                                                              |                            |              |                                                                                                                              |                    |                     |                                       |
|          |                        |       | 4.5            |          |                                                                                                                                                                                                                                                              |                            |              |                                                                                                                              |                    |                     |                                       |
|          |                        |       | 5.0            |          |                                                                                                                                                                                                                                                              |                            |              |                                                                                                                              |                    |                     |                                       |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F01a  
RL3



# GOLDER

## REPORT OF BOREHOLE: BH304

CLIENT: Built

COORDS: 308036 m E 6244123 m N MGA94 56 (hhGPS)

SHEET: 2 OF 5

PROJECT: Proposed Mixed Development

SURFACE RL: 24.20 m DATUM: AHD

DRILL RIG: Edson

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

CONTRACTOR: Nealings Drilling

JOB NO: 19125312

HOLE DEPTH: 15.21 m

LOGGED: RAM

DATE: 11/7/19

CHECKED: BJF

DATE: 31/7/19

| Drilling |       |     |           |                |          | Field Material Description |                                                                |            |                           |                           |  | Defect Information                           |  |                             |  |
|----------|-------|-----|-----------|----------------|----------|----------------------------|----------------------------------------------------------------|------------|---------------------------|---------------------------|--|----------------------------------------------|--|-----------------------------|--|
| METHOD   | WATER | TCR | RQD (SCR) | DEPTH (metres) | DEPTH RL | GRAPHIC LOG                | ROCK / SOIL MATERIAL DESCRIPTION                               | WEATHERING | INFERRED STRENGTH UCS MPa | LABORATORY STRENGTH (MPa) |  | DEFECT DESCRIPTION & Additional Observations |  | AVERAGE DEFECT SPACING (mm) |  |
|          |       |     |           |                |          |                            |                                                                |            |                           |                           |  |                                              |  |                             |  |
|          |       |     |           | 0.0            |          |                            |                                                                |            |                           |                           |  |                                              |  |                             |  |
|          |       |     |           | 0.5            |          |                            |                                                                |            |                           |                           |  |                                              |  |                             |  |
|          |       |     |           | 1.0            |          |                            |                                                                |            |                           |                           |  |                                              |  |                             |  |
|          |       |     |           | 1.5            |          |                            |                                                                |            |                           |                           |  |                                              |  |                             |  |
|          |       |     |           | 1.70           |          |                            | Continuation of Sheet 1                                        |            |                           |                           |  |                                              |  |                             |  |
|          |       |     |           | 22.50          |          |                            | LAMINITE                                                       | HW         |                           |                           |  |                                              |  |                             |  |
|          |       |     |           | 1.91           |          |                            | fine grained, orange brown, indistinctly laminated at 0° to 5° |            |                           |                           |  |                                              |  |                             |  |
|          |       |     |           | 22.29          |          |                            | dark brown to black                                            | HW - MW    |                           |                           |  | 1.80 m: B, 0-5°, Pl, Sm, clay Ve             |  |                             |  |
|          |       |     |           | 2.28           |          |                            |                                                                |            |                           |                           |  |                                              |  |                             |  |
|          |       |     |           | 21.92          |          |                            | orange brown                                                   | HW         |                           |                           |  |                                              |  |                             |  |
|          |       |     |           | 21.86          |          |                            | dark brown to black                                            | HW - MW    |                           |                           |  | 2.30 m: B, 0-5°, Pl, Sm, clay Ve             |  |                             |  |
|          |       |     |           | 2.5            |          |                            |                                                                |            |                           |                           |  |                                              |  |                             |  |
|          |       |     |           | 3.0            |          |                            |                                                                |            |                           |                           |  |                                              |  |                             |  |
|          |       |     |           | 3.03           |          |                            |                                                                | XW         |                           |                           |  | 2.95-3.03 m: EWS, clay                       |  |                             |  |
|          |       |     |           | 21.17          |          |                            | dark red brown to black                                        | HW         |                           |                           |  |                                              |  |                             |  |
|          |       |     |           | 3.5            |          |                            |                                                                |            |                           |                           |  |                                              |  |                             |  |
|          |       |     |           | 3.98           |          |                            |                                                                |            |                           |                           |  |                                              |  |                             |  |
|          |       |     |           | 20.22          |          |                            | dark brown to black                                            | HW - MW    |                           |                           |  |                                              |  |                             |  |
|          |       |     |           | 4.0            |          |                            |                                                                |            |                           |                           |  |                                              |  |                             |  |
|          |       |     |           | 4.5            |          |                            |                                                                |            |                           |                           |  |                                              |  |                             |  |
|          |       |     |           | 4.35           |          |                            |                                                                |            |                           |                           |  | 4.35 m: B, 0-5°, Pl, Sm, clay Ve             |  |                             |  |
|          |       |     |           | 4.65           |          |                            |                                                                |            |                           |                           |  | 4.65 m: B, 0-5°, Pl, Sm, clay Ve             |  |                             |  |
|          |       |     |           | 5.0            |          |                            |                                                                |            |                           |                           |  |                                              |  |                             |  |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



# GOLDER

## REPORT OF BOREHOLE: BH304

SHEET: 3 OF 5

CLIENT: Built

COORDS: 308036 m E 6244123 m N MGA94 56 (hhGPS)

DRILL RIG: Edson

PROJECT: Proposed Mixed Development

SURFACE RL: 24.20 m DATUM: AHD

CONTRACTOR: Nealings Drilling

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

LOGGED: RAM DATE: 11/7/19

JOB NO: 19125312

HOLE DEPTH: 15.21 m

CHECKED: BJF DATE: 31/7/19

| Drilling |             |     |           |                |               | Field Material Description |                                                                                                                   |            |                           |                            | Defect Information                           |                             |      |
|----------|-------------|-----|-----------|----------------|---------------|----------------------------|-------------------------------------------------------------------------------------------------------------------|------------|---------------------------|----------------------------|----------------------------------------------|-----------------------------|------|
| METHOD   | WATER       | TCR | RQD (SCR) | DEPTH (metres) | DEPTH RL      | GRAPHIC LOG                | ROCK / SOIL MATERIAL DESCRIPTION                                                                                  | WEATHERING | INFERRED STRENGTH UCS MPa | LABORATORY STRENGTH (MPa)  | DEFECT DESCRIPTION & Additional Observations | AVERAGE DEFECT SPACING (mm) |      |
|          |             |     |           |                |               |                            |                                                                                                                   |            |                           |                            |                                              | 10                          | 30   |
|          |             |     |           |                |               |                            |                                                                                                                   |            |                           |                            |                                              | 100                         | 300  |
|          |             |     |           |                |               |                            |                                                                                                                   |            |                           |                            |                                              | 1000                        | 3000 |
| NMLC     | 95% RETURN  |     | 100       | 95 (95)        | 5.0           |                            | LAMINITE<br>fine grained, orange brown, indistinctly laminated at 0° to 5°                                        | MW         |                           | PLI(D)=0.45<br>PLI(A)=0.52 |                                              |                             |      |
|          |             |     |           |                | 5.5           |                            |                                                                                                                   |            |                           |                            | 5.60 m: B, 0-5°, PI, Sm, clay Ve             |                             |      |
|          |             |     |           |                | 5.84<br>18.36 |                            | fine to medium grained, grey, with irregular and indistinct silty laminations at 0° to 5° and lenses of siltstone |            |                           |                            | 5.81-5.84 m: lens of shell grit              |                             |      |
|          |             |     |           |                | 6.0           |                            |                                                                                                                   |            |                           |                            | 5.93 m: B, 0-5°, PI, Sm, clay Ve             |                             |      |
|          |             |     |           |                | 6.5           |                            |                                                                                                                   |            |                           | PLI(D)=0.94<br>PLI(A)=3.27 |                                              |                             |      |
|          |             |     |           |                | 6.67<br>17.53 |                            | fine grained, dark grey to black, indistinctly laminated at 0° to 5°                                              |            |                           |                            |                                              |                             |      |
|          |             |     |           |                | 6.90<br>17.30 |                            | with lenses of sandstone                                                                                          |            |                           |                            |                                              |                             |      |
|          |             |     |           |                | 7.0           |                            |                                                                                                                   |            |                           |                            | 7.05 m: B, 0-5°, PI, Sm, clay Ve             |                             |      |
|          |             |     |           |                | 7.18<br>17.02 |                            | fine to medium grained, grey, with irregular and indistinct silty laminations at 0° to 5° and lenses of siltstone |            |                           | PLI(D)=0.70<br>PLI(A)=0.58 |                                              |                             |      |
|          |             |     |           |                | 7.5           |                            |                                                                                                                   |            |                           |                            |                                              |                             |      |
|          |             |     |           |                | 8.0           |                            |                                                                                                                   |            |                           |                            |                                              |                             |      |
|          | 100% RETURN |     | 100       | 100 (100)      | 8.36          |                            |                                                                                                                   |            |                           | PLI(D)=0.38<br>PLI(A)=0.56 | 8.36 m: B, 0-5°, PI, Sm, clay Ve             |                             |      |
|          |             |     |           |                | 8.5           |                            |                                                                                                                   |            |                           |                            |                                              |                             |      |
|          |             |     |           |                | 9.0           |                            |                                                                                                                   |            |                           |                            |                                              |                             |      |
|          |             |     |           |                | 9.5           |                            |                                                                                                                   |            |                           | PLI(D)=2.35<br>PLI(A)=2.62 |                                              |                             |      |
|          |             |     |           |                | 9.87<br>14.33 |                            | fine grained, dark grey to black, indistinctly laminated at 0° to 5°                                              | XW         |                           |                            | 9.87-9.91 m: EWS, clay                       |                             |      |
|          |             |     | 100       | 70 (95)        | 10.0          |                            |                                                                                                                   |            |                           |                            |                                              |                             |      |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



# GOLDER

## REPORT OF BOREHOLE: BH304

SHEET: 4 OF 5

CLIENT: Built

COORDS: 308036 m E 6244123 m N MGA94 56 (hhGPS)

DRILL RIG: Edson

PROJECT: Proposed Mixed Development

SURFACE RL: 24.20 m DATUM: AHD

CONTRACTOR: Nealings Drilling

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

LOGGED: RAM

DATE: 11/7/19

JOB NO: 19125312

HOLE DEPTH: 15.21 m

CHECKED: BJF

DATE: 31/7/19

| Drilling |            |     |           |                | Field Material Description |             |                                                                                                                 |            |                           | Defect Information        |                                              |                             |
|----------|------------|-----|-----------|----------------|----------------------------|-------------|-----------------------------------------------------------------------------------------------------------------|------------|---------------------------|---------------------------|----------------------------------------------|-----------------------------|
| METHOD   | WATER      | TCR | RQD (SCR) | DEPTH (metres) | DEPTH RL                   | GRAPHIC LOG | ROCK / SOIL MATERIAL DESCRIPTION                                                                                | WEATHERING | INFERRED STRENGTH UCS MPa | LABORATORY STRENGTH (MPa) | DEFECT DESCRIPTION & Additional Observations | AVERAGE DEFECT SPACING (mm) |
|          |            |     |           |                |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
| NMLC     | 95% RETURN | 100 | 70 (95)   | 10.0           |                            |             | LAMINITE<br>fine grained, orange brown, indistinctly laminated at 0° to 5°                                      | HW         |                           |                           | 10.00-10.04 m: EWS, clay                     |                             |
|          |            |     |           |                |                            |             |                                                                                                                 | XW         |                           |                           | 10.08-10.12 m: EWS, clay                     |                             |
|          |            |     |           |                |                            |             |                                                                                                                 | HW         |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 | XW         |                           |                           |                                              |                             |
|          | 90% RETURN | 100 | 85 (90)   | 10.5           | 10.52<br>13.68             |             | with lenses of sandstone                                                                                        | HW         |                           |                           | 10.41-10.43 m: EWS, clay                     |                             |
|          |            |     |           |                |                            |             |                                                                                                                 | XW         |                           |                           | 10.55-10.57 m: EWS, clay                     |                             |
|          |            |     |           |                |                            |             |                                                                                                                 | HW         |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 | XW         |                           |                           |                                              |                             |
|          | 95% RETURN | 100 | 100 (100) | 11.0           | 10.93<br>13.27             |             | SANDSTONE<br>fine to medium grained, grey, with indistinct silty laminations at 0° to 5°                        | MW<br>HW   |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
|          | 10% RETURN | 100 | 100 (100) | 11.5           |                            |             |                                                                                                                 | XW         |                           |                           | 11.49-11.56 m: EWS, sandy clay               |                             |
|          |            |     |           |                |                            |             |                                                                                                                 | MW         |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
| NMLC     | 95% RETURN | 100 | 100 (100) | 12.0           |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
|          | 90% RETURN | 100 | 100 (100) | 12.5           | 12.61<br>11.59             |             | with lenses of siltstone                                                                                        |            |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
|          | 10% RETURN | 100 | 100 (100) | 13.0           | 12.90<br>11.30             |             | massive                                                                                                         |            |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
| NMLC     | 95% RETURN | 100 | 100 (100) | 13.5           | 13.62<br>10.58             |             | SILTSTONE<br>fine grained, grey to black, with indistinct silty laminations at 0° to 5° and lenses of sandstone |            |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
|          | 90% RETURN | 100 | 100 (100) | 14.0           |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
|          | 10% RETURN | 100 | 100 (100) | 14.5           | 14.84<br>9.36              |             | SANDSTONE<br>fine to medium grained, massive, grey                                                              |            |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |
|          |            |     |           |                |                            |             |                                                                                                                 |            |                           |                           |                                              |                             |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



# GOLDER

## REPORT OF BOREHOLE: BH304

CLIENT: Built

PROJECT: Proposed Mixed Development

LOCATION: 52 Scott Street, Liverpool

JOB NO: 19125312

COORDS: 308036 m E 6244123 m N MGA94 56 (hhGPS)

SURFACE RL: 24.20 m DATUM: AHD

INCLINATION: -90°

HOLE DEPTH: 15.21 m

SHEET: 5 OF 5

DRILL RIG: Edson

CONTRACTOR: Nealings Drilling

LOGGED: RAM DATE: 11/7/19

CHECKED: BJF DATE: 31/7/19

| Drilling |       |     |           |                | Field Material Description |                                                                                   |                                                                   |            |                           | Defect Information         |                                              |                             |  |  |
|----------|-------|-----|-----------|----------------|----------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------|------------|---------------------------|----------------------------|----------------------------------------------|-----------------------------|--|--|
| METHOD   | WATER | TCR | RQD (SCR) | DEPTH (metres) | DEPTH RL                   | GRAPHIC LOG                                                                       | ROCK / SOIL MATERIAL DESCRIPTION                                  | WEATHERING | INFERRED STRENGTH UCS MPa | LABORATORY STRENGTH (MPa)  | DEFECT DESCRIPTION & Additional Observations | AVERAGE DEFECT SPACING (mm) |  |  |
| NMLC     |       | 100 | 100 (100) | 15.0           | 15.21                      |  | SANDSTONE<br>fine to medium grained, massive, grey                | MW         |                           |                            |                                              |                             |  |  |
|          |       |     |           | 8.99           |                            |                                                                                   | END OF BOREHOLE @ 15.21 m<br>TARGET DEPTH<br>PIEZOMETER INSTALLED |            |                           | PLI(D)=2.10<br>PLI(A)=4.93 |                                              |                             |  |  |
|          |       |     |           | 15.5           |                            |                                                                                   |                                                                   |            |                           |                            |                                              |                             |  |  |
|          |       |     |           | 16.0           |                            |                                                                                   |                                                                   |            |                           |                            |                                              |                             |  |  |
|          |       |     |           | 16.5           |                            |                                                                                   |                                                                   |            |                           |                            |                                              |                             |  |  |
|          |       |     |           | 17.0           |                            |                                                                                   |                                                                   |            |                           |                            |                                              |                             |  |  |
|          |       |     |           | 17.5           |                            |                                                                                   |                                                                   |            |                           |                            |                                              |                             |  |  |
|          |       |     |           | 18.0           |                            |                                                                                   |                                                                   |            |                           |                            |                                              |                             |  |  |
|          |       |     |           | 18.5           |                            |                                                                                   |                                                                   |            |                           |                            |                                              |                             |  |  |
|          |       |     |           | 19.0           |                            |                                                                                   |                                                                   |            |                           |                            |                                              |                             |  |  |
|          |       |     |           | 19.5           |                            |                                                                                   |                                                                   |            |                           |                            |                                              |                             |  |  |
|          |       |     |           | 20.0           |                            |                                                                                   |                                                                   |            |                           |                            |                                              |                             |  |  |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



GOLDER

## REPORT OF CORE PHOTOGRAPHS: BH304

CLIENT: Built  
PROJECT: Proposed Mixed Development  
LOCATION: 52 Scott Street, Liverpool  
JOB NO: 19125312

COORDS: 308036 m E 6244123 m N MGA94 56 (hhGPS)  
SURFACE RL: 24.20 m DATUM: AHD  
INCLINATION: -90°  
HOLE DEPTH: 15.21 m

SHEET: 1 OF 1

DRILL RIG: Edson

CONTRACTOR: Nealings Drilling

LOGGED: RAM DATE: 11/7/19

CHECKED: BJF DATE: 31/7/19



This report of core photographs must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F28  
RL1



# GOLDER

## REPORT OF STANDPIPE INSTALLATION: BH304

SHEET: 1 OF 1

CLIENT: Built

COORDS: 308036 m E 6244123 m N MGA94 56 (hhGPS)

DRILL RIG: Edson

PROJECT: Proposed Mixed Development

SURFACE RL: 24.20 m DATUM: AHD

CONTRACTOR: Nealings Drilling

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

LOGGED: RAM

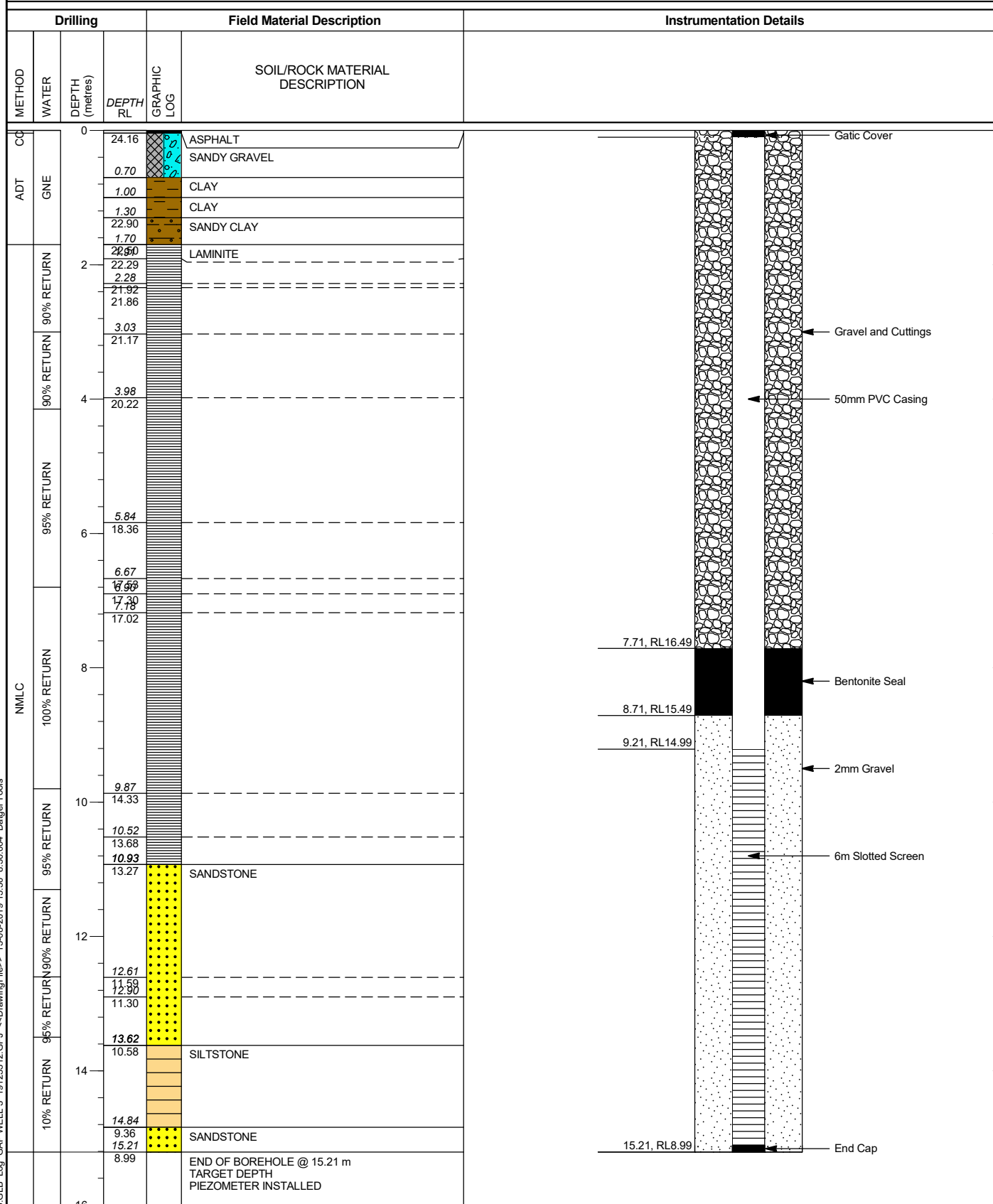
DATE: 11/7/19

JOB NO: 19125312

HOLE DEPTH: 15.21 m

CHECKED: BJF

DATE: 31/7/19



This report of standpipe installation must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F17  
RL1



# GOLDER

## REPORT OF BOREHOLE: BH305

SHEET: 1 OF 5

CLIENT: Built

COORDS: 308073 m E 6244146 m N MGA94 56 (hhGPS)

DRILL RIG: Kamutsu

PROJECT: Proposed Mixed Development

SURFACE RL: 26.10 m DATUM: AHD

CONTRACTOR: Nealings Drilling

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

LOGGED: RAM DATE: 20/7/19

JOB NO: 19125312

HOLE DEPTH: 15.16 m

CHECKED: BJF DATE: 31/7/19

| Drilling |                        |       |                                                                                      | Sampling                                                                                                                           |                                                        | Field Material Description |             |                                                                                                                                                       |                                   |                    |             |               |                                       |
|----------|------------------------|-------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|----------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------------------|-------------|---------------|---------------------------------------|
| METHOD   | PENETRATION RESISTANCE | WATER | DEPTH (metres)                                                                       | DEPTH RL                                                                                                                           | SAMPLE OR FIELD TEST                                   | RECOVERED                  | GRAPHIC LOG | GROUP SYMBOL                                                                                                                                          | SOIL/ROCK MATERIAL DESCRIPTION    | MOISTURE CONDITION | CONSISTENCY | DENSITY       | STRUCTURE AND ADDITIONAL OBSERVATIONS |
| HA       | M-H                    |       | 0.0                                                                                  | 26.06                                                                                                                              | BH305/0.4E<br>0.40 m<br>1xJar, 1xAsb, 1xPFAS<br>R = 1A |                            |             | GP                                                                                                                                                    | ASPHALT                           | M                  |             |               | 0.04 - 0.15 m; inferred basecourse    |
|          |                        |       | FILL: Sandy GRAVEL<br>fine to coarse grained, blue grey, fine to coarse grained sand |                                                                                                                                    |                                                        |                            |             |                                                                                                                                                       |                                   |                    |             |               |                                       |
|          | 0.15                   | 26.06 |                                                                                      |                                                                                                                                    |                                                        |                            |             |                                                                                                                                                       |                                   |                    |             |               |                                       |
|          | 0.20                   | 25.90 | SP                                                                                   | FILL: SILTSTONE<br>fine grained, grey and orange, indistinctly laminated, extremely weathered to highly weathered, medium strength |                                                        |                            |             |                                                                                                                                                       |                                   |                    |             |               |                                       |
| ADT      | L-M                    | GNE   | 0.5                                                                                  |                                                                                                                                    |                                                        |                            |             |                                                                                                                                                       |                                   |                    |             | D             |                                       |
|          |                        |       |                                                                                      |                                                                                                                                    |                                                        |                            |             |                                                                                                                                                       |                                   |                    |             |               |                                       |
|          |                        |       |                                                                                      |                                                                                                                                    |                                                        |                            |             |                                                                                                                                                       |                                   |                    |             |               |                                       |
|          |                        |       |                                                                                      |                                                                                                                                    |                                                        |                            |             |                                                                                                                                                       |                                   |                    |             |               |                                       |
|          |                        |       | 1.0                                                                                  | 1.00<br>25.10                                                                                                                      |                                                        |                            | CH          | CLAY<br>high plasticity, red and orange, trace fine to coarse grained sand                                                                            |                                   | St                 |             | RESIDUAL SOIL |                                       |
|          |                        |       |                                                                                      |                                                                                                                                    |                                                        |                            |             |                                                                                                                                                       |                                   |                    |             |               |                                       |
|          |                        |       |                                                                                      |                                                                                                                                    |                                                        |                            |             |                                                                                                                                                       |                                   |                    |             |               |                                       |
|          |                        |       | 1.5                                                                                  | 1.60<br>24.50                                                                                                                      |                                                        |                            | CI          | Sandy CLAY<br>medium plasticity, pale orange brown and grey, fine to medium grained sand, trace fine to coarse grained, sub-angular, siltstone gravel | w < PL                            |                    |             |               |                                       |
|          |                        |       | 2.0                                                                                  |                                                                                                                                    |                                                        |                            |             |                                                                                                                                                       |                                   |                    | H           |               |                                       |
|          |                        |       | 2.5                                                                                  |                                                                                                                                    |                                                        |                            |             |                                                                                                                                                       |                                   |                    |             |               |                                       |
|          |                        |       | 3.0                                                                                  |                                                                                                                                    |                                                        |                            |             |                                                                                                                                                       | For Continuation Refer to Sheet 2 |                    |             |               |                                       |
|          |                        |       | 3.5                                                                                  |                                                                                                                                    |                                                        |                            |             |                                                                                                                                                       |                                   |                    |             |               |                                       |
|          |                        |       | 4.0                                                                                  |                                                                                                                                    |                                                        |                            |             |                                                                                                                                                       |                                   |                    |             |               |                                       |
|          |                        |       | 4.5                                                                                  |                                                                                                                                    |                                                        |                            |             |                                                                                                                                                       |                                   |                    |             |               |                                       |
|          |                        |       | 5.0                                                                                  |                                                                                                                                    |                                                        |                            |             |                                                                                                                                                       |                                   |                    |             |               |                                       |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F01a  
RL3



# GOLDER

## REPORT OF BOREHOLE: BH305

CLIENT: Built  
PROJECT: Proposed Mixed Development  
LOCATION: 52 Scott Street, Liverpool  
JOB NO: 19125312

COORDS: 308073 m E 6244146 m N MGA94 56 (hhGPS)  
SURFACE RL: 26.10 m DATUM: AHD  
INCLINATION: -90°  
HOLE DEPTH: 15.16 m

SHEET: 2 OF 5  
DRILL RIG: Kamutsu  
CONTRACTOR: Nealings Drilling  
LOGGED: RAM DATE: 20/7/19  
CHECKED: BJF DATE: 31/7/19

| Drilling |       |     |           |                | Field Material Description |             |                                                                                                            |            |                                                     | Defect Information         |                                              |                                        |  |  |
|----------|-------|-----|-----------|----------------|----------------------------|-------------|------------------------------------------------------------------------------------------------------------|------------|-----------------------------------------------------|----------------------------|----------------------------------------------|----------------------------------------|--|--|
| METHOD   | WATER | TCR | RQD (SCR) | DEPTH (metres) | DEPTH RL                   | GRAPHIC LOG | ROCK / SOIL MATERIAL DESCRIPTION                                                                           | WEATHERING | INFERRED STRENGTH UCS MPa                           | LABORATORY STRENGTH (MPa)  | DEFECT DESCRIPTION & Additional Observations | AVERAGE DEFECT SPACING (mm)            |  |  |
|          |       |     |           |                |                            |             |                                                                                                            |            | VL 0.8<br>L 2.0<br>M 6.0<br>H 20<br>VH 60<br>EH 200 |                            |                                              | 10<br>30<br>100<br>300<br>1000<br>3000 |  |  |
|          |       |     |           | 0.0            |                            |             |                                                                                                            |            |                                                     |                            |                                              |                                        |  |  |
|          |       |     |           | 0.5            |                            |             |                                                                                                            |            |                                                     |                            |                                              |                                        |  |  |
|          |       |     |           | 1.0            |                            |             |                                                                                                            |            |                                                     |                            |                                              |                                        |  |  |
|          |       |     |           | 1.5            |                            |             |                                                                                                            |            |                                                     |                            |                                              |                                        |  |  |
|          |       |     |           | 2.0            |                            |             |                                                                                                            |            |                                                     |                            |                                              |                                        |  |  |
|          |       |     |           | 2.5            |                            |             |                                                                                                            |            |                                                     |                            |                                              |                                        |  |  |
|          |       |     |           | 2.70           |                            |             | Continuation of Sheet 1                                                                                    |            |                                                     |                            |                                              |                                        |  |  |
|          |       |     |           | 23.40          |                            |             | CORE LOSS                                                                                                  |            |                                                     |                            |                                              |                                        |  |  |
|          |       |     |           | 2.90           |                            |             |                                                                                                            |            |                                                     |                            |                                              |                                        |  |  |
|          |       |     |           | 23.20          |                            |             | Sandy CLAY (CI)                                                                                            |            |                                                     |                            | 2.90 m: 2.90 - 3.03 m; inferred extremely    |                                        |  |  |
|          |       |     |           | 3.03           |                            |             | medium plasticity, pale orange brown and grey, fine to                                                     |            |                                                     |                            | weathered Laminite/Siltstone                 |                                        |  |  |
|          |       |     |           | 23.07          |                            |             | medium grained sand, Moist, dry of plastic limit., hard                                                    | HW         |                                                     |                            | 3.09-3.12 m: EWS, clay                       |                                        |  |  |
|          |       |     |           | 3.31           |                            |             | LAMINITE                                                                                                   | XW         |                                                     |                            |                                              |                                        |  |  |
|          |       |     |           | 22.79          |                            |             | fine grained, dark grey to black and orange brown, indistinctly laminated at 0° to 5°                      | HW         |                                                     |                            |                                              |                                        |  |  |
|          |       |     |           | 3.79           |                            |             | fine to medium grained, grey and orange brown, with irregular and indistinct silty laminations at 0° to 5° |            |                                                     | PLI(D)=0.46<br>PLI(A)=1.01 |                                              |                                        |  |  |
|          |       |     |           | 22.31          |                            |             | fine grained, dark red brown to black, indistinctly laminated at 0° to 5°                                  |            |                                                     |                            | 3.79 m: J, 0-5°, Cv, Sm, Cn                  |                                        |  |  |
|          |       |     |           | 4.23           |                            |             |                                                                                                            |            |                                                     | PLI(D)=0.17<br>PLI(A)=0.42 | 4.23 m: B, 0-5°, Pl, Sm, clay Ve             |                                        |  |  |
|          |       |     |           | 4.35           |                            |             |                                                                                                            |            |                                                     |                            | 4.35 m: J, 30°, Cv, Sm, Cn                   |                                        |  |  |
|          |       |     |           | 4.54           |                            |             |                                                                                                            |            |                                                     |                            | 4.54 m: B, 0-5°, Pl, Sm, clay Ve             |                                        |  |  |
|          |       |     |           | 4.58           |                            |             |                                                                                                            |            |                                                     |                            | 4.58 m: J, 30°, Pl, Sm, Cn                   |                                        |  |  |
|          |       |     |           | 4.87           |                            |             |                                                                                                            |            |                                                     |                            | 4.87 m: B, 0-5°, Pl, Sm, clay Ve             |                                        |  |  |
|          |       |     |           | 4.94           |                            |             |                                                                                                            |            |                                                     |                            | 4.94 m: J, 30°, Pl, Sm, Cn                   |                                        |  |  |
|          |       |     |           | 21.16          |                            |             |                                                                                                            |            |                                                     |                            |                                              |                                        |  |  |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



# GOLDER

## REPORT OF BOREHOLE: BH305

SHEET: 3 OF 5

CLIENT: Built

COORDS: 308073 m E 6244146 m N MGA94 56 (hhGPS)

DRILL RIG: Kamutsu

PROJECT: Proposed Mixed Development

SURFACE RL: 26.10 m DATUM: AHD

CONTRACTOR: Nealings Drilling

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

LOGGED: RAM DATE: 20/7/19

JOB NO: 19125312

HOLE DEPTH: 15.16 m

CHECKED: BJF DATE: 31/7/19

| Drilling |            |     |           |                |          | Field Material Description |                                                                                                   |            |                            |                            | Defect Information                               |                             |  |
|----------|------------|-----|-----------|----------------|----------|----------------------------|---------------------------------------------------------------------------------------------------|------------|----------------------------|----------------------------|--------------------------------------------------|-----------------------------|--|
| METHOD   | WATER      | TCR | RQD (SCR) | DEPTH (metres) | DEPTH RL | GRAPHIC LOG                | ROCK / SOIL MATERIAL DESCRIPTION                                                                  | WEATHERING | INFERRED STRENGTH UCS MPa  | LABORATORY STRENGTH (MPa)  | DEFECT DESCRIPTION & Additional Observations     | AVERAGE DEFECT SPACING (mm) |  |
|          |            |     |           |                |          |                            |                                                                                                   |            |                            |                            |                                                  |                             |  |
| NMLC     | 90% RETURN | 100 | 90 (90)   | 5.0            |          |                            | LAMINITE<br>fine grained, dark grey to black and orange brown, indistinctly laminated at 0° to 5° | MW<br>HW   |                            | PLI(D)=0.84<br>PLI(A)=0.66 |                                                  |                             |  |
|          |            |     |           | 5.5            |          |                            |                                                                                                   |            |                            |                            | 5.44 m: B, 0-5°, Pl, Sm, clay Ve                 |                             |  |
|          | 95% RETURN | 100 | 85 (85)   | 6.0            |          |                            |                                                                                                   |            | UCS=22.0                   |                            | 5.96 m: J, 30°, Pl, Sm, Cn                       |                             |  |
|          |            |     |           | 6.5            |          |                            |                                                                                                   |            |                            | PLI(D)=0.27<br>PLI(A)=0.31 | 6.15-6.24 m: Jx3, 30°, sp = 40-60 mm, Pl, Sm, Cn |                             |  |
|          |            |     |           | 7.0            |          |                            |                                                                                                   |            |                            |                            | 6.60 m: B, 0-5°, Pl, Sm, clay Ve                 |                             |  |
|          |            |     |           | 7.5            |          |                            |                                                                                                   |            |                            | PLI(D)=0.39<br>PLI(A)=0.52 | 7.18 m: B, 0-5°, Pl, Sm, clay Ve                 |                             |  |
|          | 95% RETURN | 100 | 45 (70)   | 7.83           |          |                            |                                                                                                   | XW         |                            |                            | 7.34 m: B, 0-5°, Pl, Sm, clay Ve                 |                             |  |
|          |            |     |           | 18.27          |          |                            | fine to medium grained, grey                                                                      | MW<br>HW   |                            |                            | 7.37-7.44 m: EWS, clayey gravel                  |                             |  |
|          |            |     |           | 8.0            |          |                            |                                                                                                   |            |                            |                            | 7.55 m: B, 0-5°, Pl, Ro, clay Ve                 |                             |  |
|          |            |     |           | 8.5            |          |                            |                                                                                                   |            |                            |                            | 7.83 m: B, 0-5°, Pl, Sm, clay Ve                 |                             |  |
|          |            |     |           | 9.0            |          |                            |                                                                                                   |            |                            | PLI(D)=0.30<br>PLI(A)=0.64 | 8.12-8.18 m: J, 60°, Pl, Ro, clay Ve             |                             |  |
|          |            |     |           | 9.18           |          |                            |                                                                                                   |            |                            |                            | 8.27 m: B, 0-5°, Pl, Sm, clay Ve                 |                             |  |
|          | 95% RETURN | 100 | 85 (95)   | 16.92          |          |                            | with irregular and indistinct silty laminations at 0° to 5°                                       | XW<br>MW   |                            |                            | 8.52 m: B, 0-5°, Pl, Sm, clay Ve                 |                             |  |
|          |            |     |           |                |          |                            |                                                                                                   |            |                            |                            | 8.96-9.02 m: EWS, gravelley clay                 |                             |  |
|          |            |     |           |                |          |                            |                                                                                                   |            | PLI(D)=1.13<br>PLI(A)=1.04 |                            | 9.18 m: B, 0-5°, Pl, Sm, clay Ve                 |                             |  |
|          |            |     |           |                |          |                            |                                                                                                   |            |                            |                            | 9.33 m: B, 0-5°, Pl, Sm, clay Ve                 |                             |  |
|          |            |     |           |                |          |                            |                                                                                                   |            |                            |                            | 9.53 m: B, 0-5°, Pl, Sm, clay Ve                 |                             |  |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



# GOLDER

## REPORT OF BOREHOLE: BH305

SHEET: 4 OF 5

CLIENT: Built

COORDS: 308073 m E 6244146 m N MGA94 56 (hhGPS)

DRILL RIG: Kamutsu

PROJECT: Proposed Mixed Development

SURFACE RL: 26.10 m DATUM: AHD

CONTRACTOR: Nealings Drilling

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

LOGGED: RAM DATE: 20/7/19

JOB NO: 19125312

HOLE DEPTH: 15.16 m

CHECKED: BJF DATE: 31/7/19

| Drilling |            |     |           |                | Field Material Description |             |                                                                                                      |            |                           | Defect Information         |                                              |                             |
|----------|------------|-----|-----------|----------------|----------------------------|-------------|------------------------------------------------------------------------------------------------------|------------|---------------------------|----------------------------|----------------------------------------------|-----------------------------|
| METHOD   | WATER      | TCR | RQD (SCR) | DEPTH (metres) | DEPTH RL                   | GRAPHIC LOG | ROCK / SOIL MATERIAL DESCRIPTION                                                                     | WEATHERING | INFERRED STRENGTH UCS MPa | LABORATORY STRENGTH (MPa)  | DEFECT DESCRIPTION & Additional Observations | AVERAGE DEFECT SPACING (mm) |
|          |            |     |           |                |                            |             |                                                                                                      |            |                           |                            |                                              |                             |
| NMLC     | 95% RETURN | 100 | 95 (95)   | 10.0           | 10.07                      |             | LAMINITE<br>fine grained, dark grey to black and orange brown,<br>indistinctly laminated at 0° to 5° | MW         |                           | PLI(D)=0.36<br>PLI(A)=0.38 | 10.13 m: J, 30°, Pl, Sm, Cn                  |                             |
|          |            |     |           |                | 10.5                       |             | fine grained, dark grey to black, indistinctly laminated at 0° to 5°                                 |            |                           |                            | 10.48 m: B, 0-5°, Pl, Sm, clay Ve            |                             |
|          |            |     |           |                | 11.0                       |             |                                                                                                      |            |                           |                            | 10.76 m: J, 20-30°, Pl, Sm, Cn               |                             |
|          |            |     |           |                | 11.19                      |             | with irregular and indistinct silty laminations at 0° to 5°                                          |            |                           |                            |                                              |                             |
|          |            |     |           |                | 11.62                      |             | fine grained, dark grey to black, indistinctly laminated at 0° to 5°                                 |            |                           | PLI(D)=0.78<br>PLI(A)=2.07 | 11.65 m: B, 0-5°, Pl, Sm, clay Ve            |                             |
|          |            |     |           |                | 11.70                      |             |                                                                                                      |            |                           |                            | 11.70 m: B, 0-5°, Pl, Sm, clay Ve            |                             |
|          |            |     |           |                | 11.81                      |             |                                                                                                      |            |                           |                            | 11.81 m: B, 0-5°, Pl, Sm, clay Ve            |                             |
|          |            |     |           |                | 11.88                      |             |                                                                                                      |            |                           |                            | 11.88 m: B, 0-5°, Pl, Sm, clay Ve            |                             |
|          |            |     |           |                | 11.91                      |             |                                                                                                      |            |                           |                            | 11.91 m: B, 0-5°, Pl, Sm, clay Ve            |                             |
|          |            |     |           |                | 11.99                      |             |                                                                                                      |            |                           |                            | 11.99-12.02 m: EWS, clayey gravel            |                             |
|          | 95% RETURN | 100 | 55 (85)   | 12.0           | 12.0                       |             |                                                                                                      | XW         |                           | PLI(D)=0.16<br>PLI(A)=0.63 | 12.18 m: B, 0-5°, Pl, Sm, clay Ve            |                             |
|          |            |     |           |                | 12.23                      |             |                                                                                                      |            |                           |                            | 12.23 m: B, 0-5°, Pl, Sm, clay Ve            |                             |
|          |            |     |           |                | 12.5                       |             |                                                                                                      |            |                           |                            | 12.55 m: J, 30°, Pl, Sm, Cn                  |                             |
|          |            |     |           |                | 12.68                      |             |                                                                                                      |            |                           |                            | 12.68 m: B, 0-5°, Pl, Sm, clay Ve            |                             |
|          |            |     |           |                | 12.74                      |             | SANDSTONE<br>fine to medium grained, massive, grey                                                   |            |                           |                            |                                              |                             |
|          |            |     |           |                | 13.0                       |             | with irregular and indistinct silty laminations at 0° to 5°                                          |            |                           |                            |                                              |                             |
|          |            |     |           |                | 13.19                      |             |                                                                                                      |            |                           |                            |                                              |                             |
|          |            |     |           |                | 13.44                      |             | massive                                                                                              |            |                           |                            |                                              |                             |
|          |            |     |           |                | 13.69                      |             | with irregular and indistinct silty laminations at 0° to 5°                                          |            |                           | PLI(D)=1.10<br>PLI(A)=1.99 |                                              |                             |
|          |            |     |           |                | 14.0                       |             | massive                                                                                              |            |                           |                            |                                              |                             |
|          | 95% RETURN | 100 | 100 (100) | 14.5           | 14.39                      |             | SILTSTONE<br>fine grained, dark grey to black, indistinctly laminated at 0° to 5°                    |            |                           | PLI(D)=3.15<br>PLI(A)=5.53 |                                              |                             |
|          |            |     |           |                | 14.59                      |             |                                                                                                      |            |                           |                            |                                              |                             |
|          |            |     |           |                | 14.89                      |             | SANDSTONE<br>fine to medium grained, massive, grey                                                   |            |                           |                            |                                              |                             |
|          |            |     |           |                | 15.0                       |             | with irregular and indistinct silty laminations at 0° to 5°                                          |            |                           |                            |                                              |                             |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



# GOLDER

## REPORT OF BOREHOLE: BH305

SHEET: 5 OF 5

DRILL RIG: Kamutsu

CONTRACTOR: Nealings Drilling

LOGGED: RAM DATE: 20/7/19

CHECKED: BJF DATE: 31/7/19

CLIENT: Built

COORDS: 308073 m E 6244146 m N MGA94 56 (hhGPS)

PROJECT: Proposed Mixed Development

SURFACE RL: 26.10 m DATUM: AHD

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

JOB NO: 19125312

HOLE DEPTH: 15.16 m

| Drilling |       |     |           |                | Field Material Description |             |                                                                      |            |                           | Defect Information        |                                              |                             |    |      |
|----------|-------|-----|-----------|----------------|----------------------------|-------------|----------------------------------------------------------------------|------------|---------------------------|---------------------------|----------------------------------------------|-----------------------------|----|------|
| METHOD   | WATER | TCR | RQD (SCR) | DEPTH (metres) | DEPTH RL                   | GRAPHIC LOG | ROCK / SOIL MATERIAL DESCRIPTION                                     | WEATHERING | INFERRED STRENGTH UCS MPa | LABORATORY STRENGTH (MPa) | DEFECT DESCRIPTION & Additional Observations | AVERAGE DEFECT SPACING (mm) |    |      |
|          |       |     |           |                |                            |             |                                                                      |            |                           |                           |                                              | 10                          | 20 | 3000 |
| NMLC     |       |     | 100       | 100 (100)      | 15.0                       | 15.09       | SILTSTONE                                                            | FR -       |                           | PLI(D)=0.80               | 15.13 m: B, 0-5°, Pl, Sm, clay Ve            |                             |    |      |
|          |       |     |           |                | 15.16                      |             | fine grained, dark grey to black, indistinctly laminated at 0° to 5° | MW         |                           | PLI(A)=2.78               |                                              |                             |    |      |
|          |       |     |           |                | 10.94                      |             | END OF BOREHOLE @ 15.16 m<br>TARGET DEPTH<br>BACKFILLED              |            |                           |                           |                                              |                             |    |      |
|          |       |     |           |                | 15.5                       |             |                                                                      |            |                           |                           |                                              |                             |    |      |
|          |       |     |           |                | 16.0                       |             |                                                                      |            |                           |                           |                                              |                             |    |      |
|          |       |     |           |                | 16.5                       |             |                                                                      |            |                           |                           |                                              |                             |    |      |
|          |       |     |           |                | 17.0                       |             |                                                                      |            |                           |                           |                                              |                             |    |      |
|          |       |     |           |                | 17.5                       |             |                                                                      |            |                           |                           |                                              |                             |    |      |
|          |       |     |           |                | 18.0                       |             |                                                                      |            |                           |                           |                                              |                             |    |      |
|          |       |     |           |                | 18.5                       |             |                                                                      |            |                           |                           |                                              |                             |    |      |
|          |       |     |           |                | 19.0                       |             |                                                                      |            |                           |                           |                                              |                             |    |      |
|          |       |     |           |                | 19.5                       |             |                                                                      |            |                           |                           |                                              |                             |    |      |
|          |       |     |           |                | 20.0                       |             |                                                                      |            |                           |                           |                                              |                             |    |      |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



# GOLDER

## REPORT OF CORE PHOTOGRAPHS: BH305

CLIENT: Built  
PROJECT: Proposed Mixed Development  
LOCATION: 52 Scott Street, Liverpool  
JOB NO: 19125312

COORDS: 308073 m E 6244146 m N MGA94 56 (hhGPS)  
SURFACE RL: 26.10 m DATUM: AHD  
INCLINATION: -90°  
HOLE DEPTH: 15.16 m

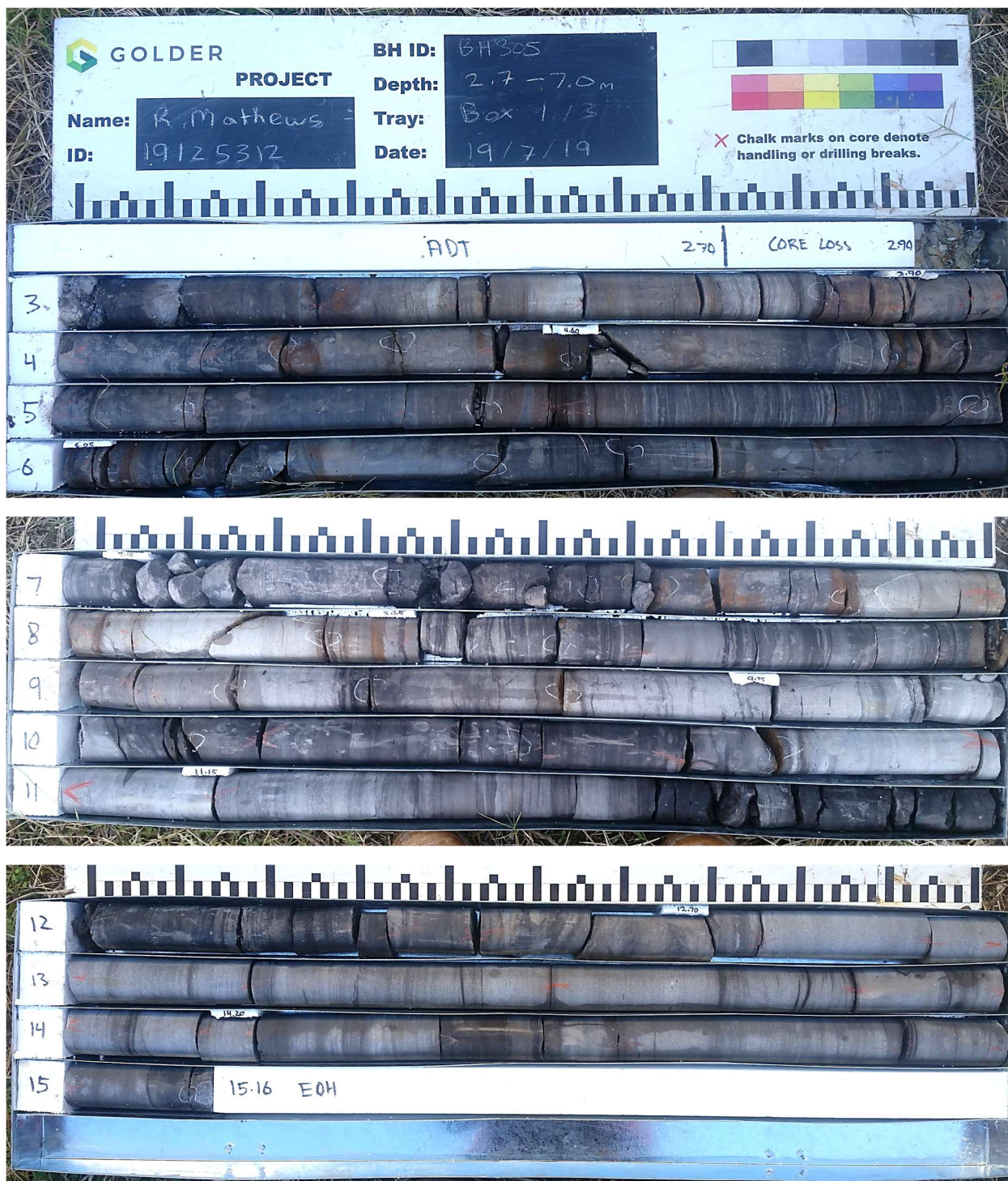
SHEET: 1 OF 1

DRILL RIG: Kamatsu

CONTRACTOR: Nealings Drilling

LOGGED: RAM DATE: 20/7/19

CHECKED: BJF DATE: 31/7/19



This report of core photographs must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F28  
RL1



# GOLDER

## REPORT OF BOREHOLE: BH306

SHEET: 1 OF 5

CLIENT: Built

COORDS: 308101 m E 6244174 m N MGA94 56 (hhGPS)

DRILL RIG: Edson

PROJECT: Proposed Mixed Development

SURFACE RL: 25.30 m DATUM: AHD

CONTRACTOR: Nealings Drilling

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

LOGGED: RAM DATE: 9/7/19

JOB NO: 19125312

HOLE DEPTH: 15.10 m

CHECKED: BJF DATE: 31/7/19

| Drilling |                        |       |                | Sampling |                                                                                                                              | Field Material Description |              |                                                                                                                                                               |                    |                                                                |
|----------|------------------------|-------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------------------------------------------------------|
| METHOD   | PENETRATION RESISTANCE | WATER | DEPTH (metres) | DEPTH RL | SAMPLE OR FIELD TEST                                                                                                         | RECOVERED GRAPHIC LOG      | GROUP SYMBOL | SOIL/ROCK MATERIAL DESCRIPTION                                                                                                                                | MOISTURE CONDITION | STRUCTURE AND ADDITIONAL OBSERVATIONS                          |
| ADT      | M                      |       | 0.0            | 25.30    |                                                                                                                              |                            | SC           | FILL: Clayey SAND<br>fine to coarse grained, brown, low plasticity clay, trace fine to coarse grained, sub-rounded to sub-angular gravel                      |                    | 0.0 - 1.0 m; fragments of brick and asphalt up to 30mm in size |
|          |                        |       | 0.5            |          | BH306/0.5E<br>0.50 m<br>1xJar, 1xAsb, 1xPFAS<br>R = 1A                                                                       |                            |              |                                                                                                                                                               | D                  |                                                                |
|          | GNE                    |       | 1.0            | 1.00     | SPT01/1<br>1.00-1.35 m<br>SPT 1.00-1.45 m<br>2, 4, 3<br>N=7                                                                  |                            |              | increasing clay content                                                                                                                                       |                    |                                                                |
|          |                        |       | 1.35           | 24.30    | SPT01/2<br>1.35-1.45 m<br>PP 1.40 m =100 kPa<br>PP 1.45 m =125 kPa<br>BH306/1.5E<br>1.50 m<br>1xJar, 1xPFAS, 1xASS<br>R = 0A |                            | CL-CH        | CLAY<br>medium to high plasticity, red, orange brown and grey, trace fine to medium grained sand, trace fine to medium grained, sub-angular, siltstone gravel |                    | RESIDUAL SOIL                                                  |
|          | L-M                    |       | 2.0            |          |                                                                                                                              |                            |              |                                                                                                                                                               | St                 |                                                                |
|          | M-H                    |       | 2.5            | 2.50     | SPT02<br>2.50-2.70 m<br>SPT 2.50-2.70 m<br>24, 15/50mm HB<br>N>15                                                            |                            | CL-CI        | Sandy CLAY<br>low to medium plasticity, orange brown and grey, fine to medium grained sand                                                                    | w < PL             |                                                                |
|          |                        |       | 3.0            | 22.80    |                                                                                                                              |                            |              | For Continuation Refer to Sheet 2                                                                                                                             | H                  |                                                                |
|          |                        |       | 3.5            |          |                                                                                                                              |                            |              |                                                                                                                                                               |                    |                                                                |
|          |                        |       | 4.0            |          |                                                                                                                              |                            |              |                                                                                                                                                               |                    |                                                                |
|          |                        |       | 4.5            |          |                                                                                                                              |                            |              |                                                                                                                                                               |                    |                                                                |
|          |                        |       | 5.0            |          |                                                                                                                              |                            |              |                                                                                                                                                               |                    |                                                                |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F01a  
RL3



# REPORT OF BOREHOLE: BH306

DRILL RIG: Edson

CONTRACTOR: Nealings Drilling

LOGGED: RAM                      DATE: 9/7/19

CHECKED: BJF      DATE: 31/7/19

CLIENT: Built

COORDS: 308101 m E 6244174 m N MGA94 56 (hhGPS)

PROJECT: Proposed Mixed Development

SURFACE RL: 25.30 m DATUM: AHD

LOCATION: 52 Scott Street, Liverpool

INCLINATION:  $-90^{\circ}$

JOB NO: 19125312

HOLE DEPTH: 15.10 m

[illegible]

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3

GAP 8\_16.7 LIB.GLB Log GAP CORED BOREHOLE 19125312.GPJ <<DrawingFile>> 12-08-2019 18:26 8.30.004 DatgeI Tools



# GOLDER

## REPORT OF BOREHOLE: BH306

SHEET: 3 OF 5

CLIENT: Built

COORDS: 308101 m E 6244174 m N MGA94 56 (hhGPS)

DRILL RIG: Edson

PROJECT: Proposed Mixed Development

SURFACE RL: 25.30 m DATUM: AHD

CONTRACTOR: Nealings Drilling

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

LOGGED: RAM DATE: 9/7/19

JOB NO: 19125312

HOLE DEPTH: 15.10 m

CHECKED: BJF DATE: 31/7/19

| Drilling |            |     |           |                | Field Material Description |             |                                                                                           |                                                     |                           | Defect Information         |                                                                                                      |                                              |
|----------|------------|-----|-----------|----------------|----------------------------|-------------|-------------------------------------------------------------------------------------------|-----------------------------------------------------|---------------------------|----------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------|
| METHOD   | WATER      | TCR | RQD (SCR) | DEPTH (metres) | DEPTH RL                   | GRAPHIC LOG | ROCK / SOIL MATERIAL DESCRIPTION                                                          | WEATHERING                                          | INFERRED STRENGTH UCS MPa | LABORATORY STRENGTH (MPa)  | DEFECT DESCRIPTION & Additional Observations                                                         | AVERAGE DEFECT SPACING (mm)                  |
|          |            |     |           |                |                            |             |                                                                                           | WL 0.8<br>L 2.0<br>M 6.0<br>H 20<br>VH 60<br>EH 200 |                           |                            |                                                                                                      | 10<br>20<br>50<br>100<br>300<br>1000<br>3000 |
| NMLC     | 85% RETURN |     | 100       | 95 (100)       | 5.0                        |             | LAMINITE<br>fine grained, grey brown, indistinctly laminated at 0° to 5°                  | HW                                                  |                           |                            | 5.15-5.16 m: EWS, sandy clay<br>5.18 m: B, 0-5°, Pl, Sm, clay Ve<br>5.27 m: B, 0-5°, Pl, Sm, clay Ve |                                              |
|          |            |     |           |                | 5.50<br>19.80              |             | dark brown to black                                                                       | XW<br>HW                                            |                           |                            |                                                                                                      |                                              |
|          |            |     |           |                | 6.28<br>19.02              |             | grey brown                                                                                |                                                     |                           | PLI(D)=0.45<br>PLI(A)=0.61 |                                                                                                      |                                              |
|          |            |     |           |                | 7.00<br>18.30              |             | dark brown to black                                                                       |                                                     |                           | PLI(D)=0.35<br>PLI(A)=0.33 | 6.41 m: J, 30°, Cv, Sm, Cn<br>6.75 m: J, 10-15°, Cv, Sm, Cn<br>6.96 m: B, 0-5°, Pl, Sm, clay Ve      |                                              |
|          |            |     |           |                | 7.61<br>17.69              |             | with irregular sandstone lenses                                                           |                                                     |                           |                            | 7.39 m: B, 0-5°, Pl, Sm, clay Ve                                                                     |                                              |
|          |            |     |           |                | 7.89<br>17.41              |             | fine to medium grained, grey, with irregular and indistinct crossbeds at 0° to 5°         | MW<br>HW                                            |                           |                            | 7.79 m: B, 0-5°, Pl, Sm, clay Ve                                                                     |                                              |
|          |            |     |           |                | 8.68<br>16.62              |             | with irregular siltstone lenses                                                           | XW<br>MW<br>HW                                      |                           |                            | 8.32 m: B, 0-5°, Pl, Sm, clay Ve<br>8.65-8.68 m: EWS, clay                                           |                                              |
|          |            |     |           |                | 9.04<br>16.26              |             | fine grained, dark brown to black, indistinctly laminated at 0° to 5°                     |                                                     |                           |                            | 9.04 m: B, 0-5°, Pl, Sm, clay Ve<br>9.10 m: B, 0-5°, Pl, Sm, clay Ve                                 |                                              |
|          |            |     |           |                | 9.24<br>16.06              |             | fine to medium grained, grey, with irregular and indistinct silty laminations at 0° to 5° |                                                     |                           |                            |                                                                                                      |                                              |
|          |            |     |           |                | 9.5                        |             |                                                                                           |                                                     |                           | PLI(D)=1.07<br>PLI(A)=1.50 | 9.90 m: J, 30°, Pl, Sm, Cn<br>9.94 m: B, 0-5°, Pl, Sm, clay Ve                                       |                                              |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



# GOLDER

## REPORT OF BOREHOLE: BH306

SHEET: 4 OF 5

CLIENT: Built

COORDS: 308101 m E 6244174 m N MGA94 56 (hhGPS)

DRILL RIG: Edson

PROJECT: Proposed Mixed Development

SURFACE RL: 25.30 m DATUM: AHD

CONTRACTOR: Nealings Drilling

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

LOGGED: RAM DATE: 9/7/19

JOB NO: 19125312

HOLE DEPTH: 15.10 m

CHECKED: BJF DATE: 31/7/19

| Drilling   |            |           |           |                | Field Material Description |             |                                                                                                        |                                                           |                           | Defect Information         |                                                                        |                                              |
|------------|------------|-----------|-----------|----------------|----------------------------|-------------|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|---------------------------|----------------------------|------------------------------------------------------------------------|----------------------------------------------|
| METHOD     | WATER      | TCR       | RQD (SCR) | DEPTH (metres) | DEPTH RL                   | GRAPHIC LOG | ROCK / SOIL MATERIAL DESCRIPTION                                                                       | WEATHERING                                                | INFERRED STRENGTH UCS MPa | LABORATORY STRENGTH (MPa)  | DEFECT DESCRIPTION & Additional Observations                           | AVERAGE DEFECT SPACING (mm)                  |
|            |            |           |           |                |                            |             |                                                                                                        | VL 0.8<br>L 2.0<br>M 6.0<br>H 20.0<br>VH 60.0<br>EH 200.0 |                           |                            |                                                                        | 10<br>20<br>30<br>100<br>300<br>1000<br>3000 |
| NMLC       | 95% RETURN | 55        | 90 (95)   | 10.0           |                            |             | LAMINITE<br>fine grained, grey brown, indistinctly laminated at 0° to 5°                               | MW<br>-<br>HW                                             |                           |                            |                                                                        |                                              |
|            |            |           |           | 10.26          | 15.04                      |             | fine to medium grained, grey, with irregular and indistinct silty laminations at 0° to 5°              |                                                           |                           |                            | 10.17 m: B, 0-5°, Pl, Sm, clay Ve<br>10.23 m: B, 0-5°, Pl, Sm, clay Ve |                                              |
|            |            |           |           | 10.5           |                            |             |                                                                                                        |                                                           |                           | PLI(D)=1.20<br>PLI(A)=1.44 |                                                                        |                                              |
|            |            |           |           | 11.0           |                            |             |                                                                                                        |                                                           |                           |                            |                                                                        |                                              |
|            | 95% RETURN | 100       | 80 (85)   | 11.42          | 13.88                      |             | fine grained, dark brown to black, indistinctly laminated at 0° to 5°                                  | XW                                                        |                           |                            | 11.43-11.72 m: EWS, clay                                               |                                              |
|            |            |           |           | 11.5           |                            |             |                                                                                                        |                                                           |                           | PLI(D)=1.69<br>PLI(A)=1.07 |                                                                        |                                              |
|            |            |           |           | 12.0           |                            |             |                                                                                                        | MW<br>-<br>HW                                             |                           |                            | 11.77 m: B, 0-5°, Pl, Sm, clay Ve                                      |                                              |
|            |            |           |           | 12.5           |                            |             |                                                                                                        |                                                           |                           |                            | 11.96 m: B, 0-5°, Pl, Sm, clay Ve                                      |                                              |
|            | 95% RETURN | 100       | 100 (100) | 12.49          | 12.81                      |             | SANDSTONE<br>fine to medium grained, grey, with irregular and indistinct silty laminations at 0° to 5° | MW                                                        |                           |                            | 12.10 m: J, 30°, Pl, Sm, Cn<br>12.22 m: B, 0-5°, Pl, Sm, clay Ve       |                                              |
|            |            |           |           | 12.78          | 12.52                      |             | massive                                                                                                |                                                           |                           | PLI(D)=0.52<br>PLI(A)=0.71 | 12.40 m: B, 0-5°, Pl, Sm, clay Ve                                      |                                              |
|            |            |           |           | 13.0           |                            |             |                                                                                                        |                                                           |                           |                            |                                                                        |                                              |
|            |            |           |           | 13.5           |                            |             |                                                                                                        |                                                           |                           |                            |                                                                        |                                              |
| 95% RETURN | 100        | 100 (100) | 100 (100) | 14.42          | 10.88                      |             | with distinct silty crossbeds at 0° to 5°                                                              |                                                           |                           |                            |                                                                        |                                              |
|            |            |           |           | 14.63          | 10.67                      |             | massive                                                                                                |                                                           |                           | PLI(D)=0.54<br>PLI(A)=0.64 | 14.71 m: B, 0-5°, Pl, Sm, clay Ve                                      |                                              |
|            |            |           |           | 14.80          | 10.50                      |             | with irregular and indistinct silty laminations at 0° to 5°                                            |                                                           |                           |                            |                                                                        |                                              |
|            |            |           |           | 15.0           |                            |             |                                                                                                        |                                                           |                           |                            | 14.94 m: B, 0-5°, Pl, Sm, clay Ve                                      |                                              |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



# GOLDER

## REPORT OF BOREHOLE: BH306

CLIENT: Built  
PROJECT: Proposed Mixed Development  
LOCATION: 52 Scott Street, Liverpool  
JOB NO: 19125312

COORDS: 308101 m E 6244174 m N MGA94 56 (hhGPS)  
SURFACE RL: 25.30 m DATUM: AHD  
INCLINATION: -90°  
HOLE DEPTH: 15.10 m

SHEET: 5 OF 5  
DRILL RIG: Edson  
CONTRACTOR: Nealings Drilling  
LOGGED: RAM DATE: 9/7/19  
CHECKED: BJF DATE: 31/7/19

| Drilling |       |     |           |                | Field Material Description |                                                                                   |                                                                   |            |                           | Defect Information         |                                              |                             |  |  |
|----------|-------|-----|-----------|----------------|----------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------|------------|---------------------------|----------------------------|----------------------------------------------|-----------------------------|--|--|
| METHOD   | WATER | TCR | RQD (SCR) | DEPTH (metres) | DEPTH RL                   | GRAPHIC LOG                                                                       | ROCK / SOIL MATERIAL DESCRIPTION                                  | WEATHERING | INFERRED STRENGTH UCS MPa | LABORATORY STRENGTH (MPa)  | DEFECT DESCRIPTION & Additional Observations | AVERAGE DEFECT SPACING (mm) |  |  |
|          |       |     | 100       | 15.0           | 15.10<br>10.20             |  | END OF BOREHOLE @ 15.10 m<br>TARGET DEPTH<br>PIEZOMETER INSTALLED | MW         |                           | PLI(D)=0.93<br>PLI(A)=2.02 |                                              |                             |  |  |
|          |       |     |           | 15.5           |                            |                                                                                   |                                                                   |            |                           |                            |                                              |                             |  |  |
|          |       |     |           | 16.0           |                            |                                                                                   |                                                                   |            |                           |                            |                                              |                             |  |  |
|          |       |     |           | 16.5           |                            |                                                                                   |                                                                   |            |                           |                            |                                              |                             |  |  |
|          |       |     |           | 17.0           |                            |                                                                                   |                                                                   |            |                           |                            |                                              |                             |  |  |
|          |       |     |           | 17.5           |                            |                                                                                   |                                                                   |            |                           |                            |                                              |                             |  |  |
|          |       |     |           | 18.0           |                            |                                                                                   |                                                                   |            |                           |                            |                                              |                             |  |  |
|          |       |     |           | 18.5           |                            |                                                                                   |                                                                   |            |                           |                            |                                              |                             |  |  |
|          |       |     |           | 19.0           |                            |                                                                                   |                                                                   |            |                           |                            |                                              |                             |  |  |
|          |       |     |           | 19.5           |                            |                                                                                   |                                                                   |            |                           |                            |                                              |                             |  |  |
|          |       |     |           | 20.0           |                            |                                                                                   |                                                                   |            |                           |                            |                                              |                             |  |  |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



GOLDER

## REPORT OF CORE PHOTOGRAPHS: BH306

CLIENT: Built

PROJECT: Proposed Mixed Development

LOCATION: 52 Scott Street, Liverpool

JOB NO: 19125312

COORDS: 308101 m E 6244174 m N MGA94 56 (hhGPS)

SURFACE RL: 25.30 m DATUM: AHD

INCLINATION: -90°

HOLE DEPTH: 15.10 m

SHEET: 1 OF 1

DRILL RIG: Edson

CONTRACTOR: Nealings Drilling

LOGGED: RAM DATE: 9/7/19

CHECKED: BJF DATE: 31/7/19



This report of core photographs must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F28  
RL1



# GOLDER

## REPORT OF STANDPIPE INSTALLATION: BH306

SHEET: 1 OF 1

CLIENT: Built

COORDS: 308101 m E 6244174 m N MGA94 56 (hhGPS)

DRILL RIG: Edson

PROJECT: Proposed Mixed Development

SURFACE RL: 25.30 m DATUM: AHD

CONTRACTOR: Nealings Drilling

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

LOGGED: RAM

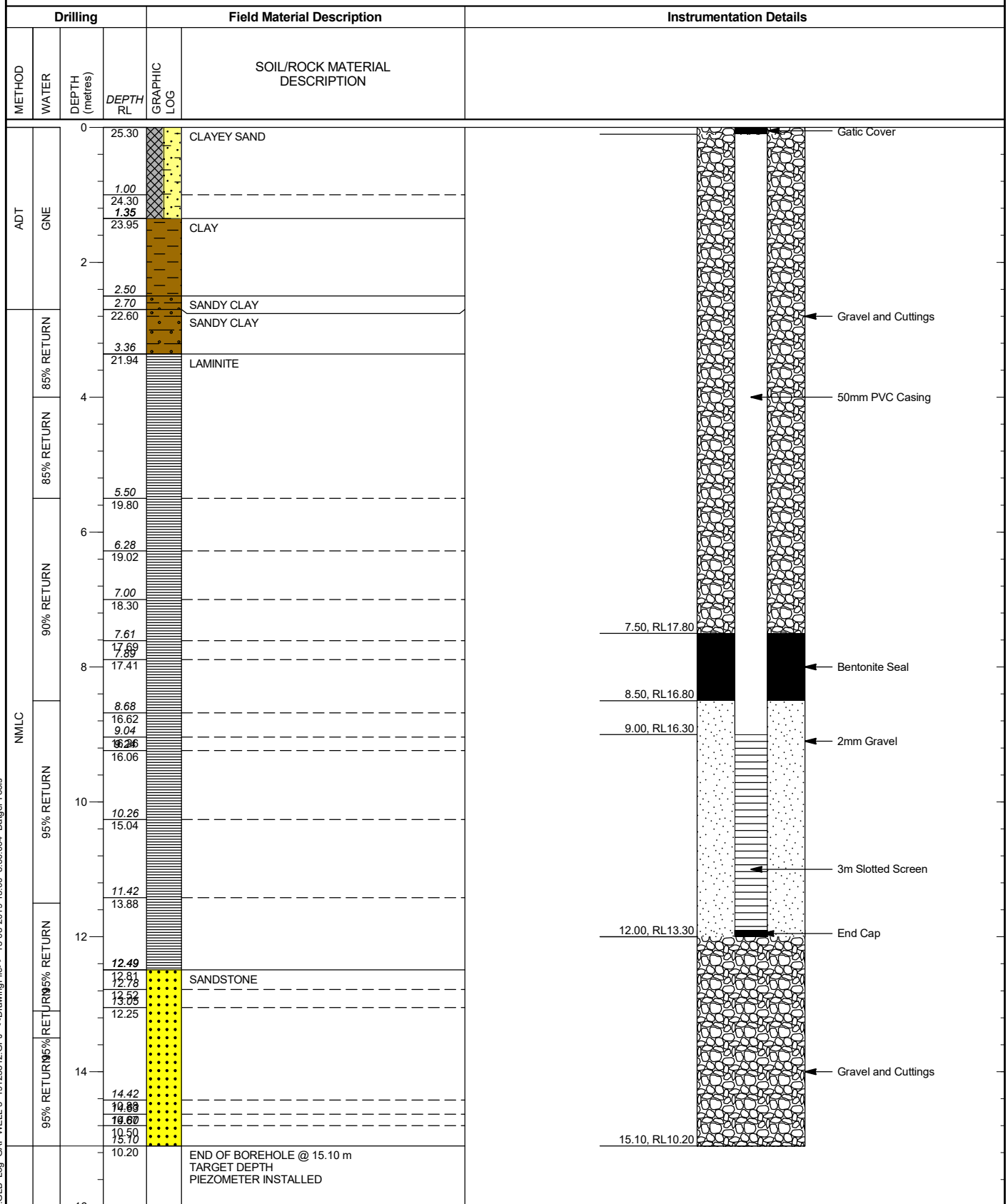
DATE: 9/7/19

JOB NO: 19125312

HOLE DEPTH: 15.10 m

CHECKED: BJF

DATE: 31/7/19



This report of standpipe installation must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F17  
RL1



# GOLDER

## REPORT OF BOREHOLE: BH307

SHEET: 1 OF 5

CLIENT: Built

COORDS: 308125 m E 6244162 m N MGA94 56 (hhGPS)

DRILL RIG: Edson

PROJECT: Proposed Mixed Development

SURFACE RL: 25.10 m DATUM: AHD

CONTRACTOR: Nealings Drilling

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

LOGGED: RAM DATE: 18/7/19

JOB NO: 19125312

HOLE DEPTH: 15.68 m

CHECKED: BJF DATE: 31/7/19

| Drilling |                        |       |                |          | Sampling                                                                                                                       | Field Material Description |             |              |                                                                                                                                                       |                    |             |               |                                       |  |  |
|----------|------------------------|-------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|---------------|---------------------------------------|--|--|
| METHOD   | PENETRATION RESISTANCE | WATER | DEPTH (metres) | DEPTH RL | SAMPLE OR FIELD TEST                                                                                                           | RECOVERED                  | GRAPHIC LOG | GROUP SYMBOL | SOIL/ROCK MATERIAL DESCRIPTION                                                                                                                        | MOISTURE CONDITION | CONSISTENCY | DENSITY       | STRUCTURE AND ADDITIONAL OBSERVATIONS |  |  |
| ADT      | H                      | GNE   | 0.0            | 25.10    | BH307/0.5E<br>0.50 m<br>1xJar, 1xAsb, 1xPFAS, 1xASS<br><br>SPT01<br>1.00-1.43 m<br>SPT 1.00-1.43 m<br>12, 20, 25/130mm<br>N>45 |                            |             |              | CONCRETE                                                                                                                                              | M                  |             |               | 0.16 - 0.30 m; inferred bedding sand  |  |  |
|          |                        |       | 0.16           | 24.94    |                                                                                                                                |                            |             |              |                                                                                                                                                       |                    |             |               |                                       |  |  |
|          |                        |       | 0.30           | 24.80    |                                                                                                                                |                            |             |              |                                                                                                                                                       |                    |             |               |                                       |  |  |
|          |                        |       | 0.30           | 24.80    |                                                                                                                                |                            |             |              |                                                                                                                                                       |                    |             |               |                                       |  |  |
|          | L-M                    |       | 0.5            | 0.90     |                                                                                                                                |                            |             | CH           | CLAY<br>high plasticity, mottled red and orange brown, trace fine to coarse grained sand, inferred stiff to very stiff consistency                    | St - Vst           |             | RESIDUAL SOIL |                                       |  |  |
|          |                        |       | 0.5            | 0.90     |                                                                                                                                |                            |             |              |                                                                                                                                                       |                    |             |               |                                       |  |  |
|          |                        |       | 1.0            | 24.20    |                                                                                                                                |                            |             |              |                                                                                                                                                       |                    |             |               |                                       |  |  |
|          |                        |       | 1.0            | 24.20    |                                                                                                                                |                            |             |              |                                                                                                                                                       |                    |             |               |                                       |  |  |
|          | M-H                    |       | 1.5            |          |                                                                                                                                |                            |             | CI           | Sandy CLAY<br>medium plasticity, pale orange brown and grey, fine to medium grained sand, trace fine to coarse grained, sub-angular, siltstone gravel | w < PL             |             | H             |                                       |  |  |
|          |                        |       | 1.5            |          |                                                                                                                                |                            |             |              |                                                                                                                                                       |                    |             |               |                                       |  |  |
|          |                        |       | 2.0            |          |                                                                                                                                |                            |             |              |                                                                                                                                                       |                    |             |               |                                       |  |  |
|          |                        |       | 2.0            |          |                                                                                                                                |                            |             |              |                                                                                                                                                       |                    |             |               |                                       |  |  |
|          |                        |       | 2.5            |          |                                                                                                                                |                            |             |              | For Continuation Refer to Sheet 2                                                                                                                     |                    |             |               |                                       |  |  |
|          |                        |       | 3.0            |          |                                                                                                                                |                            |             |              |                                                                                                                                                       |                    |             |               |                                       |  |  |
|          |                        |       | 3.5            |          |                                                                                                                                |                            |             |              |                                                                                                                                                       |                    |             |               |                                       |  |  |
|          |                        |       | 4.0            |          |                                                                                                                                |                            |             |              |                                                                                                                                                       |                    |             |               |                                       |  |  |
|          |                        |       | 4.5            |          |                                                                                                                                |                            |             |              |                                                                                                                                                       |                    |             |               |                                       |  |  |
|          |                        |       | 5.0            |          |                                                                                                                                |                            |             |              |                                                                                                                                                       |                    |             |               |                                       |  |  |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F01a  
RL3



# GOLDER

## REPORT OF BOREHOLE: BH307

CLIENT: Built

COORDS: 308125 m E 6244162 m N MGA94 56 (hhGPS)

SHEET: 2 OF 5

PROJECT: Proposed Mixed Development

SURFACE RL: 25.10 m DATUM: AHD

DRILL RIG: Edson

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

CONTRACTOR: Nealings Drilling

JOB NO: 19125312

HOLE DEPTH: 15.68 m

LOGGED: RAM

DATE: 18/7/19

CHECKED: BJF

DATE: 31/7/19

| Drilling |       |     |           |                |          | Field Material Description |                                                                                                                         |                |                           |                            |  | Defect Information                           |  |                             |  |
|----------|-------|-----|-----------|----------------|----------|----------------------------|-------------------------------------------------------------------------------------------------------------------------|----------------|---------------------------|----------------------------|--|----------------------------------------------|--|-----------------------------|--|
| METHOD   | WATER | TCR | RQD (SCR) | DEPTH (metres) | DEPTH RL | GRAPHIC LOG                | ROCK / SOIL MATERIAL DESCRIPTION                                                                                        | WEATHERING     | INFERRED STRENGTH UCS MPa | LABORATORY STRENGTH (MPa)  |  | DEFECT DESCRIPTION & Additional Observations |  | AVERAGE DEFECT SPACING (mm) |  |
|          |       |     |           |                |          |                            |                                                                                                                         |                |                           |                            |  |                                              |  |                             |  |
|          |       |     |           | 0.0            |          |                            |                                                                                                                         |                |                           |                            |  |                                              |  |                             |  |
|          |       |     |           | 0.5            |          |                            |                                                                                                                         |                |                           |                            |  |                                              |  |                             |  |
|          |       |     |           | 1.0            |          |                            |                                                                                                                         |                |                           |                            |  |                                              |  |                             |  |
|          |       |     |           | 1.5            |          |                            |                                                                                                                         |                |                           |                            |  |                                              |  |                             |  |
|          |       |     |           | 2.0            |          |                            |                                                                                                                         |                |                           |                            |  |                                              |  |                             |  |
|          |       |     |           | 2.20           |          |                            | Continuation of Sheet 1                                                                                                 |                |                           |                            |  |                                              |  |                             |  |
|          |       |     |           | 22.90          |          |                            | SANDSTONE<br>fine to medium grained, grey and orange brown, with irregular and indistinct silty laminations at 0° to 5° | HW<br>XW<br>HW |                           | PLI(D)=0.40<br>PLI(A)=0.07 |  | 2.25-2.28 m: EWS, clayey gravel              |  |                             |  |
|          |       |     |           | 2.5            |          |                            |                                                                                                                         |                |                           |                            |  | 2.55-2.60 m: EWS, clay                       |  |                             |  |
|          |       |     |           | 2.72           |          |                            | SILTSTONE<br>fine grained, red brown and grey black, indistinctly laminated at 0° to 5°                                 | XW<br>HW       |                           |                            |  | 2.72 m: J, 0-5°, PI, Sm, Cn                  |  |                             |  |
|          |       |     |           | 22.38          |          |                            |                                                                                                                         |                |                           |                            |  | 2.88 m: B, 0-5°, PI, Sm, clay Ve             |  |                             |  |
|          |       |     |           | 3.0            |          |                            |                                                                                                                         |                |                           | PLI(D)=0.16<br>PLI(A)=0.24 |  |                                              |  |                             |  |
|          |       |     |           | 3.5            |          |                            |                                                                                                                         | XW<br>HW       |                           |                            |  | 3.39-3.41 m: EWS, sandy clay                 |  |                             |  |
|          |       |     |           | 4.0            |          |                            |                                                                                                                         | XW<br>HW       |                           |                            |  | 3.76-3.82 m: EWS, sandy clay                 |  |                             |  |
|          |       |     |           | 4.08           |          |                            |                                                                                                                         | XW             |                           |                            |  | 3.95-4.08 m: EWS, sandy clay                 |  |                             |  |
|          |       |     |           | 21.02          |          |                            | SANDSTONE<br>fine to medium grained, grey and orange brown, with irregular and indistinct silty laminations at 0° to 5° | HW             |                           | PLI(D)=0.31<br>PLI(A)=0.69 |  | 4.28 m: B, 0-5°, PI, Sm, clayey gravel Ve    |  |                             |  |
|          |       |     |           | 4.5            |          |                            |                                                                                                                         |                |                           |                            |  | 4.57 m: B, 0-5°, PI, Sm, clay Ve             |  |                             |  |
|          |       |     |           | 4.70           |          |                            |                                                                                                                         |                |                           |                            |  | 4.70 m: B, 0-5°, PI, Sm, clay Ve             |  |                             |  |
|          |       |     |           | 4.88           |          |                            |                                                                                                                         |                |                           |                            |  | 4.84 m: B, 0-5°, PI, Sm, clay Ve             |  |                             |  |
|          |       |     |           | 20.22          |          |                            | SILTSTONE<br>fine grained, grey black and dark red brown,                                                               |                |                           |                            |  |                                              |  |                             |  |
|          |       |     |           | 5.0            |          |                            |                                                                                                                         |                |                           |                            |  |                                              |  |                             |  |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



# GOLDER

## REPORT OF BOREHOLE: BH307

SHEET: 3 OF 5

CLIENT: Built

COORDS: 308125 m E 6244162 m N MGA94 56 (hhGPS)

DRILL RIG: Edson

PROJECT: Proposed Mixed Development

SURFACE RL: 25.10 m DATUM: AHD

CONTRACTOR: Nealings Drilling

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

LOGGED: RAM DATE: 18/7/19

JOB NO: 19125312

HOLE DEPTH: 15.68 m

CHECKED: BJF DATE: 31/7/19

| Drilling |            |     |           |                |          | Field Material Description |                                                                                                                                                         |            |                           |                           | Defect Information                           |                             |  |
|----------|------------|-----|-----------|----------------|----------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------------------|---------------------------|----------------------------------------------|-----------------------------|--|
| METHOD   | WATER      | TCR | RQD (SCR) | DEPTH (metres) | DEPTH RL | GRAPHIC LOG                | ROCK / SOIL MATERIAL DESCRIPTION                                                                                                                        | WEATHERING | INFERRED STRENGTH UCS MPa | LABORATORY STRENGTH (MPa) | DEFECT DESCRIPTION & Additional Observations | AVERAGE DEFECT SPACING (mm) |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         |            |                           |                           |                                              |                             |  |
| NMLC     | 95% RETURN | 100 | 80 (85)   | 5.0            |          |                            | indistinctly laminated at 0° to 5° SANDSTONE fine to medium grained, grey and orange brown, with irregular and indistinct silty laminations at 0° to 5° | HW         |                           |                           | 5.07 m: B, 0-5°, PI, Sm, gravelley clay Ve   |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         | XW         |                           |                           | 5.18-5.22 m: EWS, gravelley clay             |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         | HW         |                           |                           | 5.33 m: B, 0-5°, PI, Sm, clay Ve             |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         | XW         |                           |                           | 5.36 m: B, 0-5°, PI, Sm, clay Ve             |                             |  |
|          | 95% RETURN | 100 | 80 (85)   | 5.5            |          |                            |                                                                                                                                                         | HW         |                           |                           | 5.40-5.43 m: EWS, clay                       |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         |            |                           |                           | 5.86 m: B, 0-5°, PI, Sm, clay Ve             |                             |  |
|          |            |     |           | 6.0            |          |                            |                                                                                                                                                         |            |                           |                           | 6.13-6.16 m: EWS, clay                       |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         | XW         |                           |                           | 6.44 m: B, 0-5°, PI, Sm, clay Ve             |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         | HW         |                           |                           | 6.64 m: B, 0-5°, PI, Sm, clay Ve             |                             |  |
|          |            |     |           | 6.71           | 18.39    |                            | SANDSTONE grey, with irregular and indistinct silty laminations at 0° to 5°                                                                             | XW         |                           |                           | 6.80 m: B, 0-5°, PI, Sm, clay Ve             |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         | MW         |                           |                           | 6.89 m: B, 0-5°, PI, Sm, clay Ve             |                             |  |
|          | 95% RETURN | 100 | 80 (85)   | 7.0            |          |                            |                                                                                                                                                         | HW         |                           |                           | 6.99 m: B, 0-5°, PI, Sm, clay Ve             |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         |            |                           |                           | 7.32 m: B, 0-5°, PI, Sm, clay Ve             |                             |  |
|          |            |     |           | 7.48           | 17.62    |                            | massive                                                                                                                                                 |            |                           |                           | 7.43 m: B, 0-5°, PI, Sm, clay Ve             |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         |            |                           |                           | 7.76 m: B, 0-5°, PI, Sm, clay Ve             |                             |  |
|          | 95% RETURN | 100 | 50 (65)   | 7.67           | 17.43    |                            | with irregular and indistinct silty laminations at 0° to 5°                                                                                             |            |                           |                           | 7.81 m: B, 0-5°, PI, Sm, clay Ve             |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         |            |                           |                           | 7.93-7.95 m: EWS, clay                       |                             |  |
|          |            |     |           | 7.95           | 17.15    |                            | SILTSTONE fine grained, dark grey to black, indistinctly laminated at 0° to 5°                                                                          | XW         |                           |                           | 8.16-8.21 m: EWS, gravelley clay             |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         | MW         |                           |                           | 8.40 m: B, 0-5°, PI, Sm, clay Ve             |                             |  |
|          | 95% RETURN | 100 | 50 (65)   | 8.0            |          |                            |                                                                                                                                                         | HW         |                           |                           | 8.70-8.73 m: Ve, 30°, coal                   |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         |            |                           |                           | 8.78 m: J, 0-5°, Un, Sm, Cn                  |                             |  |
|          |            |     |           | 8.21           | 16.89    |                            | SANDSTONE fine to medium grained, grey, with irregular and indistinct silty laminations at 0° to 5°                                                     | XW         |                           |                           | 8.93-8.97 m: EWS, clay                       |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         | MW         |                           |                           | 9.06 m: B, 0-5°, PI, Sm, clay Ve             |                             |  |
|          | 95% RETURN | 100 | 50 (65)   | 8.5            |          |                            |                                                                                                                                                         |            |                           |                           | 9.09 m: B, 0-5°, PI, Sm, clay Ve             |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         |            |                           |                           | 9.14 m: B, 0-5°, PI, Sm, clay Ve             |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         |            |                           |                           | 9.20 m: B, 0-5°, PI, Sm, clay Ve             |                             |  |
|          |            |     |           | 8.93           | 16.17    |                            | SILTSTONE fine grained, dark grey to black, indistinctly laminated at 0° to 5°                                                                          | XW         |                           |                           | 9.32-9.36 m: EWS, clayey gravel              |                             |  |
|          | 95% RETURN | 100 | 50 (65)   |                |          |                            |                                                                                                                                                         |            |                           |                           | 9.43 m: B, 0-5°, PI, Sm, clay Ve             |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         |            |                           |                           |                                              |                             |  |
|          |            |     |           | 9.36           | 15.74    |                            | with lenses of sandstone                                                                                                                                | XW         |                           |                           |                                              |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         | MW         |                           |                           |                                              |                             |  |
|          | 95% RETURN | 100 | 50 (65)   | 9.5            |          |                            |                                                                                                                                                         |            |                           |                           |                                              |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         |            |                           |                           |                                              |                             |  |
|          |            |     |           | 9.52           | 15.58    |                            | SANDSTONE fine to medium grained, grey, with irregular and indistinct silty laminations at 0° to 5°                                                     | HW         |                           |                           |                                              |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         | MW         |                           |                           |                                              |                             |  |
|          | 95% RETURN | 100 | 50 (65)   |                |          |                            |                                                                                                                                                         |            |                           |                           |                                              |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         |            |                           |                           |                                              |                             |  |
|          |            |     |           | 9.72           | 15.38    |                            | massive                                                                                                                                                 |            |                           |                           |                                              |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         |            |                           |                           |                                              |                             |  |
|          | 95% RETURN | 100 | 50 (65)   |                |          |                            |                                                                                                                                                         |            |                           |                           |                                              |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         |            |                           |                           |                                              |                             |  |
|          |            |     |           | 9.83           | 15.27    |                            | with irregular and indistinct silty laminations at 0° to 5°                                                                                             |            |                           |                           |                                              |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         |            |                           |                           |                                              |                             |  |
|          | 95% RETURN | 100 | 50 (65)   |                |          |                            |                                                                                                                                                         |            |                           |                           |                                              |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         |            |                           |                           |                                              |                             |  |
|          |            |     |           |                |          |                            |                                                                                                                                                         |            |                           |                           |                                              |                             |  |
|          |            |     |           | 10.0           |          |                            |                                                                                                                                                         |            |                           |                           |                                              |                             |  |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3





# GOLDER

## REPORT OF BOREHOLE: BH307

|           |                            |              |                                         |             |                   |
|-----------|----------------------------|--------------|-----------------------------------------|-------------|-------------------|
| CLIENT:   | Built                      | COORDS:      | 308125 m E 6244162 m N MGA94 56 (hhGPS) | SHEET:      | 5 OF 5            |
| PROJECT:  | Proposed Mixed Development | SURFACE RL:  | 25.10 m DATUM: AHD                      | DRILL RIG:  | Edson             |
| LOCATION: | 52 Scott Street, Liverpool | INCLINATION: | -90°                                    | CONTRACTOR: | Nealings Drilling |
| JOB NO:   | 19125312                   | HOLE DEPTH:  | 15.68 m                                 | LOGGED:     | RAM               |
|           |                            |              |                                         | CHECKED:    | BJF               |
|           |                            |              |                                         | DATE:       | 18/7/19           |
|           |                            |              |                                         | DATE:       | 31/7/19           |

| Drilling |            |     |           |                | Field Material Description |             |                                                                                                        |            |                           | Defect Information        |                                              |  |  |                             |
|----------|------------|-----|-----------|----------------|----------------------------|-------------|--------------------------------------------------------------------------------------------------------|------------|---------------------------|---------------------------|----------------------------------------------|--|--|-----------------------------|
| METHOD   | WATER      | TCR | RQD (SCR) | DEPTH (metres) | DEPTH RL                   | GRAPHIC LOG | ROCK / SOIL MATERIAL DESCRIPTION                                                                       | WEATHERING | INFERRED STRENGTH UCS MPa | LABORATORY STRENGTH (MPa) | DEFECT DESCRIPTION & Additional Observations |  |  | AVERAGE DEFECT SPACING (mm) |
|          |            |     |           |                |                            |             |                                                                                                        |            |                           |                           |                                              |  |  |                             |
| NMLC     | 95% RETURN | 100 | 100 (100) | 15.0           |                            |             | SANDSTONE<br>fine to medium grained, grey, with irregular and indistinct silty laminations at 0° to 5° | MW         |                           |                           |                                              |  |  |                             |
|          |            |     |           | 15.27          | 9.83                       |             | SILTSTONE<br>fine grained, dark grey to black, indistinctly laminated at 0° to 5°                      |            |                           |                           | 15.29 m: B, 0-5°, Pl, Sm, clay Ve            |  |  |                             |
|          |            |     |           | 15.49          | 9.61                       |             | with lenses of sandstone                                                                               |            |                           |                           | 15.56 m: B, 0-5°, Pl, Sm, clay Ve            |  |  |                             |
|          |            |     |           | 15.68          | 9.42                       |             | END OF BOREHOLE @ 15.68 m<br>TARGET DEPTH<br>BACKFILLED                                                |            |                           |                           | PLI(D)=1.01<br>PLI(A)=1.41                   |  |  |                             |
|          |            |     |           | 16.0           |                            |             |                                                                                                        |            |                           |                           |                                              |  |  |                             |
|          |            |     |           | 16.5           |                            |             |                                                                                                        |            |                           |                           |                                              |  |  |                             |
|          |            |     |           | 17.0           |                            |             |                                                                                                        |            |                           |                           |                                              |  |  |                             |
|          |            |     |           | 17.5           |                            |             |                                                                                                        |            |                           |                           |                                              |  |  |                             |
|          |            |     |           | 18.0           |                            |             |                                                                                                        |            |                           |                           |                                              |  |  |                             |
|          |            |     |           | 18.5           |                            |             |                                                                                                        |            |                           |                           |                                              |  |  |                             |
|          |            |     |           | 19.0           |                            |             |                                                                                                        |            |                           |                           |                                              |  |  |                             |
|          |            |     |           | 19.5           |                            |             |                                                                                                        |            |                           |                           |                                              |  |  |                             |
|          |            |     |           | 20.0           |                            |             |                                                                                                        |            |                           |                           |                                              |  |  |                             |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



# GOLDER

## REPORT OF CORE PHOTOGRAPHS: BH307

CLIENT: Built  
PROJECT: Proposed Mixed Development  
LOCATION: 52 Scott Street, Liverpool  
JOB NO: 19125312

COORDS: 308125 m E 6244162 m N MGA94 56 (hhGPS)  
SURFACE RL: 25.10 m DATUM: AHD  
INCLINATION: -90°  
HOLE DEPTH: 15.68 m

SHEET: 1 OF 1

DRILL RIG: Edson

CONTRACTOR: Nealings Drilling

LOGGED: RAM DATE: 18/7/19

CHECKED: BJF DATE: 31/7/19



This report of core photographs must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F28  
RL1



# GOLDER

## REPORT OF BOREHOLE: BH309

SHEET: 1 OF 4

CLIENT: Built

COORDS: 308067 m E 6244209 m N MGA94 56 (MAP)

DRILL RIG: Kamutsu

PROJECT: Proposed Mixed Development

SURFACE RL: 22.40 m DATUM: AHD

CONTRACTOR: Nealings Drilling

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

LOGGED: RAM DATE: 23/7/19

JOB NO: 19125312

HOLE DEPTH: 15.00 m

CHECKED: BJF DATE: 31/7/19

| Drilling                          |                        |       |                |          | Sampling                                                                                   |           | Field Material Description |              |                                                                                                                      |                    |                     |                                       |  |
|-----------------------------------|------------------------|-------|----------------|----------|--------------------------------------------------------------------------------------------|-----------|----------------------------|--------------|----------------------------------------------------------------------------------------------------------------------|--------------------|---------------------|---------------------------------------|--|
| METHOD                            | PENETRATION RESISTANCE | WATER | DEPTH (metres) | DEPTH RL | SAMPLE OR FIELD TEST                                                                       | RECOVERED | GRAPHIC LOG                | GROUP SYMBOL | SOIL/ROCK MATERIAL DESCRIPTION                                                                                       | MOISTURE CONDITION | CONSISTENCY DENSITY | STRUCTURE AND ADDITIONAL OBSERVATIONS |  |
| CC<br><br>ADT                     | H                      | GNE   | 0.0            | 22.40    | BH309/0.4E<br>0.40 m<br>1xJar, 1xASS<br>R = 0A<br>PP 0.50 m =200 kPa<br>PP 0.60 m =200 kPa |           |                            | CH           | CONCRETE                                                                                                             | w < PL             | St - VSt            | RESIDUAL SOIL                         |  |
|                                   |                        |       | 0.20           | 22.20    |                                                                                            |           |                            |              | FILL: SILTSTONE<br>fine grained, grey, indistinctly laminated, extremely weathered to highly weathered, low strength |                    |                     |                                       |  |
|                                   |                        |       | 0.35           | 22.05    |                                                                                            |           |                            |              | CLAY<br>high plasticity, red and orange, trace fine to coarse grained sand                                           |                    |                     |                                       |  |
|                                   |                        |       | 0.60           | 21.80    |                                                                                            |           |                            |              | Sandy CLAY<br>medium plasticity, orange brown and grey, fine to medium grained sand                                  |                    |                     |                                       |  |
|                                   |                        |       | 0.90           | 21.50    |                                                                                            |           |                            |              | trace fine to coarse grained, sub-angular, sandstone gravel                                                          |                    |                     |                                       |  |
|                                   | M-H                    |       | 1.0            |          |                                                                                            |           |                            |              |                                                                                                                      |                    |                     |                                       |  |
|                                   |                        |       | 1.5            |          |                                                                                            |           |                            |              |                                                                                                                      |                    |                     |                                       |  |
|                                   |                        |       | 2.0            |          |                                                                                            |           |                            |              |                                                                                                                      |                    |                     |                                       |  |
|                                   |                        |       | 2.5            |          |                                                                                            |           |                            |              |                                                                                                                      |                    |                     |                                       |  |
|                                   |                        |       | 3.0            |          |                                                                                            |           |                            |              |                                                                                                                      |                    |                     |                                       |  |
|                                   |                        |       | 3.5            |          |                                                                                            |           |                            |              |                                                                                                                      |                    |                     |                                       |  |
|                                   |                        |       | 4.0            |          |                                                                                            |           |                            |              |                                                                                                                      |                    |                     |                                       |  |
|                                   |                        |       | 4.5            |          |                                                                                            |           |                            |              |                                                                                                                      |                    |                     |                                       |  |
|                                   |                        |       | 5.0            |          |                                                                                            |           |                            |              |                                                                                                                      |                    |                     |                                       |  |
| For Continuation Refer to Sheet 2 |                        |       |                |          |                                                                                            |           |                            |              |                                                                                                                      |                    |                     |                                       |  |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F01a  
RL3



# GOLDER

## REPORT OF BOREHOLE: BH309

SHEET: 2 OF 4

CLIENT: Built

COORDS: 308067 m E 6244209 m N MGA94 56 (MAP)

DRILL RIG: Kamutsu

PROJECT: Proposed Mixed Development

SURFACE RL: 22.40 m DATUM: AHD

CONTRACTOR: Nealings Drilling

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

LOGGED: RAM DATE: 23/7/19

JOB NO: 19125312

HOLE DEPTH: 15.00 m

CHECKED: BJF DATE: 31/7/19

| Drilling |       |     |           |                | Field Material Description |             |                                                                                                                                                                                           |            |                           |                           | Defect Information                             |                             |    |      |
|----------|-------|-----|-----------|----------------|----------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------------------|---------------------------|------------------------------------------------|-----------------------------|----|------|
| METHOD   | WATER | TCR | RQD (SCR) | DEPTH (metres) | DEPTH RL                   | GRAPHIC LOG | ROCK / SOIL MATERIAL DESCRIPTION                                                                                                                                                          | WEATHERING | INFERRED STRENGTH UCS MPa | LABORATORY STRENGTH (MPa) | DEFECT DESCRIPTION & Additional Observations   | AVERAGE DEFECT SPACING (mm) |    |      |
|          |       |     |           |                |                            |             |                                                                                                                                                                                           |            |                           |                           |                                                | 10                          | 20 | 3000 |
|          |       |     |           | 0.0            |                            |             |                                                                                                                                                                                           |            |                           |                           |                                                |                             |    |      |
|          |       |     |           | 0.5            |                            |             |                                                                                                                                                                                           |            |                           |                           |                                                |                             |    |      |
|          |       |     |           | 1.0            |                            |             |                                                                                                                                                                                           |            |                           |                           |                                                |                             |    |      |
|          |       |     |           | 1.30           |                            |             | Continuation of Sheet 1                                                                                                                                                                   |            |                           |                           |                                                |                             |    |      |
|          |       |     |           | 21.03          |                            |             | CORE LOSS                                                                                                                                                                                 |            |                           |                           |                                                |                             |    |      |
|          |       |     |           | 1.5            |                            |             | LAMINITE<br>fine to medium grained, massive, orange brown and grey                                                                                                                        | HW<br>XW   |                           |                           | PP 1.50 m =300 kPa                             |                             |    |      |
|          |       |     |           | 1.95           |                            |             | CLAY<br>medium plasticity, grey and orange brown, trace fine to medium grained sand, trace fine to coarse grained, sub-angular, sandstone gravel, Moist, dry of plastic limit, very stiff |            |                           |                           | PP 1.70 m =300 kPa                             |                             |    |      |
|          |       |     |           | 2.0            |                            |             | LAMINITE<br>fine to medium grained, massive, orange brown and grey                                                                                                                        | HW<br>XW   |                           |                           | PP 2.05 m =275 kPa                             |                             |    |      |
|          |       |     |           | 2.02           |                            |             |                                                                                                                                                                                           |            |                           |                           |                                                |                             |    |      |
|          |       |     |           | 2.038          |                            |             |                                                                                                                                                                                           |            |                           |                           |                                                |                             |    |      |
|          |       |     |           | 2.14           |                            |             | CLAY<br>medium plasticity, grey and orange brown, trace fine to medium grained sand, trace fine to coarse grained, sub-angular, sandstone gravel, Moist, dry of plastic limit, very stiff | HW<br>XW   |                           |                           | 2.16-2.20 m: EWS, clayey gravel                |                             |    |      |
|          |       |     |           | 2.026          |                            |             |                                                                                                                                                                                           |            |                           |                           | 2.33-2.49 m: EWS, clay                         |                             |    |      |
|          |       |     |           | 2.5            |                            |             | LAMINITE<br>fine to medium grained, massive, orange brown and grey                                                                                                                        | HW<br>XW   |                           |                           | 2.54-2.59 m: EWS, clayey gravel                |                             |    |      |
|          |       |     |           | 2.79           |                            |             |                                                                                                                                                                                           |            |                           |                           |                                                |                             |    |      |
|          |       |     |           | 19.61          |                            |             | with irregular and indistinct silty laminations at 0° to 5°                                                                                                                               |            |                           |                           | 2.82 m: J, 30°, Pl, Sm, Cn                     |                             |    |      |
|          |       |     |           | 3.0            |                            |             |                                                                                                                                                                                           |            |                           |                           | 3.08 m: B, 0-5°, Pl, Sm, clay Ve               |                             |    |      |
|          |       |     |           | 3.23           |                            |             |                                                                                                                                                                                           |            |                           |                           | 3.18 m: J, 30°, Pl, Sm, Cn                     |                             |    |      |
|          |       |     |           | 19.17          |                            |             | fine grained, dark grey to black and orange brown, indistinctly laminated at 0° to 5°                                                                                                     |            |                           |                           | 3.30 m: B, 0-5°, Pl, Sm, clay Ve               |                             |    |      |
|          |       |     |           | 3.5            |                            |             |                                                                                                                                                                                           |            |                           |                           | 3.47 m: B, 0-5°, Pl, Sm, clay Ve               |                             |    |      |
|          |       |     |           | 4.0            |                            |             |                                                                                                                                                                                           |            |                           |                           | 3.61 m: B, 0-5°, Pl, Sm, clay Ve               |                             |    |      |
|          |       |     |           |                |                            |             |                                                                                                                                                                                           |            |                           |                           | 3.65 m: B, 0-5°, Pl, Sm, clay Ve               |                             |    |      |
|          |       |     |           |                |                            |             |                                                                                                                                                                                           |            |                           |                           | 3.73 m: B, 0-5°, Pl, Sm, clay Ve               |                             |    |      |
|          |       |     |           | 4.5            |                            |             |                                                                                                                                                                                           |            |                           |                           |                                                |                             |    |      |
|          |       |     |           |                |                            |             |                                                                                                                                                                                           |            |                           |                           | 4.09 m: J, 0-20°, Cv, Sm, Cn                   |                             |    |      |
|          |       |     |           |                |                            |             |                                                                                                                                                                                           |            |                           |                           | 4.16 m: B, 0-5°, Pl, Sm, clay Ve               |                             |    |      |
|          |       |     |           |                |                            |             |                                                                                                                                                                                           |            |                           |                           | 4.32 m: B, 0-5°, Pl, Sm, clay Ve               |                             |    |      |
|          |       |     |           |                |                            |             |                                                                                                                                                                                           |            |                           |                           |                                                |                             |    |      |
|          |       |     |           |                |                            |             |                                                                                                                                                                                           |            |                           |                           | 4.54 m: J, 5-15°, Pl, Sm, Cn                   |                             |    |      |
|          |       |     |           |                |                            |             |                                                                                                                                                                                           |            |                           |                           |                                                |                             |    |      |
|          |       |     |           |                |                            |             |                                                                                                                                                                                           |            |                           |                           | 4.74-4.92 m: Jx2, 30°, sp = 180 mm, Pl, Sm, Cn |                             |    |      |
|          |       |     |           |                |                            |             |                                                                                                                                                                                           |            |                           |                           | 4.85 m: B, 0-5°, Pl, Sm, clay Ve               |                             |    |      |
|          |       |     |           | 5.0            |                            |             |                                                                                                                                                                                           |            |                           |                           |                                                |                             |    |      |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



# GOLDER

## REPORT OF BOREHOLE: BH309

CLIENT: Built  
PROJECT: Proposed Mixed Development  
LOCATION: 52 Scott Street, Liverpool  
JOB NO: 19125312

COORDS: 308067 m E 6244209 m N MGA94 56 (MAP)  
SURFACE RL: 22.40 m DATUM: AHD  
INCLINATION: -90°  
HOLE DEPTH: 15.00 m

SHEET: 3 OF 4  
DRILL RIG: Kamutsu  
CONTRACTOR: Nealings Drilling  
LOGGED: RAM DATE: 23/7/19  
CHECKED: BJF DATE: 31/7/19

| Drilling   |            |          |           |                | Field Material Description |                                                                                  |                                                                     |                            |                                                                                                                                                                                  | Defect Information                                         |                                                                      |                             |  |  |
|------------|------------|----------|-----------|----------------|----------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------|--|--|
| METHOD     | WATER      | TCR      | RQD (SCR) | DEPTH (metres) | DEPTH RL                   | GRAPHIC LOG                                                                      | ROCK / SOIL MATERIAL DESCRIPTION                                    | WEATHERING                 | INFERRED STRENGTH UCS MPa                                                                                                                                                        | LABORATORY STRENGTH (MPa)                                  | DEFECT DESCRIPTION & Additional Observations                         | AVERAGE DEFECT SPACING (mm) |  |  |
| NMLC       | 95% RETURN | 100      | 60 (80)   | 5.0            |                            |                                                                                  | LAMINITE<br>fine to medium grained, massive, orange brown and grey  | HW                         |                                                                                                                                                                                  |                                                            | 4.99 m: B, 0-5°, Pl, Sm, clay Ve<br>5.05 m: B, 0-5°, Pl, Sm, clay Ve |                             |  |  |
|            |            |          |           | 5.5            |                            |                                                                                  |                                                                     |                            |                                                                                                                                                                                  | 5.25 m: B, 0-5°, Pl, Sm, clay Ve                           |                                                                      |                             |  |  |
|            |            |          |           | 5.51           |                            |                                                                                  |                                                                     |                            |                                                                                                                                                                                  |                                                            |                                                                      |                             |  |  |
|            |            |          |           | 16.89          |                            |                                                                                  | fine to medium grained, massive, orange brown and grey              |                            |                                                                                                                                                                                  | 5.50 m: B, 0-5°, Pl, Sm, clay Ve                           |                                                                      |                             |  |  |
|            |            |          |           | 5.89           |                            |                                                                                  |                                                                     |                            |                                                                                                                                                                                  | 5.65-5.81 m: J, 90°, Pl, Sm, clay Ve                       |                                                                      |                             |  |  |
|            |            |          |           | 16.51          |                            |                                                                                  | with irregular and indistinct silty laminations at 0° to 5°         |                            | PLI(D)=0.17<br>PLI(A)=0.21                                                                                                                                                       | 5.89 m: B, 0-5°, Pl, Sm, clay Ve                           |                                                                      |                             |  |  |
|            | 95% RETURN | 100      | 45 (75)   | 6.0            |                            |                                                                                  | massive                                                             |                            |                                                                                                                                                                                  | PLI(D)=1.15<br>PLI(A)=1.05                                 | 6.07 m: B, 0-5°, Pl, Sm, clay Ve<br>6.10 m: B, 0-5°, Pl, Sm, clay Ve |                             |  |  |
|            |            |          |           | 6.09           |                            |                                                                                  |                                                                     |                            |                                                                                                                                                                                  |                                                            |                                                                      |                             |  |  |
|            |            |          |           | 16.31          |                            |                                                                                  |                                                                     |                            |                                                                                                                                                                                  |                                                            |                                                                      |                             |  |  |
|            |            |          |           | 6.40           |                            |                                                                                  | fine grained, dark red to black, indistinctly laminated at 0° to 5° |                            |                                                                                                                                                                                  | 6.40 m: B, 0-5°, Pl, Sm, clay Ve                           |                                                                      |                             |  |  |
|            |            |          |           | 16.00          |                            |                                                                                  |                                                                     |                            |                                                                                                                                                                                  | 6.63 m: B, 0-5°, Pl, Sm, clay Ve                           |                                                                      |                             |  |  |
|            |            |          |           | 6.5            |                            |                                                                                  |                                                                     |                            |                                                                                                                                                                                  |                                                            |                                                                      |                             |  |  |
| 95% RETURN | 100        | 65 (90)  | 7.0       |                |                            | fine to medium grained, massive, grey brown                                      | XW<br>HW<br>MW<br>HW                                                |                            |                                                                                                                                                                                  | 6.79-6.85 m: EWS, clay<br>6.94 m: B, 0-5°, Pl, Sm, clay Ve |                                                                      |                             |  |  |
|            |            |          | 7.0       |                |                            |                                                                                  |                                                                     |                            |                                                                                                                                                                                  |                                                            |                                                                      |                             |  |  |
|            |            |          | 7.60      |                |                            | fine grained, dark grey to black, indistinctly laminated at 0° to 5°             | MW                                                                  |                            | 7.64 m: B, 0-5°, Pl, Sm, clay Ve                                                                                                                                                 |                                                            |                                                                      |                             |  |  |
|            |            |          | 14.80     |                |                            |                                                                                  |                                                                     |                            |                                                                                                                                                                                  |                                                            |                                                                      |                             |  |  |
|            |            |          | 7.91      |                |                            |                                                                                  |                                                                     |                            |                                                                                                                                                                                  |                                                            |                                                                      |                             |  |  |
|            |            |          | 14.47     |                |                            | CORE LOSS                                                                        | MW                                                                  |                            | 7.88 m: B, 0-5°, Pl, Sm, clay Ve<br>7.90 m: B, 0-5°, Pl, Sm, clay Ve<br>7.95 m: B, 0-5°, Pl, Sm, clay Ve<br>7.97 m: B, 0-5°, Pl, Sm, clay Ve<br>8.12 m: B, 0-5°, Pl, Sm, clay Ve |                                                            |                                                                      |                             |  |  |
| 95% RETURN | 100        | 95 (100) | 8.0       |                |                            | LAMINITE<br>fine grained, dark grey to black, indistinctly laminated at 0° to 5° |                                                                     |                            | PLI(D)=0.61<br>PLI(A)=0.65                                                                                                                                                       |                                                            |                                                                      |                             |  |  |
|            |            |          | 8.04      |                |                            |                                                                                  |                                                                     |                            |                                                                                                                                                                                  |                                                            |                                                                      |                             |  |  |
|            |            |          | 14.36     |                |                            | with lenses of sandstone                                                         |                                                                     |                            |                                                                                                                                                                                  |                                                            |                                                                      |                             |  |  |
|            |            |          | 8.28      |                |                            | fine to medium grained, massive, grey                                            |                                                                     |                            |                                                                                                                                                                                  |                                                            |                                                                      |                             |  |  |
|            |            |          | 14.12     |                |                            |                                                                                  |                                                                     |                            |                                                                                                                                                                                  |                                                            |                                                                      |                             |  |  |
|            |            |          | 8.47      |                |                            | with irregular and indistinct silty laminations at 0° to 5°                      |                                                                     |                            |                                                                                                                                                                                  |                                                            |                                                                      |                             |  |  |
| 95% RETURN | 95         | 40 (65)  | 8.5       |                |                            |                                                                                  |                                                                     |                            |                                                                                                                                                                                  |                                                            |                                                                      |                             |  |  |
|            |            |          | 9.0       |                |                            |                                                                                  |                                                                     |                            |                                                                                                                                                                                  |                                                            |                                                                      |                             |  |  |
|            |            |          | 9.20      |                |                            | fine grained, dark grey to black, indistinctly laminated at 0° to 5°             |                                                                     | PLI(D)=0.90<br>PLI(A)=0.94 | 9.25 m: B, 0-5°, Pl, Sm, clay Ve<br>9.29 m: J, 30°, Pl, Sm, Cn<br>9.35 m: B, 0-5°, Pl, Sm, clay Ve<br>9.43 m: J, 30°, Pl, Sm, Cn                                                 |                                                            |                                                                      |                             |  |  |
|            |            |          | 13.20     |                |                            |                                                                                  |                                                                     |                            | 9.52-9.55 m: EWS, clayey gravel                                                                                                                                                  |                                                            |                                                                      |                             |  |  |
|            |            |          | 9.5       |                |                            |                                                                                  | XW<br>MW                                                            |                            | 9.61 m: B, 0-5°, Pl, Sm, clay Ve                                                                                                                                                 |                                                            |                                                                      |                             |  |  |
|            |            |          | 9.5       |                |                            |                                                                                  |                                                                     |                            | 9.72 m: J, 30°, Pl, Sm, Cn<br>9.80 m: B, 0-5°, Pl, Sm, clay Ve<br>9.84 m: B, 0-5°, Pl, Sm, clay Ve<br>9.88 m: B, 0-5°, Pl, Sm, clay Ve                                           |                                                            |                                                                      |                             |  |  |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



# GOLDER

## REPORT OF BOREHOLE: BH309

SHEET: 4 OF 4

CLIENT: Built

COORDS: 308067 m E 6244209 m N MGA94 56 (MAP)

DRILL RIG: Kamutsu

PROJECT: Proposed Mixed Development

SURFACE RL: 22.40 m DATUM: AHD

CONTRACTOR: Nealings Drilling

LOCATION: 52 Scott Street, Liverpool

INCLINATION: -90°

LOGGED: RAM DATE: 23/7/19

JOB NO: 19125312

HOLE DEPTH: 15.00 m

CHECKED: BJF DATE: 31/7/19

| Drilling |            |     |           |                | Field Material Description |             |                                                                                                                   |            |                           | Defect Information         |                                              |                             |
|----------|------------|-----|-----------|----------------|----------------------------|-------------|-------------------------------------------------------------------------------------------------------------------|------------|---------------------------|----------------------------|----------------------------------------------|-----------------------------|
| METHOD   | WATER      | TCR | RQD (SCR) | DEPTH (metres) | DEPTH RL                   | GRAPHIC LOG | ROCK / SOIL MATERIAL DESCRIPTION                                                                                  | WEATHERING | INFERRED STRENGTH UCS MPa | LABORATORY STRENGTH (MPa)  | DEFECT DESCRIPTION & Additional Observations | AVERAGE DEFECT SPACING (mm) |
|          |            |     |           |                |                            |             |                                                                                                                   |            |                           |                            |                                              |                             |
| NMLC     | 95% RETURN | 95  | 40 (65)   | 10.0           | 10.00                      |             | LAMINITE<br>fine grained, dark grey to black, indistinctly laminated at 0° to 5°<br>with lenses of sandstone      | MW         |                           |                            | 10.20 m: B, 0-5°, Pl, Sm, clay Ve            |                             |
|          |            |     |           | 10.36          | 10.36                      |             | SANDSTONE<br>fine to medium grained, massive, grey<br>with irregular and indistinct silty laminations at 0° to 5° | FR - MW    |                           | PLI(D)=0.39<br>PLI(A)=1.01 | 10.42 m: B, 0-5°, Pl, Sm, clay Ve            |                             |
|          | 95% RETURN | 100 | 100 (100) | 11.0           |                            |             |                                                                                                                   |            |                           | PLI(D)=0.98<br>PLI(A)=1.54 |                                              |                             |
|          |            |     |           | 11.5           |                            |             |                                                                                                                   |            |                           |                            |                                              |                             |
|          | 95% RETURN | 100 | 100 (100) | 12.0           | 12.08                      |             | SILTSTONE<br>fine grained, dark grey to black, indistinctly laminated at 0° to 5°                                 |            |                           |                            | 12.21 m: B, 0-5°, Pl, Sm, clay Ve            |                             |
|          |            |     |           | 12.34          | 12.34                      |             | SANDSTONE<br>fine to medium grained, grey, with irregular and indistinct silty laminations at 0° to 5°<br>massive |            |                           | PLI(D)=1.84<br>PLI(A)=3.74 |                                              |                             |
|          | 95% RETURN | 100 | 100 (100) | 12.78          | 12.78                      |             | SILTSTONE<br>fine grained, dark grey to black, indistinctly laminated at 0° to 5°                                 |            |                           |                            | 12.78 m: J, 15-20°, Pl, Sm, Cn               |                             |
|          |            |     |           | 13.13          | 13.13                      |             | SANDSTONE<br>fine to medium grained, grey, with irregular and indistinct silty laminations at 0° to 5°            |            |                           | PLI(D)=0.42<br>PLI(A)=0.59 |                                              |                             |
|          | 95% RETURN | 105 | 105 (105) | 14.0           | 14.03                      |             | SILTSTONE<br>fine grained, dark grey to black, indistinctly laminated at 0° to 5°                                 |            |                           |                            |                                              |                             |
|          |            |     |           | 14.19          | 14.19                      |             | SANDSTONE<br>fine to medium grained, grey, with irregular and indistinct silty laminations at 0° to 5°            |            |                           | PLI(D)=0.14<br>PLI(A)=0.98 |                                              |                             |
|          |            |     |           | 15.0           | 15.00                      |             | END OF BOREHOLE @ 15.00 m<br>TARGET DEPTH<br>BACKFILLED                                                           |            |                           |                            | 14.92 m: B, 0-5°, Pl, Sm, clay Ve            |                             |

This report of borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F02a  
RL3



# GOLDER

## REPORT OF CORE PHOTOGRAPHS: BH309

CLIENT: Built

PROJECT: Proposed Mixed Development

LOCATION: 52 Scott Street, Liverpool

JOB NO: 19125312

COORDS: 308067 m E 6244209 m N MGA94 56 (MAP)

SURFACE RL: 22.40 m DATUM: AHD

INCLINATION: -90°

HOLE DEPTH: 15.0m

SHEET: 1 OF 1

DRILL RIG: Kamatsu

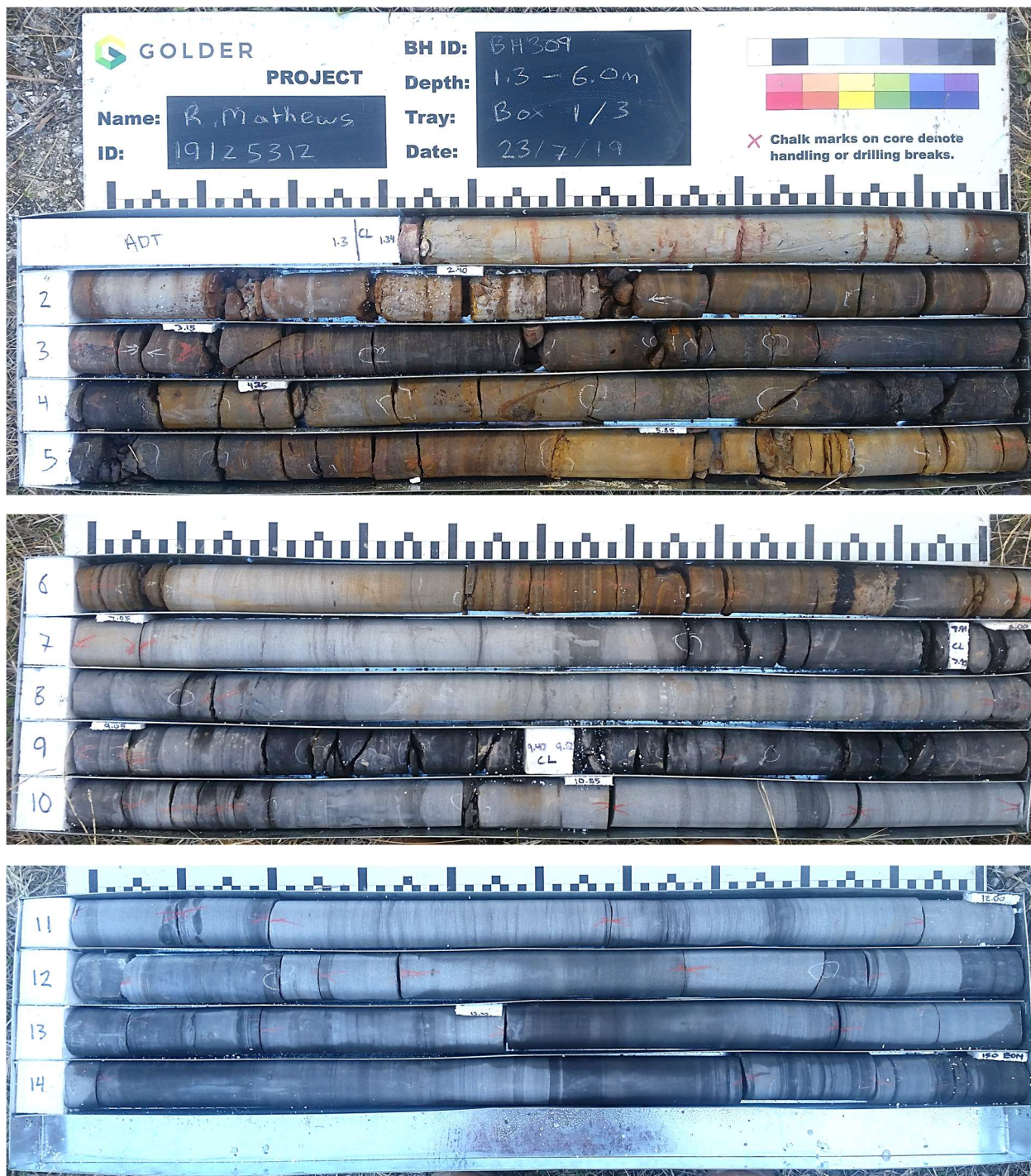
CONTRACTOR: Nealings Drilling

LOGGED: RAM

DATE: 23/7/19

CHECKED: BJF

DATE: 31/7/19



This report of core photographs must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F28  
RL1



# GOLDER

## REPORT OF HAND AUGERED BOREHOLE: BH402

SHEET: 1 OF 1

CLIENT: Built

PROJECT: Proposed Mixed Development

LOCATION: 52 Scott Street, Liverpool

JOB NO: 19125312

COORDS: 308044 m E 6244136 m N MGA94 56

INCLINATION: -90°

HOLE DEPTH: 0.20 m

LOGGED: RAM

DATE: 10/7/19

CHECKED: BJF

DATE: 31/7/19

| Drilling |                        |       |                |          | Sampling             |           | Field Material Description |              |                                                                                                                                          |                    |                                       |
|----------|------------------------|-------|----------------|----------|----------------------|-----------|----------------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------------------------------|
| METHOD   | PENETRATION RESISTANCE | WATER | DEPTH (metres) | DEPTH RL | SAMPLE OR FIELD TEST | RECOVERED | GRAPHIC LOG                | GROUP SYMBOL | SOIL/ROCK MATERIAL DESCRIPTION                                                                                                           | MOISTURE CONDITION | STRUCTURE AND ADDITIONAL OBSERVATIONS |
| HA       | CO                     |       | 0.0            | 0.04     |                      |           |                            | GP           | ASPHALT                                                                                                                                  |                    |                                       |
|          | M-H                    | GNE   |                | 0.15     |                      |           |                            |              | FILL: Sandy GRAVEL<br>fine to coarse grained, sub-angular, blue grey, fine to coarse grained sand                                        | M                  | 0.04 - 0.15 m; inferred base course   |
|          |                        |       |                |          |                      |           |                            |              | FILL: SILTSTONE<br>fine grained, grey and orange brown, indistinctly laminated, extremely weathered to highly weathered, medium strength |                    |                                       |
|          |                        |       |                |          |                      |           |                            |              | END OF HAND AUGER @ 0.20 m                                                                                                               |                    |                                       |
|          |                        |       |                |          |                      |           |                            |              | REFUSAL                                                                                                                                  |                    |                                       |
|          |                        |       |                |          |                      |           |                            |              | GROUNDWATER NOT ENCOUNTERED                                                                                                              |                    |                                       |
|          |                        |       |                |          |                      |           |                            |              | BACKFILLED                                                                                                                               |                    |                                       |
|          |                        |       | 0.5            |          |                      |           |                            |              |                                                                                                                                          |                    |                                       |
|          |                        |       | 1.0            |          |                      |           |                            |              |                                                                                                                                          |                    |                                       |
|          |                        |       | 1.5            |          |                      |           |                            |              |                                                                                                                                          |                    |                                       |
|          |                        |       | 2.0            |          |                      |           |                            |              |                                                                                                                                          |                    |                                       |

### Sketch & Other Observations



This report of hand augered borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F03a  
RL3



# GOLDER

## REPORT OF HAND AUGERED BOREHOLE: BH403

SHEET: 1 OF 1

CLIENT: Built

PROJECT: Proposed Mixed Development

LOCATION: 52 Scott Street, Liverpool

JOB NO: 19125312

COORDS: 308058 m E 6244144 m N MGA94 56 (hhGPS)

INCLINATION: -90°

HOLE DEPTH: 0.36 m

LOGGED: RAM

DATE: 10/7/19

CHECKED: BJF

DATE: 31/7/19

| Drilling |                        |       |                | Sampling     |                                               | Field Material Description |                                                                                   |                                                                                                                                                                                                                          |                                                                                                                                                                                                                                              |                    |             |         |                                                                                                                |
|----------|------------------------|-------|----------------|--------------|-----------------------------------------------|----------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|---------|----------------------------------------------------------------------------------------------------------------|
| METHOD   | PENETRATION RESISTANCE | WATER | DEPTH (metres) | DEPTH RL     | SAMPLE OR FIELD TEST                          | RECOVERED                  | GRAPHIC LOG                                                                       | GROUP SYMBOL                                                                                                                                                                                                             | SOIL/ROCK MATERIAL DESCRIPTION                                                                                                                                                                                                               | MOISTURE CONDITION | CONSISTENCY | DENSITY | STRUCTURE AND ADDITIONAL OBSERVATIONS                                                                          |
| CC       |                        |       | 0.0            | 0.04<br>0.10 | BH403/0.2E<br>0.20 m<br>1xJar, 1 xAsb, 1xPFAS |                            |  | GP                                                                                                                                                                                                                       | ASPHALT                                                                                                                                                                                                                                      | M                  |             |         | 0.04 - 0.10 m; inferred base course<br>0.10 - 0.35 m; trace fragments of brick and asphalt up to 20 mm in size |
| HA       | M-H                    | GNE   |                |              |                                               |                            |                                                                                   | CL                                                                                                                                                                                                                       | FILL: Sandy GRAVEL<br>fine to coarse grained, sub-angular, blue grey, fine to coarse grained sand<br>FILL: Sandy CLAY<br>low plasticity, brown, fine to coarse grained sand, trace fine to coarse grained, sub-rounded to sub-angular gravel | w < PL             |             |         |                                                                                                                |
|          |                        |       | 0.35           |              |                                               |                            |                                                                                   | FILL: SILTSTONE<br>fine grained, grey and orange, indistinctly laminated, extremely weathered to highly weathered, medium strength<br>END OF HAND AUGER @ 0.36 m<br>REFUSAL<br>GROUNDWATER NOT ENCOUNTERED<br>BACKFILLED |                                                                                                                                                                                                                                              |                    |             |         |                                                                                                                |
|          |                        |       | 0.5            |              |                                               |                            |                                                                                   |                                                                                                                                                                                                                          |                                                                                                                                                                                                                                              |                    |             |         |                                                                                                                |
|          |                        |       | 1.0            |              |                                               |                            |                                                                                   |                                                                                                                                                                                                                          |                                                                                                                                                                                                                                              |                    |             |         |                                                                                                                |
|          |                        |       | 1.5            |              |                                               |                            |                                                                                   |                                                                                                                                                                                                                          |                                                                                                                                                                                                                                              |                    |             |         |                                                                                                                |
|          |                        |       | 2.0            |              |                                               |                            |                                                                                   |                                                                                                                                                                                                                          |                                                                                                                                                                                                                                              |                    |             |         |                                                                                                                |

### Sketch & Other Observations



This report of hand augered borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F03a  
RL3



# GOLDER

## REPORT OF HAND AUGERED BOREHOLE: BH404

SHEET: 1 OF 1

CLIENT: Built

PROJECT: Proposed Mixed Development

LOCATION: 52 Scott Street, Liverpool

JOB NO: 19125312

COORDS: 308085 m E 6244162 m N MGA94 56 (hhGPS)

INCLINATION: -90°

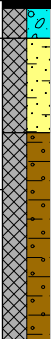
HOLE DEPTH: 0.90 m

LOGGED: RAM

DATE: 10/7/19

CHECKED: BJF

DATE: 31/7/19

| Drilling |                        |                             |                |                                                                                                                                         | Sampling                                                |           | Field Material Description                                                        |                                                         |                                                                                    |                    |             |                                                                                                                                        |                                                                                                                         |
|----------|------------------------|-----------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|-----------|-----------------------------------------------------------------------------------|---------------------------------------------------------|------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| METHOD   | PENETRATION RESISTANCE | WATER                       | DEPTH (metres) | DEPTH RL                                                                                                                                | SAMPLE OR FIELD TEST                                    | RECOVERED | GRAPHIC LOG                                                                       | GROUP SYMBOL                                            | SOIL/ROCK MATERIAL DESCRIPTION                                                     | MOISTURE CONDITION | CONSISTENCY | DENSITY                                                                                                                                | STRUCTURE AND ADDITIONAL OBSERVATIONS                                                                                   |
| CC       | M-H                    | GROUNDWATER NOT ENCOUNTERED | 0.0            |                                                                                                                                         | BH404/0.1E<br>0.10 m<br>1xJar, 1 xAsb, 1xPFAS<br>R = 1A |           |  | GP                                                      | ASPHALT                                                                            | M                  |             |                                                                                                                                        | 0.02 - 0.10 m; inferred base course<br>0.10 - 0.90 m; trace fragments of brick, asphalt and plastic up to 30 mm in size |
|          |                        |                             | SC             | FILL: Sandy GRAVEL<br>fine to coarse grained, sub-angular, blue grey, fine to coarse grained sand                                       |                                                         |           |                                                                                   |                                                         |                                                                                    |                    |             |                                                                                                                                        |                                                                                                                         |
|          |                        |                             | CL             | FILL: Clayey SAND<br>fine to coarse grained, brown, low plasticity clay, with fine to coarse grained, sub-rounded to sub-angular gravel |                                                         |           |                                                                                   |                                                         |                                                                                    |                    |             |                                                                                                                                        |                                                                                                                         |
|          |                        |                             | 0.35           |                                                                                                                                         |                                                         |           |                                                                                   | BH404/0.5E<br>0.50 m<br>1xJar, 1 xAsb, 1xPFAS<br>R = 1A |                                                                                    |                    |             | FILL: Sandy CLAY<br>low plasticity, brown, fine to coarse grained sand, with fine to coarse grained, sub-rounded to sub-angular gravel |                                                                                                                         |
|          | L-M                    |                             | 0.5            |                                                                                                                                         |                                                         |           |                                                                                   |                                                         |                                                                                    |                    |             |                                                                                                                                        |                                                                                                                         |
|          |                        |                             | 1.0            |                                                                                                                                         |                                                         |           |                                                                                   |                                                         | END OF HAND AUGER @ 0.90 m<br>REFUSAL<br>GROUNDWATER NOT ENCOUNTERED<br>BACKFILLED |                    |             |                                                                                                                                        |                                                                                                                         |
|          |                        |                             | 1.5            |                                                                                                                                         |                                                         |           |                                                                                   |                                                         |                                                                                    |                    |             |                                                                                                                                        |                                                                                                                         |
|          |                        |                             | 2.0            |                                                                                                                                         |                                                         |           |                                                                                   |                                                         |                                                                                    |                    |             |                                                                                                                                        |                                                                                                                         |

### Sketch & Other Observations



This report of hand augered borehole must be read in conjunction with accompanying notes and abbreviations.

GAP gINT FN. F03a  
RL3

**APPENDIX C**

# Geotechnical Laboratory Test Certificates

| Uniaxial Compressive Strength                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                             |                                                                                         |                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------------------------------------|
| <b>Client:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Golder Associates                                                                           | <b>Sample Source:</b>                                                                   | BH301 11.07-11.44m                       |
| <b>Address:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Level 8, 40 Mount Street, North Sydney, NSW 2016                                            | <b>Sample Description:</b>                                                              | Sandstone                                |
| <b>Project:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 19125312 Liverpool Civic Place                                                              | <b>Report No.:</b>                                                                      | S51306-UCS                               |
| <b>Job No.:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | S19374                                                                                      | <b>Lab No.:</b>                                                                         | S51306                                   |
| <b>Test Procedure:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | AS 4133.4.2.2 Determination of uniaxial compressive strength-Rock strength less than 50 MPa |                                                                                         |                                          |
| <b>Testing Machine:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Matest 2000 kN Compression Machine                                                          | <b>Sample Curing:</b>                                                                   | -                                        |
| <b>Sampling Method:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Sampled by Client                                                                           | <b>Date Sampled:</b>                                                                    | 25/07/2019                               |
| <b>Storage History:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Sealed                                                                                      | <b>Storage Environment:</b>                                                             | Sealed at as received moisture condition |
| <div style="display: flex; justify-content: space-around;">   </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                             |                                                                                         |                                          |
| <b>Uniaxial Compressive Strength      22      MPa</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                             |                                                                                         |                                          |
| Date Tested:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 3/08/2019                                                                                   | Moisture Content:                                                                       | 2.4 %                                    |
| Specimen Height:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 142.7 mm                                                                                    | Duration of Test:                                                                       | 622 seconds                              |
| Average Specimen Diameter:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 51.5 mm                                                                                     | Rate of Displacement:                                                                   | < 0.1 mm/min                             |
| Failure Type:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tensile dominated                                                                           |                                                                                         |                                          |
| Other Pertinent Observations:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                             |                                                                                         |                                          |
| <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">  <p>Accredited for compliance with ISO/IEC 17025 - Testing.</p> <p>The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. This document shall not be reproduced, except in full.</p> <p><b>NATA Accredited Laboratory Number: 14874</b></p> </div> <div style="width: 45%; text-align: right;"> <p>Authorised Signatory:</p>  <p><b>Chris Lloyd</b></p> <p>Date: <b>5/08/2019</b></p> </div> </div> |                                                                                             |                                                                                         |                                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                             | <p>Macquarie Geotechnical</p> <p>U7/8 10 Bradford Street</p> <p>Alexandria NSW 2015</p> |                                          |

## Uniaxial Compressive Strength

|                         |                                                                                             |                             |                                          |
|-------------------------|---------------------------------------------------------------------------------------------|-----------------------------|------------------------------------------|
| <b>Client:</b>          | Golder Associates                                                                           | <b>Sample Source:</b>       | BH304 13.45-13.80m                       |
| <b>Address:</b>         | Level 8, 40 Mount Street, North Sydney, NSW 2016                                            | <b>Sample Description:</b>  | Sandstone                                |
| <b>Project:</b>         | 19125312 Liverpool Civic Place                                                              | <b>Report No.:</b>          | S51307-UCS                               |
| <b>Job No.:</b>         | S19374                                                                                      | <b>Lab No.:</b>             | S51307                                   |
| <b>Test Procedure:</b>  | AS 4133.4.2.2 Determination of uniaxial compressive strength-Rock strength less than 50 MPa |                             |                                          |
| <b>Testing Machine:</b> | Matest 2000 kN Compression Machine                                                          | <b>Sample Curing:</b>       | -                                        |
| <b>Sampling Method:</b> | Sampled by Client                                                                           | <b>Date Sampled:</b>        | 23/07/2019                               |
| <b>Storage History:</b> | Sealed                                                                                      | <b>Storage Environment:</b> | Sealed at as received moisture condition |



## Uniaxial Compressive Strength      32      MPa

|                               |                   |                       |                   |
|-------------------------------|-------------------|-----------------------|-------------------|
| Date Tested:                  | 3/08/2019         | Moisture Content:     | 2.7      %        |
| Specimen Height:              | 141.8      mm     | Duration of Test:     | 673      seconds  |
| Average Specimen Diameter:    | 51.6      mm      | Rate of Displacement: | < 0.1      mm/min |
| Failure Type:                 | Tensile dominated |                       |                   |
| Other Pertinent Observations: |                   |                       |                   |



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The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. This document shall not be reproduced, except in full.

**NATA Accredited Laboratory Number: 14874**

Authorised Signatory:

Chris Lloyd

Date: 5/08/2019



Macquarie Geotechnical  
U7/8 10 Bradford Street  
Alexandria NSW 2015

| Uniaxial Compressive Strength                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                             |                                                                                         |                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------------------------------------|
| <b>Client:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Golder Associates                                                                           | <b>Sample Source:</b>                                                                   | BH305 5.54-5.82m                         |
| <b>Address:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Level 8, 40 Mount Street, North Sydney, NSW 2016                                            | <b>Sample Description:</b>                                                              | Shale                                    |
| <b>Project:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 19125312 Liverpool Civic Place                                                              | <b>Report No.:</b>                                                                      | S51308-UCS                               |
| <b>Job No.:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | S19374                                                                                      | <b>Lab No.:</b>                                                                         | S51308                                   |
| <b>Test Procedure:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | AS 4133.4.2.2 Determination of uniaxial compressive strength-Rock strength less than 50 MPa |                                                                                         |                                          |
| <b>Testing Machine:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Matest 2000 kN Compression Machine                                                          | <b>Sample Curing:</b>                                                                   | -                                        |
| <b>Sampling Method:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Sampled by Client                                                                           | <b>Date Sampled:</b>                                                                    | 19/07/2019                               |
| <b>Storage History:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Sealed                                                                                      | <b>Storage Environment:</b>                                                             | Sealed at as received moisture condition |
| <div style="display: flex; justify-content: space-around;">   </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                             |                                                                                         |                                          |
| <b>Uniaxial Compressive Strength      22      MPa</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                             |                                                                                         |                                          |
| Date Tested:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 3/08/2019                                                                                   | Moisture Content:                                                                       | 3.6 %                                    |
| Specimen Height:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 143.7 mm                                                                                    | Duration of Test:                                                                       | 628 seconds                              |
| Average Specimen Diameter:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 51.5 mm                                                                                     | Rate of Displacement:                                                                   | < 0.1 mm/min                             |
| Failure Type:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tensile dominated                                                                           |                                                                                         |                                          |
| Other Pertinent Observations:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                             |                                                                                         |                                          |
| <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;">  <p>Accredited for compliance with ISO/IEC 17025 - Testing.</p> <p>The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. This document shall not be reproduced, except in full.</p> <p><b>NATA Accredited Laboratory Number: 14874</b></p> </div> <div style="width: 35%; text-align: right;"> <p>Authorised Signatory:</p>  <p><b>Chris Lloyd</b></p> <p>Date: <b>5/08/2019</b></p> </div> </div> |                                                                                             |                                                                                         |                                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                             | <p>Macquarie Geotechnical</p> <p>U7/8 10 Bradford Street</p> <p>Alexandria NSW 2015</p> |                                          |

| Uniaxial Compressive Strength                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                             |                                                                                   |                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------|
| <b>Client:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Golder Associates                                                                           | <b>Sample Source:</b>                                                             | BH307 7.48-7.70m                         |
| <b>Address:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Level 8, 40 Mount Street, North Sydney, NSW 2016                                            | <b>Sample Description:</b>                                                        | Sandstone                                |
| <b>Project:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 19125312 Liverpool Civic Place                                                              | <b>Report No.:</b>                                                                | S51309-UCS                               |
| <b>Job No.:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | S19374                                                                                      | <b>Lab No.:</b>                                                                   | S51309                                   |
| <b>Test Procedure:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | AS 4133.4.2.2 Determination of uniaxial compressive strength-Rock strength less than 50 MPa |                                                                                   |                                          |
| <b>Testing Machine:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Matest 2000 kN Compression Machine                                                          | <b>Sample Curing:</b>                                                             | -                                        |
| <b>Sampling Method:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Sampled by Client                                                                           | <b>Date Sampled:</b>                                                              | 18/07/2019                               |
| <b>Storage History:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Sealed                                                                                      | <b>Storage Environment:</b>                                                       | Sealed at as received moisture condition |
| <div style="display: flex; justify-content: space-around;">   </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                             |                                                                                   |                                          |
| <b>Uniaxial Compressive Strength      18      MPa</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                             |                                                                                   |                                          |
| Date Tested:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 3/08/2019                                                                                   | Moisture Content:                                                                 | 3.9 %                                    |
| Specimen Height:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 143.5 mm                                                                                    | Duration of Test:                                                                 | 638 seconds                              |
| Average Specimen Diameter:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 51.7 mm                                                                                     | Rate of Displacement:                                                             | < 0.1 mm/min                             |
| Failure Type:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Mixed mode                                                                                  |                                                                                   |                                          |
| Other Pertinent Observations:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                             |                                                                                   |                                          |
| <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;">  <p>Accredited for compliance with ISO/IEC 17025 - Testing.</p> <p>The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. This document shall not be reproduced, except in full.</p> <p><b>NATA Accredited Laboratory Number: 14874</b></p> </div> <div style="width: 35%; text-align: right;"> <p>Authorised Signatory:</p>  <p><b>Chris Lloyd</b></p> <p>Date: <b>5/08/2019</b></p> </div> </div> |                                                                                             |                                                                                   |                                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                             | <p>Macquarie Geotechnical<br/>U7/8 10 Bradford Street<br/>Alexandria NSW 2015</p> |                                          |

**APPENDIX D**

**Soil Analytical Results**  
**D-1 Certificates of Analysis**  
**D-2 Summary Table Analytical**  
**Results**

## D-1 Certificates of Analysis

## CERTIFICATE OF ANALYSIS

|                                |                                                                           |                                |                                                              |
|--------------------------------|---------------------------------------------------------------------------|--------------------------------|--------------------------------------------------------------|
| <b>Work Order</b>              | <b>: ES1924021</b>                                                        | <b>Page</b>                    | <b>: 1 of 67</b>                                             |
| <b>Amendment</b>               | <b>: (Preliminary Report)</b>                                             |                                |                                                              |
| <b>Client</b>                  | <b>: GOLDER ASSOCIATES</b>                                                | <b>Laboratory</b>              | <b>: Environmental Division Sydney</b>                       |
| <b>Contact</b>                 | <b>: ERIC WON</b>                                                         | <b>Contact</b>                 | <b>: Customer Services ES</b>                                |
| <b>Address</b>                 | <b>: LEVEL 1, 124 PACIFIC HIGHWAY<br/>ST LEONARDS NSW, AUSTRALIA 2065</b> | <b>Address</b>                 | <b>: 277-289 Woodpark Road Smithfield NSW Australia 2164</b> |
| <b>Telephone</b>               | <b>: ----</b>                                                             | <b>Telephone</b>               | <b>: +61-2-8784 8555</b>                                     |
| <b>Project</b>                 | <b>: 19125312</b>                                                         | <b>Date Samples Received</b>   | <b>: 31-Jul-2019 11:24</b>                                   |
| <b>Order number</b>            | <b>: 19125312</b>                                                         | <b>Date Analysis Commenced</b> | <b>: 02-Aug-2019</b>                                         |
| <b>C-O-C number</b>            | <b>: ----</b>                                                             | <b>Issue Date</b>              | <b>: 07-Aug-2019 16:44</b>                                   |
| <b>Sampler</b>                 | <b>: ----</b>                                                             |                                |                                                              |
| <b>Site</b>                    | <b>: ----</b>                                                             |                                |                                                              |
| <b>Quote number</b>            | <b>: EN/002/18 National BQ</b>                                            |                                |                                                              |
| <b>No. of samples received</b> | <b>: 33</b>                                                               |                                |                                                              |
| <b>No. of samples analysed</b> | <b>: 33</b>                                                               |                                |                                                              |



Accreditation No. 825  
Accredited for compliance with  
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

**Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.**

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| <i>Signatories</i> | <i>Position</i>       | <i>Accreditation Category</i>            |
|--------------------|-----------------------|------------------------------------------|
| Alana Smylie       | Asbestos Identifier   | Newcastle - Asbestos, Mayfield West, NSW |
| Celine Conceicao   | Senior Spectroscopist | Sydney Inorganics, Smithfield, NSW       |
| Edwandy Fadjjar    | Organic Coordinator   | Sydney Organics, Smithfield, NSW         |
| Evie Sidarta       | Inorganic Chemist     | Sydney Inorganics, Smithfield, NSW       |
| Franco Lentini     | LCMS Coordinator      | Sydney Organics, Smithfield, NSW         |

Page : 2 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

^ = This result is computed from individual analyte detections at or above the level of reporting

Ø = ALS is not NATA accredited for these tests.

~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP071: Results of sample BH305 / 0.4E have been confirmed by re-extraction and re-analysis.
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.
- EP075: 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO<sub>3</sub>) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m<sup>3</sup> in-situ soil, multiply reported results x wet bulk density of soil in t/m<sup>3</sup>.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.

## (Preliminary Report)

Page : 3 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



- EA200: 'No\*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.

# (Preliminary Report)

Page : 4 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                               |            |      |         | Client sample ID | BH301 / 0.15E     | BH301 / 0.15E     | BH301 / 0.15E     | BH303 / 0.2E      | BH303 / 0.2E      |
|------------------------------------------------------------------|------------|------|---------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                      |            |      |         |                  | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 15-Jul-2019 00:00 | 15-Jul-2019 00:00 |
| Compound                                                         | CAS Number | LOR  | Unit    |                  | ES1924021-001     | ES1924021-002     | ES1924021-003     | ES1924021-004     | ES1924021-006     |
|                                                                  |            |      |         |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EA055: Moisture Content (Dried @ 105-110°C)</b>               |            |      |         |                  |                   |                   |                   |                   |                   |
| Moisture Content                                                 | ----       | 0.1  | %       |                  | ----              | 25.8              | ----              | ----              | ----              |
| Moisture Content                                                 | ----       | 1.0  | %       |                  | 25.1              | ----              | ----              | 12.6              | ----              |
| <b>EA200: AS 4964 - 2004 Identification of Asbestos in Soils</b> |            |      |         |                  |                   |                   |                   |                   |                   |
| Asbestos Detected                                                | 1332-21-4  | 0.1  | g/kg    |                  | ----              | ----              | No                | ----              | No                |
| Asbestos (Trace)                                                 | 1332-21-4  | 5    | Fibres  |                  | ----              | ----              | No                | ----              | No                |
| Asbestos Type                                                    | 1332-21-4  | -    | --      |                  | ----              | ----              | -                 | ----              | -                 |
| Sample weight (dry)                                              | ----       | 0.01 | g       |                  | ----              | ----              | 14.8              | ----              | 38.4              |
| APPROVED IDENTIFIER:                                             | ----       | -    | --      |                  | ----              | ----              | A. SMYLIE         | ----              | A. SMYLIE         |
| Synthetic Mineral Fibre                                          | ----       | 0.1  | g/kg    |                  | ----              | ----              | No                | ----              | No                |
| Organic Fibre                                                    | ----       | 0.1  | g/kg    |                  | ----              | ----              | No                | ----              | No                |
| <b>EG005(ED093)T: Total Metals by ICP-AES</b>                    |            |      |         |                  |                   |                   |                   |                   |                   |
| Arsenic                                                          | 7440-38-2  | 5    | mg/kg   |                  | 12                | ----              | ----              | 8                 | ----              |
| Cadmium                                                          | 7440-43-9  | 1    | mg/kg   |                  | <1                | ----              | ----              | <1                | ----              |
| Chromium                                                         | 7440-47-3  | 2    | mg/kg   |                  | 13                | ----              | ----              | 10                | ----              |
| Copper                                                           | 7440-50-8  | 5    | mg/kg   |                  | 64                | ----              | ----              | 37                | ----              |
| Lead                                                             | 7439-92-1  | 5    | mg/kg   |                  | 285               | ----              | ----              | 66                | ----              |
| Nickel                                                           | 7440-02-0  | 2    | mg/kg   |                  | 8                 | ----              | ----              | 17                | ----              |
| Zinc                                                             | 7440-66-6  | 5    | mg/kg   |                  | 392               | ----              | ----              | 67                | ----              |
| <b>EG035T: Total Recoverable Mercury by FIMS</b>                 |            |      |         |                  |                   |                   |                   |                   |                   |
| Mercury                                                          | 7439-97-6  | 0.1  | mg/kg   |                  | 0.1               | ----              | ----              | <0.1              | ----              |
| <b>EN33: TCLP Leach</b>                                          |            |      |         |                  |                   |                   |                   |                   |                   |
| Initial pH                                                       | ----       | 0.1  | pH Unit |                  | 9.4               | ----              | ----              | ----              | ----              |
| After HCl pH                                                     | ----       | 0.1  | pH Unit |                  | 1.5               | ----              | ----              | ----              | ----              |
| Extraction Fluid Number                                          | ----       | 1    | -       |                  | 1                 | ----              | ----              | ----              | ----              |
| Final pH                                                         | ----       | 0.1  | pH Unit |                  | 5.4               | ----              | ----              | ----              | ----              |
| <b>EP066: Polychlorinated Biphenyls (PCB)</b>                    |            |      |         |                  |                   |                   |                   |                   |                   |
| Total Polychlorinated biphenyls                                  | ----       | 0.1  | mg/kg   |                  | <0.1              | ----              | ----              | <0.1              | ----              |
| <b>EP074A: Monocyclic Aromatic Hydrocarbons</b>                  |            |      |         |                  |                   |                   |                   |                   |                   |
| Styrene                                                          | 100-42-5   | 0.5  | mg/kg   |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Isopropylbenzene                                                 | 98-82-8    | 0.5  | mg/kg   |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| n-Propylbenzene                                                  | 103-65-1   | 0.5  | mg/kg   |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,3,5-Trimethylbenzene                                           | 108-67-8   | 0.5  | mg/kg   |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| sec-Butylbenzene                                                 | 135-98-8   | 0.5  | mg/kg   |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2,4-Trimethylbenzene                                           | 95-63-6    | 0.5  | mg/kg   |                  | <0.5              | ----              | ----              | <0.5              | ----              |

(Preliminary Report)

Page : 5 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                   |            |     |       | Client sample ID | BH301 / 0.15E     | BH301 / 0.15E     | BH301 / 0.15E     | BH303 / 0.2E      | BH303 / 0.2E      |
|------------------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                          |            |     |       |                  | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 15-Jul-2019 00:00 | 15-Jul-2019 00:00 |
| Compound                                             | CAS Number | LOR | Unit  |                  | ES1924021-001     | ES1924021-002     | ES1924021-003     | ES1924021-004     | ES1924021-006     |
|                                                      |            |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| EP074A: Monocyclic Aromatic Hydrocarbons - Continued |            |     |       |                  |                   |                   |                   |                   |                   |
| tert-Butylbenzene                                    | 98-06-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| p-Isopropyltoluene                                   | 99-87-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| n-Butylbenzene                                       | 104-51-8   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP074B: Oxygenated Compounds                         |            |     |       |                  |                   |                   |                   |                   |                   |
| Vinyl Acetate                                        | 108-05-4   | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| 2-Butanone (MEK)                                     | 78-93-3    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| 4-Methyl-2-pentanone (MIBK)                          | 108-10-1   | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| 2-Hexanone (MBK)                                     | 591-78-6   | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| EP074C: Sulfonated Compounds                         |            |     |       |                  |                   |                   |                   |                   |                   |
| Carbon disulfide                                     | 75-15-0    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP074D: Fumigants                                    |            |     |       |                  |                   |                   |                   |                   |                   |
| 2,2-Dichloropropane                                  | 594-20-7   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2-Dichloropropane                                  | 78-87-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| cis-1,3-Dichloropropylene                            | 10061-01-5 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| trans-1,3-Dichloropropylene                          | 10061-02-6 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2-Dibromoethane (EDB)                              | 106-93-4   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP074E: Halogenated Aliphatic Compounds              |            |     |       |                  |                   |                   |                   |                   |                   |
| Dichlorodifluoromethane                              | 75-71-8    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Chloromethane                                        | 74-87-3    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Vinyl chloride                                       | 75-01-4    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Bromomethane                                         | 74-83-9    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Chloroethane                                         | 75-00-3    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Trichlorofluoromethane                               | 75-69-4    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| 1,1-Dichloroethene                                   | 75-35-4    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Iodomethane                                          | 74-88-4    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| trans-1,2-Dichloroethene                             | 156-60-5   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,1-Dichloroethane                                   | 75-34-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| cis-1,2-Dichloroethene                               | 156-59-2   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,1,1-Trichloroethane                                | 71-55-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,1-Dichloropropylene                                | 563-58-6   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Carbon Tetrachloride                                 | 56-23-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2-Dichloroethane                                   | 107-06-2   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Trichloroethene                                      | 79-01-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Dibromomethane                                       | 74-95-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |

(Preliminary Report)

Page : 6 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                  |                   |     |       | Client sample ID | BH301 / 0.15E     | BH301 / 0.15E     | BH301 / 0.15E     | BH303 / 0.2E      | BH303 / 0.2E      |
|-----------------------------------------------------|-------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                         |                   |     |       |                  | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 15-Jul-2019 00:00 | 15-Jul-2019 00:00 |
| Compound                                            | CAS Number        | LOR | Unit  |                  | ES1924021-001     | ES1924021-002     | ES1924021-003     | ES1924021-004     | ES1924021-006     |
|                                                     |                   |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| EP074E: Halogenated Aliphatic Compounds - Continued |                   |     |       |                  |                   |                   |                   |                   |                   |
| 1.1.2-Trichloroethane                               | 79-00-5           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.3-Dichloropropane                                 | 142-28-9          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Tetrachloroethene                                   | 127-18-4          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.1.1.2-Tetrachloroethane                           | 630-20-6          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| trans-1.4-Dichloro-2-butene                         | 110-57-6          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| cis-1.4-Dichloro-2-butene                           | 1476-11-5         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.1.2.2-Tetrachloroethane                           | 79-34-5           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.2.3-Trichloropropane                              | 96-18-4           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Pentachloroethane                                   | 76-01-7           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.2-Dibromo-3-chloropropane                         | 96-12-8           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP074F: Halogenated Aromatic Compounds              |                   |     |       |                  |                   |                   |                   |                   |                   |
| Chlorobenzene                                       | 108-90-7          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Bromobenzene                                        | 108-86-1          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 2-Chlorotoluene                                     | 95-49-8           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4-Chlorotoluene                                     | 106-43-4          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.2.3-Trichlorobenzene                              | 87-61-6           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP074G: Trihalomethanes                             |                   |     |       |                  |                   |                   |                   |                   |                   |
| Chloroform                                          | 67-66-3           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Bromodichloromethane                                | 75-27-4           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Dibromochloromethane                                | 124-48-1          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Bromoform                                           | 75-25-2           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons      |                   |     |       |                  |                   |                   |                   |                   |                   |
| Naphthalene                                         | 91-20-3           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Acenaphthylene                                      | 208-96-8          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Acenaphthene                                        | 83-32-9           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Fluorene                                            | 86-73-7           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Phenanthrene                                        | 85-01-8           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Anthracene                                          | 120-12-7          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Fluoranthene                                        | 206-44-0          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Pyrene                                              | 129-00-0          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Benz(a)anthracene                                   | 56-55-3           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Chrysene                                            | 218-01-9          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Benzo(b+j)fluoranthene                              | 205-99-2 205-82-3 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Benzo(k)fluoranthene                                | 207-08-9          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |

Page : 7 of 67  
Work Order : ES1924021  
Client : GOLDER J  
Project : 19125312

## Analytical Results

Sub-Matrix: **SOIL**  
(Matrix: **SOIL**)

Client sample ID

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                         |            |     |       | Client sample ID  |  | BH301 / 0.15E     |  | BH301 / 0.15E     |  | BH301 / 0.15E     |  | BH303 / 0.2E      |  | BH303 / 0.2E      |  |
|------------------------------------------------------------|------------|-----|-------|-------------------|--|-------------------|--|-------------------|--|-------------------|--|-------------------|--|-------------------|--|
| Client sampling date / time                                |            |     |       | 24-Jul-2019 00:00 |  | 24-Jul-2019 00:00 |  | 24-Jul-2019 00:00 |  | 24-Jul-2019 00:00 |  | 15-Jul-2019 00:00 |  | 15-Jul-2019 00:00 |  |
| Compound                                                   | CAS Number | LOR | Unit  | ES1924021-001     |  | ES1924021-002     |  | ES1924021-003     |  | ES1924021-004     |  | ES1924021-004     |  | ES1924021-006     |  |
|                                                            |            |     |       | Result            |  | Result            |  | Result            |  | Result            |  | Result            |  | Result            |  |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued |            |     |       |                   |  |                   |  |                   |  |                   |  |                   |  |                   |  |
| Benzo(a)pyrene                                             | 50-32-8    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| Indeno(1.2.3.cd)pyrene                                     | 193-39-5   | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| Dibenz(a.h)anthracene                                      | 53-70-3    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| Benzo(g.h.i)perylene                                       | 191-24-2   | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| ^ Sum of polycyclic aromatic hydrocarbons                  | ----       | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| ^ Benzo(a)pyrene TEQ (zero)                                | ----       | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| ^ Benzo(a)pyrene TEQ (half LOR)                            | ----       | 0.5 | mg/kg | 0.6               |  | ----              |  | ----              |  | 0.6               |  | ----              |  | ----              |  |
| ^ Benzo(a)pyrene TEQ (LOR)                                 | ----       | 0.5 | mg/kg | 1.2               |  | ----              |  | ----              |  | 1.2               |  | ----              |  | ----              |  |
| EP075A: Phenolic Compounds                                 |            |     |       |                   |  |                   |  |                   |  |                   |  |                   |  |                   |  |
| Phenol                                                     | 108-95-2   | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| 2-Chlorophenol                                             | 95-57-8    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| 2-Methylphenol                                             | 95-48-7    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| 3- & 4-Methylphenol                                        | 1319-77-3  | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| 2-Nitrophenol                                              | 88-75-5    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| 2.4-Dimethylphenol                                         | 105-67-9   | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| 2.4-Dichlorophenol                                         | 120-83-2   | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| 2.6-Dichlorophenol                                         | 87-65-0    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| 4-Chloro-3-methylphenol                                    | 59-50-7    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| 2.4.6-Trichlorophenol                                      | 88-06-2    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| 2.4.5-Trichlorophenol                                      | 95-95-4    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| Pentachlorophenol                                          | 87-86-5    | 1   | mg/kg | <1                |  | ----              |  | ----              |  | <1                |  | ----              |  | ----              |  |
| EP075B: Polynuclear Aromatic Hydrocarbons                  |            |     |       |                   |  |                   |  |                   |  |                   |  |                   |  |                   |  |
| 2-Methylnaphthalene                                        | 91-57-6    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| N-2-Fluorenyl Acetamide                                    | 53-96-3    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| 7.12-Dimethylbenz(a)anthracene                             | 57-97-6    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| 3-Methylcholanthrene                                       | 56-49-5    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| EP075C: Phthalate Esters                                   |            |     |       |                   |  |                   |  |                   |  |                   |  |                   |  |                   |  |
| Dimethyl phthalate                                         | 131-11-3   | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| Diethyl phthalate                                          | 84-66-2    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| Di-n-butyl phthalate                                       | 84-74-2    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| Butyl benzyl phthalate                                     | 85-68-7    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| bis(2-ethylhexyl) phthalate                                | 117-81-7   | 5.0 | mg/kg | <5.0              |  | ----              |  | ----              |  | <5.0              |  | ----              |  | ----              |  |
| Di-n-octylphthalate                                        | 117-84-0   | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  | ----              |  |
| EP075D: Nitrosamines                                       |            |     |       |                   |  |                   |  |                   |  |                   |  |                   |  |                   |  |



Sub-Matrix: **SOIL**  
(Matrix: **SOIL**)

*Client sample ID*

| Sub-Matrix: SOIL<br>(Matrix: SOIL) |                  |     |       | Client sample ID  | BH301 / 0.15E     | BH301 / 0.15E     | BH301 / 0.15E     | BH303 / 0.2E      | BH303 / 0.2E |
|------------------------------------|------------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------|
| Client sampling date / time        |                  |     |       | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 15-Jul-2019 00:00 | 15-Jul-2019 00:00 |              |
| Compound                           | CAS Number       | LOR | Unit  | ES1924021-001     | ES1924021-002     | ES1924021-003     | ES1924021-004     | ES1924021-006     |              |
|                                    |                  |     |       | Result            | Result            | Result            | Result            | Result            |              |
| EP075D: Nitrosamines - Continued   |                  |     |       |                   |                   |                   |                   |                   |              |
| N-Nitrosomethylethylamine          | 10595-95-6       | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| N-Nitrosodiethylamine              | 55-18-5          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| N-Nitrosopyrrolidine               | 930-55-2         | 1.0 | mg/kg | <1.0              | ----              | ----              | <1.0              | ----              |              |
| N-Nitrosomorpholine                | 59-89-2          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| N-Nitrosodi-n-propylamine          | 621-64-7         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| N-Nitrosopiperidine                | 100-75-4         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| N-Nitrosodibutylamine              | 924-16-3         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| N-Nitrosodiphenyl & Diphenylamine  | 86-30-6 122-39-4 | 1.0 | mg/kg | <1.0              | ----              | ----              | <1.0              | ----              |              |
| Methapyrilene                      | 91-80-5          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| EP075E: Nitroaromatics and Ketones |                  |     |       |                   |                   |                   |                   |                   |              |
| 2-Picoline                         | 109-06-8         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Acetophenone                       | 98-86-2          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Nitrobenzene                       | 98-95-3          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Isophorone                         | 78-59-1          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| 2,6-Dinitrotoluene                 | 606-20-2         | 1.0 | mg/kg | <1.0              | ----              | ----              | <1.0              | ----              |              |
| 2,4-Dinitrotoluene                 | 121-14-2         | 1.0 | mg/kg | <1.0              | ----              | ----              | <1.0              | ----              |              |
| 1-Naphthylamine                    | 134-32-7         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| 4-Nitroquinoline-N-oxide           | 56-57-5          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| 5-Nitro-o-toluidine                | 99-55-8          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Azobenzene                         | 103-33-3         | 1   | mg/kg | <1                | ----              | ----              | <1                | ----              |              |
| 1,3,5-Trinitrobenzene              | 99-35-4          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Phenacetin                         | 62-44-2          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| 4-Aminobiphenyl                    | 92-67-1          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Pentachloronitrobenzene            | 82-68-8          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Pronamide                          | 23950-58-5       | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Dimethylaminoazobenzene            | 60-11-7          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Chlorobenzilate                    | 510-15-6         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| EP075F: Haloethers                 |                  |     |       |                   |                   |                   |                   |                   |              |
| Bis(2-chloroethyl) ether           | 111-44-4         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Bis(2-chloroethoxy) methane        | 111-91-1         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| 4-Chlorophenyl phenyl ether        | 7005-72-3        | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| 4-Bromophenyl phenyl ether         | 101-55-3         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| EP075G: Chlorinated Hydrocarbons   |                  |     |       |                   |                   |                   |                   |                   |              |

(Preliminary Report)

Page : 9 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)           |            |     |       | Client sample ID | BH301 / 0.15E     | BH301 / 0.15E     | BH301 / 0.15E     | BH303 / 0.2E      | BH303 / 0.2E      |
|----------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                  |            |     |       |                  | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 15-Jul-2019 00:00 | 15-Jul-2019 00:00 |
| Compound                                     | CAS Number | LOR | Unit  |                  | ES1924021-001     | ES1924021-002     | ES1924021-003     | ES1924021-004     | ES1924021-006     |
|                                              |            |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| EP075G: Chlorinated Hydrocarbons - Continued |            |     |       |                  |                   |                   |                   |                   |                   |
| 1,3-Dichlorobenzene                          | 541-73-1   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,4-Dichlorobenzene                          | 106-46-7   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2-Dichlorobenzene                          | 95-50-1    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Hexachloroethane                             | 67-72-1    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2,4-Trichlorobenzene                       | 120-82-1   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Hexachloropropylene                          | 1888-71-7  | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Hexachlorobutadiene                          | 87-68-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Hexachlorocyclopentadiene                    | 77-47-4    | 2.5 | mg/kg |                  | <2.5              | ----              | ----              | <2.5              | ----              |
| Pentachlorobenzene                           | 608-93-5   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Hexachlorobenzene (HCB)                      | 118-74-1   | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | <1.0              | ----              |
| EP075H: Anilines and Benzidines              |            |     |       |                  |                   |                   |                   |                   |                   |
| Aniline                                      | 62-53-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4-Chloroaniline                              | 106-47-8   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 2-Nitroaniline                               | 88-74-4    | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | <1.0              | ----              |
| 3-Nitroaniline                               | 99-09-2    | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | <1.0              | ----              |
| Dibenzofuran                                 | 132-64-9   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4-Nitroaniline                               | 100-01-6   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Carbazole                                    | 86-74-8    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 3,3'-Dichlorobenzidine                       | 91-94-1    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP075I: Organochlorine Pesticides            |            |     |       |                  |                   |                   |                   |                   |                   |
| alpha-BHC                                    | 319-84-6   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| beta-BHC                                     | 319-85-7   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| gamma-BHC                                    | 58-89-9    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| delta-BHC                                    | 319-86-8   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Heptachlor                                   | 76-44-8    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Aldrin                                       | 309-00-2   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Heptachlor epoxide                           | 1024-57-3  | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| alpha-Endosulfan                             | 959-98-8   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4,4'-DDE                                     | 72-55-9    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Dieldrin                                     | 60-57-1    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Endrin                                       | 72-20-8    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| beta-Endosulfan                              | 33213-65-9 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4,4'-DDD                                     | 72-54-8    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Endosulfan sulfate                           | 1031-07-8  | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |

# (Preliminary Report)

Page : 10 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                              |                   |     |       | Client sample ID | BH301 / 0.15E     | BH301 / 0.15E     | BH301 / 0.15E     | BH303 / 0.2E      | BH303 / 0.2E      |
|-----------------------------------------------------------------|-------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                     |                   |     |       |                  | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 15-Jul-2019 00:00 | 15-Jul-2019 00:00 |
| Compound                                                        | CAS Number        | LOR | Unit  |                  | ES1924021-001     | ES1924021-002     | ES1924021-003     | ES1924021-004     | ES1924021-006     |
|                                                                 |                   |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| EP075I: Organochlorine Pesticides - Continued                   |                   |     |       |                  |                   |                   |                   |                   |                   |
| 4,4'-DDT                                                        | 50-29-3           | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | <1.0              | ----              |
| EP075J: Organophosphorus Pesticides                             |                   |     |       |                  |                   |                   |                   |                   |                   |
| Dichlorvos                                                      | 62-73-7           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Dimethoate                                                      | 60-51-5           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Diazinon                                                        | 333-41-5          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Chlorpyrifos-methyl                                             | 5598-13-0         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Malathion                                                       | 121-75-5          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Fenthion                                                        | 55-38-9           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Chlorpyrifos                                                    | 2921-88-2         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Pirimphos-ethyl                                                 | 23505-41-1        | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Chlorfenvinphos                                                 | 470-90-6          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Prothiofos                                                      | 34643-46-4        | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Ethion                                                          | 563-12-2          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP080/071: Total Petroleum Hydrocarbons                         |                   |     |       |                  |                   |                   |                   |                   |                   |
| C6 - C9 Fraction                                                | ----              | 10  | mg/kg |                  | <10               | ----              | ----              | <10               | ----              |
| C10 - C14 Fraction                                              | ----              | 50  | mg/kg |                  | <50               | ----              | ----              | <50               | ----              |
| C15 - C28 Fraction                                              | ----              | 100 | mg/kg |                  | <100              | ----              | ----              | <100              | ----              |
| C29 - C36 Fraction                                              | ----              | 100 | mg/kg |                  | <100              | ----              | ----              | <100              | ----              |
| ^ C10 - C36 Fraction (sum)                                      | ----              | 50  | mg/kg |                  | <50               | ----              | ----              | <50               | ----              |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions |                   |     |       |                  |                   |                   |                   |                   |                   |
| C6 - C10 Fraction                                               | C6_C10            | 10  | mg/kg |                  | <10               | ----              | ----              | <10               | ----              |
| ^ C6 - C10 Fraction minus BTEX (F1)                             | C6_C10-BTEX       | 10  | mg/kg |                  | <10               | ----              | ----              | <10               | ----              |
| >C10 - C16 Fraction                                             | ----              | 50  | mg/kg |                  | <50               | ----              | ----              | <50               | ----              |
| >C16 - C34 Fraction                                             | ----              | 100 | mg/kg |                  | <100              | ----              | ----              | <100              | ----              |
| >C34 - C40 Fraction                                             | ----              | 100 | mg/kg |                  | <100              | ----              | ----              | <100              | ----              |
| ^ >C10 - C40 Fraction (sum)                                     | ----              | 50  | mg/kg |                  | <50               | ----              | ----              | <50               | ----              |
| ^ >C10 - C16 Fraction minus Naphthalene (F2)                    | ----              | 50  | mg/kg |                  | <50               | ----              | ----              | <50               | ----              |
| EP080: BTEXN                                                    |                   |     |       |                  |                   |                   |                   |                   |                   |
| Benzene                                                         | 71-43-2           | 0.2 | mg/kg |                  | <0.2              | ----              | ----              | <0.2              | ----              |
| Toluene                                                         | 108-88-3          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Ethylbenzene                                                    | 100-41-4          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| meta- & para-Xylene                                             | 108-38-3 106-42-3 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |



| Sub-Matrix: SOIL<br>(Matrix: SOIL)      |            |        |       | Client sample ID  | BH301 / 0.15E     | BH301 / 0.15E     | BH301 / 0.15E     | BH303 / 0.2E      | BH303 / 0.2E |
|-----------------------------------------|------------|--------|-------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------|
| Client sampling date / time             |            |        |       | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 15-Jul-2019 00:00 | 15-Jul-2019 00:00 |              |
| Compound                                | CAS Number | LOR    | Unit  | ES1924021-001     | ES1924021-002     | ES1924021-003     | ES1924021-004     | ES1924021-006     |              |
|                                         |            |        |       | Result            | Result            | Result            | Result            | Result            |              |
| EP080: BTEXN - Continued                |            |        |       |                   |                   |                   |                   |                   |              |
| ortho-Xylene                            | 95-47-6    | 0.5    | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| ^ Sum of BTEX                           | ----       | 0.2    | mg/kg | <0.2              | ----              | ----              | <0.2              | ----              |              |
| ^ Total Xylenes                         | ----       | 0.5    | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Naphthalene                             | 91-20-3    | 1      | mg/kg | <1                | ----              | ----              | <1                | ----              |              |
| EP231A: Perfluoroalkyl Sulfonic Acids   |            |        |       |                   |                   |                   |                   |                   |              |
| Perfluorobutane sulfonic acid (PFBS)    | 375-73-5   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluoropentane sulfonic acid (PFPeS)  | 2706-91-4  | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluorohexane sulfonic acid (PFHxS)   | 355-46-4   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluoroheptane sulfonic acid (PFHpS)  | 375-92-8   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluorooctane sulfonic acid (PFOS)    | 1763-23-1  | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluorodecane sulfonic acid (PFDS)    | 335-77-3   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| EP231B: Perfluoroalkyl Carboxylic Acids |            |        |       |                   |                   |                   |                   |                   |              |
| Perfluorobutanoic acid (PFBA)           | 375-22-4   | 0.001  | mg/kg | ----              | <0.001            | ----              | ----              | ----              |              |
| Perfluoropentanoic acid (PFPeA)         | 2706-90-3  | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluorohexanoic acid (PFHxA)          | 307-24-4   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluoroheptanoic acid (PFHpA)         | 375-85-9   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluorooctanoic acid (PFOA)           | 335-67-1   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluorononanoic acid (PFNA)           | 375-95-1   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluorodecanoic acid (PFDA)           | 335-76-2   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluoroundecanoic acid (PFUnDA)       | 2058-94-8  | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluorododecanoic acid (PFDoDA)       | 307-55-1   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluorotridecanoic acid (PFTTrDA)     | 72629-94-8 | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluorotetradecanoic acid (PFTeDA)    | 376-06-7   | 0.0005 | mg/kg | ----              | <0.0005           | ----              | ----              | ----              |              |
| EP231C: Perfluoroalkyl Sulfonamides     |            |        |       |                   |                   |                   |                   |                   |              |

(Preliminary Report)

Page : 12 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                        |                    |        |       | Client sample ID | BH301 / 0.15E     | BH301 / 0.15E     | BH301 / 0.15E     | BH303 / 0.2E      | BH303 / 0.2E      |
|-----------------------------------------------------------|--------------------|--------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                               |                    |        |       |                  | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 15-Jul-2019 00:00 | 15-Jul-2019 00:00 |
| Compound                                                  | CAS Number         | LOR    | Unit  |                  | ES1924021-001     | ES1924021-002     | ES1924021-003     | ES1924021-004     | ES1924021-006     |
|                                                           |                    |        |       |                  | Result            | Result            | Result            | Result            | Result            |
| EP231C: Perfluoroalkyl Sulfonamides - Continued           |                    |        |       |                  |                   |                   |                   |                   |                   |
| Perfluorooctane sulfonamide (FOSA)                        | 754-91-6           | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | ----              |
| N-Methyl perfluorooctane sulfonamide (MeFOSA)             | 31506-32-8         | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | ----              |
| N-Ethyl perfluorooctane sulfonamide (EtFOSA)              | 4151-50-2          | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | ----              |
| N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)      | 24448-09-7         | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | ----              |
| N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)       | 1691-99-2          | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | ----              |
| N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA) | 2355-31-9          | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | ----              |
| N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)  | 2991-50-6          | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | ----              |
| EP231D: (n:2) Fluorotelomer Sulfonic Acids                |                    |        |       |                  |                   |                   |                   |                   |                   |
| 4:2 Fluorotelomer sulfonic acid (4:2 FTS)                 | 757124-72-4        | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | ----              |
| 6:2 Fluorotelomer sulfonic acid (6:2 FTS)                 | 27619-97-2         | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | ----              |
| 8:2 Fluorotelomer sulfonic acid (8:2 FTS)                 | 39108-34-4         | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | ----              |
| 10:2 Fluorotelomer sulfonic acid (10:2 FTS)               | 120226-60-0        | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | ----              |
| EP231P: PFAS Sums                                         |                    |        |       |                  |                   |                   |                   |                   |                   |
| Sum of PFAS                                               | ----               | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | ----              |
| Sum of PFHxS and PFOS                                     | 355-46-4/1763-23-1 | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | ----              |
| Sum of PFAS (WA DER List)                                 | ----               | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | ----              |
| EP066S: PCB Surrogate                                     |                    |        |       |                  |                   |                   |                   |                   |                   |
| Decachlorobiphenyl                                        | 2051-24-3          | 0.1    | %     |                  | 94.6              | ----              | ----              | 90.5              | ----              |
| EP074S: VOC Surrogates                                    |                    |        |       |                  |                   |                   |                   |                   |                   |
| 1,2-Dichloroethane-D4                                     | 17060-07-0         | 0.5    | %     |                  | 95.2              | ----              | ----              | 102               | ----              |
| Toluene-D8                                                | 2037-26-5          | 0.5    | %     |                  | 102               | ----              | ----              | 109               | ----              |

(Preliminary Report)

Page : 13 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)          |            |        |      | Client sample ID | BH301 / 0.15E     | BH301 / 0.15E     | BH301 / 0.15E     | BH303 / 0.2E      | BH303 / 0.2E      |
|---------------------------------------------|------------|--------|------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                 |            |        |      |                  | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 15-Jul-2019 00:00 | 15-Jul-2019 00:00 |
| Compound                                    | CAS Number | LOR    | Unit |                  | ES1924021-001     | ES1924021-002     | ES1924021-003     | ES1924021-004     | ES1924021-006     |
|                                             |            |        |      |                  | Result            | Result            | Result            | Result            | Result            |
| EP074S: VOC Surrogates - Continued          |            |        |      |                  |                   |                   |                   |                   |                   |
| 4-Bromofluorobenzene                        | 460-00-4   | 0.5    | %    |                  | 88.7              | ----              | ----              | 90.9              | ----              |
| EP075(SIM)S: Phenolic Compound Surrogates   |            |        |      |                  |                   |                   |                   |                   |                   |
| Phenol-d6                                   | 13127-88-3 | 0.5    | %    |                  | 81.9              | ----              | ----              | 79.9              | ----              |
| 2-Chlorophenol-D4                           | 93951-73-6 | 0.5    | %    |                  | 86.6              | ----              | ----              | 86.3              | ----              |
| 2,4,6-Tribromophenol                        | 118-79-6   | 0.5    | %    |                  | 65.0              | ----              | ----              | 66.7              | ----              |
| EP075(SIM)T: PAH Surrogates                 |            |        |      |                  |                   |                   |                   |                   |                   |
| 2-Fluorobiphenyl                            | 321-60-8   | 0.5    | %    |                  | 93.4              | ----              | ----              | 91.6              | ----              |
| Anthracene-d10                              | 1719-06-8  | 0.5    | %    |                  | 93.9              | ----              | ----              | 91.5              | ----              |
| 4-Terphenyl-d14                             | 1718-51-0  | 0.5    | %    |                  | 95.7              | ----              | ----              | 95.0              | ----              |
| EP075S: Acid Extractable Surrogates         |            |        |      |                  |                   |                   |                   |                   |                   |
| 2-Fluorophenol                              | 367-12-4   | 0.5    | %    |                  | 95.6              | ----              | ----              | 96.2              | ----              |
| Phenol-d6                                   | 13127-88-3 | 0.5    | %    |                  | 90.7              | ----              | ----              | 98.2              | ----              |
| 2-Chlorophenol-D4                           | 93951-73-6 | 0.5    | %    |                  | 95.0              | ----              | ----              | 106               | ----              |
| 2,4,6-Tribromophenol                        | 118-79-6   | 0.5    | %    |                  | 73.3              | ----              | ----              | 81.8              | ----              |
| EP075T: Base/Neutral Extractable Surrogates |            |        |      |                  |                   |                   |                   |                   |                   |
| Nitrobenzene-D5                             | 4165-60-0  | 0.5    | %    |                  | 82.9              | ----              | ----              | 90.8              | ----              |
| 1,2-Dichlorobenzene-D4                      | 2199-69-1  | 0.5    | %    |                  | 95.6              | ----              | ----              | 99.7              | ----              |
| 2-Fluorobiphenyl                            | 321-60-8   | 0.5    | %    |                  | 124               | ----              | ----              | 125               | ----              |
| Anthracene-d10                              | 1719-06-8  | 0.5    | %    |                  | 96.1              | ----              | ----              | 93.6              | ----              |
| 4-Terphenyl-d14                             | 1718-51-0  | 0.5    | %    |                  | 122               | ----              | ----              | 120               | ----              |
| EP080S: TPH(V)/BTEX Surrogates              |            |        |      |                  |                   |                   |                   |                   |                   |
| 1,2-Dichloroethane-D4                       | 17060-07-0 | 0.2    | %    |                  | 93.7              | ----              | ----              | 100               | ----              |
| Toluene-D8                                  | 2037-26-5  | 0.2    | %    |                  | 80.9              | ----              | ----              | 86.4              | ----              |
| 4-Bromofluorobenzene                        | 460-00-4   | 0.2    | %    |                  | 84.3              | ----              | ----              | 87.3              | ----              |
| EP231S: PFAS Surrogate                      |            |        |      |                  |                   |                   |                   |                   |                   |
| 13C4-PFOS                                   | ----       | 0.0002 | %    |                  | ----              | 77.5              | ----              | ----              | ----              |
| 13C8-PFOA                                   | ----       | 0.0002 | %    |                  | ----              | 78.5              | ----              | ----              | ----              |

# (Preliminary Report)

Page : 14 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                        |            |      |         | Client sample ID | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH305 / 0.4E      | BH305 / 0.4E      |
|-----------------------------------------------------------|------------|------|---------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                               |            |      |         |                  | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 20-Jul-2019 00:00 | 20-Jul-2019 00:00 |
| Compound                                                  | CAS Number | LOR  | Unit    |                  | ES1924021-007     | ES1924021-008     | ES1924021-009     | ES1924021-011     | ES1924021-012     |
|                                                           |            |      |         |                  | Result            | Result            | Result            | Result            | Result            |
| EA055: Moisture Content (Dried @ 105-110°C)               |            |      |         |                  |                   |                   |                   |                   |                   |
| Moisture Content                                          | ----       | 0.1  | %       | ----             | 15.1              | ----              | ----              | ----              | 13.1              |
| Moisture Content                                          | ----       | 1.0  | %       | 16.7             | ----              | ----              | 13.5              | ----              | ----              |
| EA200: AS 4964 - 2004 Identification of Asbestos in Soils |            |      |         |                  |                   |                   |                   |                   |                   |
| Asbestos Detected                                         | 1332-21-4  | 0.1  | g/kg    | ----             | ----              | No                | ----              | ----              | ----              |
| Asbestos (Trace)                                          | 1332-21-4  | 5    | Fibres  | ----             | ----              | No                | ----              | ----              | ----              |
| Asbestos Type                                             | 1332-21-4  | -    | --      | ----             | ----              | -                 | ----              | ----              | ----              |
| Sample weight (dry)                                       | ----       | 0.01 | g       | ----             | ----              | 17.0              | ----              | ----              | ----              |
| APPROVED IDENTIFIER:                                      | ----       | -    | --      | ----             | ----              | A. SMYLIE         | ----              | ----              | ----              |
| Synthetic Mineral Fibre                                   | ----       | 0.1  | g/kg    | ----             | ----              | No                | ----              | ----              | ----              |
| Organic Fibre                                             | ----       | 0.1  | g/kg    | ----             | ----              | No                | ----              | ----              | ----              |
| EG005(ED093)T: Total Metals by ICP-AES                    |            |      |         |                  |                   |                   |                   |                   |                   |
| Arsenic                                                   | 7440-38-2  | 5    | mg/kg   | 12               | ----              | ----              | 6                 | ----              | ----              |
| Cadmium                                                   | 7440-43-9  | 1    | mg/kg   | <1               | ----              | ----              | <1                | ----              | ----              |
| Chromium                                                  | 7440-47-3  | 2    | mg/kg   | 14               | ----              | ----              | 10                | ----              | ----              |
| Copper                                                    | 7440-50-8  | 5    | mg/kg   | 22               | ----              | ----              | 12                | ----              | ----              |
| Lead                                                      | 7439-92-1  | 5    | mg/kg   | 17               | ----              | ----              | 43                | ----              | ----              |
| Nickel                                                    | 7440-02-0  | 2    | mg/kg   | 10               | ----              | ----              | 24                | ----              | ----              |
| Zinc                                                      | 7440-66-6  | 5    | mg/kg   | 43               | ----              | ----              | 49                | ----              | ----              |
| EG035T: Total Recoverable Mercury by FIMS                 |            |      |         |                  |                   |                   |                   |                   |                   |
| Mercury                                                   | 7439-97-6  | 0.1  | mg/kg   | <0.1             | ----              | ----              | <0.1              | ----              | ----              |
| EN33: TCLP Leach                                          |            |      |         |                  |                   |                   |                   |                   |                   |
| Initial pH                                                | ----       | 0.1  | pH Unit | ----             | ----              | ----              | 8.4               | ----              | ----              |
| After HCl pH                                              | ----       | 0.1  | pH Unit | ----             | ----              | ----              | 1.3               | ----              | ----              |
| Extraction Fluid Number                                   | ----       | 1    | -       | ----             | ----              | ----              | 1                 | ----              | ----              |
| Final pH                                                  | ----       | 0.1  | pH Unit | ----             | ----              | ----              | 5.0               | ----              | ----              |
| EP066: Polychlorinated Biphenyls (PCB)                    |            |      |         |                  |                   |                   |                   |                   |                   |
| Total Polychlorinated biphenyls                           | ----       | 0.1  | mg/kg   | <0.1             | ----              | ----              | <0.1              | ----              | ----              |
| EP074A: Monocyclic Aromatic Hydrocarbons                  |            |      |         |                  |                   |                   |                   |                   |                   |
| Styrene                                                   | 100-42-5   | 0.5  | mg/kg   | <0.5             | ----              | ----              | <0.5              | ----              | ----              |
| Isopropylbenzene                                          | 98-82-8    | 0.5  | mg/kg   | <0.5             | ----              | ----              | <0.5              | ----              | ----              |
| n-Propylbenzene                                           | 103-65-1   | 0.5  | mg/kg   | <0.5             | ----              | ----              | <0.5              | ----              | ----              |
| 1,3,5-Trimethylbenzene                                    | 108-67-8   | 0.5  | mg/kg   | <0.5             | ----              | ----              | <0.5              | ----              | ----              |
| sec-Butylbenzene                                          | 135-98-8   | 0.5  | mg/kg   | <0.5             | ----              | ----              | <0.5              | ----              | ----              |
| 1,2,4-Trimethylbenzene                                    | 95-63-6    | 0.5  | mg/kg   | <0.5             | ----              | ----              | <0.5              | ----              | ----              |

(Preliminary Report)

Page : 15 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                   |            |     |       | Client sample ID | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH305 / 0.4E      | BH305 / 0.4E      |
|------------------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                          |            |     |       |                  | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 20-Jul-2019 00:00 | 20-Jul-2019 00:00 |
| Compound                                             | CAS Number | LOR | Unit  |                  | ES1924021-007     | ES1924021-008     | ES1924021-009     | ES1924021-011     | ES1924021-012     |
|                                                      |            |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| EP074A: Monocyclic Aromatic Hydrocarbons - Continued |            |     |       |                  |                   |                   |                   |                   |                   |
| tert-Butylbenzene                                    | 98-06-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| p-Isopropyltoluene                                   | 99-87-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| n-Butylbenzene                                       | 104-51-8   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP074B: Oxygenated Compounds                         |            |     |       |                  |                   |                   |                   |                   |                   |
| Vinyl Acetate                                        | 108-05-4   | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| 2-Butanone (MEK)                                     | 78-93-3    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| 4-Methyl-2-pentanone (MIBK)                          | 108-10-1   | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| 2-Hexanone (MBK)                                     | 591-78-6   | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| EP074C: Sulfonated Compounds                         |            |     |       |                  |                   |                   |                   |                   |                   |
| Carbon disulfide                                     | 75-15-0    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP074D: Fumigants                                    |            |     |       |                  |                   |                   |                   |                   |                   |
| 2,2-Dichloropropane                                  | 594-20-7   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2-Dichloropropane                                  | 78-87-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| cis-1,3-Dichloropropylene                            | 10061-01-5 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| trans-1,3-Dichloropropylene                          | 10061-02-6 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2-Dibromoethane (EDB)                              | 106-93-4   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP074E: Halogenated Aliphatic Compounds              |            |     |       |                  |                   |                   |                   |                   |                   |
| Dichlorodifluoromethane                              | 75-71-8    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Chloromethane                                        | 74-87-3    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Vinyl chloride                                       | 75-01-4    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Bromomethane                                         | 74-83-9    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Chloroethane                                         | 75-00-3    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Trichlorofluoromethane                               | 75-69-4    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| 1,1-Dichloroethene                                   | 75-35-4    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Iodomethane                                          | 74-88-4    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| trans-1,2-Dichloroethene                             | 156-60-5   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,1-Dichloroethane                                   | 75-34-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| cis-1,2-Dichloroethene                               | 156-59-2   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,1,1-Trichloroethane                                | 71-55-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,1-Dichloropropylene                                | 563-58-6   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Carbon Tetrachloride                                 | 56-23-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2-Dichloroethane                                   | 107-06-2   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Trichloroethene                                      | 79-01-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Dibromomethane                                       | 74-95-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |

(Preliminary Report)

Page : 16 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                  |                   |     |       | Client sample ID | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH305 / 0.4E      | BH305 / 0.4E      |
|-----------------------------------------------------|-------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                         |                   |     |       |                  | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 20-Jul-2019 00:00 | 20-Jul-2019 00:00 |
| Compound                                            | CAS Number        | LOR | Unit  |                  | ES1924021-007     | ES1924021-008     | ES1924021-009     | ES1924021-011     | ES1924021-012     |
|                                                     |                   |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| EP074E: Halogenated Aliphatic Compounds - Continued |                   |     |       |                  |                   |                   |                   |                   |                   |
| 1.1.2-Trichloroethane                               | 79-00-5           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.3-Dichloropropane                                 | 142-28-9          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Tetrachloroethene                                   | 127-18-4          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.1.1.2-Tetrachloroethane                           | 630-20-6          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| trans-1.4-Dichloro-2-butene                         | 110-57-6          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| cis-1.4-Dichloro-2-butene                           | 1476-11-5         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.1.2.2-Tetrachloroethane                           | 79-34-5           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.2.3-Trichloropropane                              | 96-18-4           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Pentachloroethane                                   | 76-01-7           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.2-Dibromo-3-chloropropane                         | 96-12-8           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP074F: Halogenated Aromatic Compounds              |                   |     |       |                  |                   |                   |                   |                   |                   |
| Chlorobenzene                                       | 108-90-7          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Bromobenzene                                        | 108-86-1          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 2-Chlorotoluene                                     | 95-49-8           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4-Chlorotoluene                                     | 106-43-4          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.2.3-Trichlorobenzene                              | 87-61-6           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP074G: Trihalomethanes                             |                   |     |       |                  |                   |                   |                   |                   |                   |
| Chloroform                                          | 67-66-3           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Bromodichloromethane                                | 75-27-4           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Dibromochloromethane                                | 124-48-1          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Bromoform                                           | 75-25-2           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons      |                   |     |       |                  |                   |                   |                   |                   |                   |
| Naphthalene                                         | 91-20-3           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Acenaphthylene                                      | 208-96-8          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Acenaphthene                                        | 83-32-9           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | 0.7               | ----              |
| Fluorene                                            | 86-73-7           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | 0.7               | ----              |
| Phenanthrene                                        | 85-01-8           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | 10.1              | ----              |
| Anthracene                                          | 120-12-7          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | 3.8               | ----              |
| Fluoranthene                                        | 206-44-0          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | 15.2              | ----              |
| Pyrene                                              | 129-00-0          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | 16.5              | ----              |
| Benz(a)anthracene                                   | 56-55-3           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | 14.4              | ----              |
| Chrysene                                            | 218-01-9          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | 13.0              | ----              |
| Benzo(b+j)fluoranthene                              | 205-99-2 205-82-3 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | 18.3              | ----              |
| Benzo(k)fluoranthene                                | 207-08-9          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | 6.7               | ----              |

Page : 17 of 67  
Work Order : ES1924021  
Client : GOLDER  
Project : 19125312

## Analytical Results

Sub-Matrix: **SOIL**  
(Matrix: **SOIL**)

Client sample ID

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                         |            |     |       | Client sample ID  |  | BH304 / 0.7E      |  | BH304 / 0.7E      |  | BH304 / 0.7E      |  | BH305 / 0.4E      |  | BH305 / 0.4E      |  |
|------------------------------------------------------------|------------|-----|-------|-------------------|--|-------------------|--|-------------------|--|-------------------|--|-------------------|--|-------------------|--|
| Client sampling date / time                                |            |     |       | 11-Jul-2019 00:00 |  | 11-Jul-2019 00:00 |  | 11-Jul-2019 00:00 |  | 20-Jul-2019 00:00 |  | 20-Jul-2019 00:00 |  | 20-Jul-2019 00:00 |  |
| Compound                                                   | CAS Number | LOR | Unit  | ES1924021-007     |  | ES1924021-008     |  | ES1924021-009     |  | ES1924021-011     |  | ES1924021-012     |  |                   |  |
|                                                            |            |     |       | Result            |  | Result            |  | Result            |  | Result            |  | Result            |  |                   |  |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued |            |     |       |                   |  |                   |  |                   |  |                   |  |                   |  |                   |  |
| Benzo(a)pyrene                                             | 50-32-8    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | 17.5              |  | ----              |  |                   |  |
| Indeno(1.2.3.cd)pyrene                                     | 193-39-5   | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | 8.0               |  | ----              |  |                   |  |
| Dibenz(a,h)anthracene                                      | 53-70-3    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | 2.7               |  | ----              |  |                   |  |
| Benzo(g,h,i)perylene                                       | 191-24-2   | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | 10.2              |  | ----              |  |                   |  |
| ^ Sum of polycyclic aromatic hydrocarbons                  | ----       | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | 138               |  | ----              |  |                   |  |
| ^ Benzo(a)pyrene TEQ (zero)                                | ----       | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | 25.2              |  | ----              |  |                   |  |
| ^ Benzo(a)pyrene TEQ (half LOR)                            | ----       | 0.5 | mg/kg | 0.6               |  | ----              |  | ----              |  | 25.2              |  | ----              |  |                   |  |
| ^ Benzo(a)pyrene TEQ (LOR)                                 | ----       | 0.5 | mg/kg | 1.2               |  | ----              |  | ----              |  | 25.2              |  | ----              |  |                   |  |
| EP075A: Phenolic Compounds                                 |            |     |       |                   |  |                   |  |                   |  |                   |  |                   |  |                   |  |
| Phenol                                                     | 108-95-2   | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  |                   |  |
| 2-Chlorophenol                                             | 95-57-8    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  |                   |  |
| 2-Methylphenol                                             | 95-48-7    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  |                   |  |
| 3- & 4-Methylphenol                                        | 1319-77-3  | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  |                   |  |
| 2-Nitrophenol                                              | 88-75-5    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  |                   |  |
| 2,4-Dimethylphenol                                         | 105-67-9   | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  |                   |  |
| 2,4-Dichlorophenol                                         | 120-83-2   | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  |                   |  |
| 2,6-Dichlorophenol                                         | 87-65-0    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  |                   |  |
| 4-Chloro-3-methylphenol                                    | 59-50-7    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  |                   |  |
| 2,4,6-Trichlorophenol                                      | 88-06-2    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  |                   |  |
| 2,4,5-Trichlorophenol                                      | 95-95-4    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  |                   |  |
| Pentachlorophenol                                          | 87-86-5    | 1   | mg/kg | <1                |  | ----              |  | ----              |  | <1                |  | ----              |  |                   |  |
| EP075B: Polynuclear Aromatic Hydrocarbons                  |            |     |       |                   |  |                   |  |                   |  |                   |  |                   |  |                   |  |
| 2-Methylnaphthalene                                        | 91-57-6    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  |                   |  |
| N-2-Fluorenyl Acetamide                                    | 53-96-3    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  |                   |  |
| 7.12-Dimethylbenz(a)anthracene                             | 57-97-6    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  |                   |  |
| 3-Methylcholanthrene                                       | 56-49-5    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  |                   |  |
| EP075C: Phthalate Esters                                   |            |     |       |                   |  |                   |  |                   |  |                   |  |                   |  |                   |  |
| Dimethyl phthalate                                         | 131-11-3   | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  |                   |  |
| Diethyl phthalate                                          | 84-66-2    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  |                   |  |
| Di-n-butyl phthalate                                       | 84-74-2    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  |                   |  |
| Butyl benzyl phthalate                                     | 85-68-7    | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  |                   |  |
| bis(2-ethylhexyl) phthalate                                | 117-81-7   | 5.0 | mg/kg | <5.0              |  | ----              |  | ----              |  | <5.0              |  | ----              |  |                   |  |
| Di-n-octylphthalate                                        | 117-84-0   | 0.5 | mg/kg | <0.5              |  | ----              |  | ----              |  | <0.5              |  | ----              |  |                   |  |
| EP075D: Nitrosamines                                       |            |     |       |                   |  |                   |  |                   |  |                   |  |                   |  |                   |  |



| Sub-Matrix: SOIL<br>(Matrix: SOIL) |                  |     |       | Client sample ID  | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH305 / 0.4E      | BH305 / 0.4E |
|------------------------------------|------------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------|
| Client sampling date / time        |                  |     |       | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 20-Jul-2019 00:00 | 20-Jul-2019 00:00 |              |
| Compound                           | CAS Number       | LOR | Unit  | ES1924021-007     | ES1924021-008     | ES1924021-009     | ES1924021-011     | ES1924021-012     |              |
|                                    |                  |     |       | Result            | Result            | Result            | Result            | Result            |              |
| EP075D: Nitrosamines - Continued   |                  |     |       |                   |                   |                   |                   |                   |              |
| N-Nitrosomethylethylamine          | 10595-95-6       | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| N-Nitrosodiethylamine              | 55-18-5          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| N-Nitrosopyrrolidine               | 930-55-2         | 1.0 | mg/kg | <1.0              | ----              | ----              | <1.0              | ----              |              |
| N-Nitrosomorpholine                | 59-89-2          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| N-Nitrosodi-n-propylamine          | 621-64-7         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| N-Nitrosopiperidine                | 100-75-4         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| N-Nitrosodibutylamine              | 924-16-3         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| N-Nitrosodiphenyl & Diphenylamine  | 86-30-6 122-39-4 | 1.0 | mg/kg | <1.0              | ----              | ----              | <1.0              | ----              |              |
| Methapyrilene                      | 91-80-5          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| EP075E: Nitroaromatics and Ketones |                  |     |       |                   |                   |                   |                   |                   |              |
| 2-Picoline                         | 109-06-8         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Acetophenone                       | 98-86-2          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Nitrobenzene                       | 98-95-3          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Isophorone                         | 78-59-1          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| 2,6-Dinitrotoluene                 | 606-20-2         | 1.0 | mg/kg | <1.0              | ----              | ----              | <1.0              | ----              |              |
| 2,4-Dinitrotoluene                 | 121-14-2         | 1.0 | mg/kg | <1.0              | ----              | ----              | <1.0              | ----              |              |
| 1-Naphthylamine                    | 134-32-7         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| 4-Nitroquinoline-N-oxide           | 56-57-5          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| 5-Nitro-o-toluidine                | 99-55-8          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Azobenzene                         | 103-33-3         | 1   | mg/kg | <1                | ----              | ----              | <1                | ----              |              |
| 1,3,5-Trinitrobenzene              | 99-35-4          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Phenacetin                         | 62-44-2          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| 4-Aminobiphenyl                    | 92-67-1          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Pentachloronitrobenzene            | 82-68-8          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Pronamide                          | 23950-58-5       | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Dimethylaminoazobenzene            | 60-11-7          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Chlorobenzilate                    | 510-15-6         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| EP075F: Haloethers                 |                  |     |       |                   |                   |                   |                   |                   |              |
| Bis(2-chloroethyl) ether           | 111-44-4         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Bis(2-chloroethoxy) methane        | 111-91-1         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| 4-Chlorophenyl phenyl ether        | 7005-72-3        | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| 4-Bromophenyl phenyl ether         | 101-55-3         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| EP075G: Chlorinated Hydrocarbons   |                  |     |       |                   |                   |                   |                   |                   |              |

(Preliminary Report)

Page : 19 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)           |            |     |       | Client sample ID | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH305 / 0.4E      | BH305 / 0.4E      |
|----------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                  |            |     |       |                  | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 20-Jul-2019 00:00 | 20-Jul-2019 00:00 |
| Compound                                     | CAS Number | LOR | Unit  |                  | ES1924021-007     | ES1924021-008     | ES1924021-009     | ES1924021-011     | ES1924021-012     |
|                                              |            |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| EP075G: Chlorinated Hydrocarbons - Continued |            |     |       |                  |                   |                   |                   |                   |                   |
| 1,3-Dichlorobenzene                          | 541-73-1   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,4-Dichlorobenzene                          | 106-46-7   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2-Dichlorobenzene                          | 95-50-1    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Hexachloroethane                             | 67-72-1    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2,4-Trichlorobenzene                       | 120-82-1   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Hexachloropropylene                          | 1888-71-7  | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Hexachlorobutadiene                          | 87-68-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Hexachlorocyclopentadiene                    | 77-47-4    | 2.5 | mg/kg |                  | <2.5              | ----              | ----              | <2.5              | ----              |
| Pentachlorobenzene                           | 608-93-5   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Hexachlorobenzene (HCB)                      | 118-74-1   | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | <1.0              | ----              |
| EP075H: Anilines and Benzidines              |            |     |       |                  |                   |                   |                   |                   |                   |
| Aniline                                      | 62-53-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4-Chloroaniline                              | 106-47-8   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 2-Nitroaniline                               | 88-74-4    | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | <1.0              | ----              |
| 3-Nitroaniline                               | 99-09-2    | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | <1.0              | ----              |
| Dibenzofuran                                 | 132-64-9   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | 0.6               | ----              |
| 4-Nitroaniline                               | 100-01-6   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Carbazole                                    | 86-74-8    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | 1.5               | ----              |
| 3,3'-Dichlorobenzidine                       | 91-94-1    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP075I: Organochlorine Pesticides            |            |     |       |                  |                   |                   |                   |                   |                   |
| alpha-BHC                                    | 319-84-6   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| beta-BHC                                     | 319-85-7   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| gamma-BHC                                    | 58-89-9    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| delta-BHC                                    | 319-86-8   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Heptachlor                                   | 76-44-8    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Aldrin                                       | 309-00-2   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Heptachlor epoxide                           | 1024-57-3  | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| alpha-Endosulfan                             | 959-98-8   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4,4'-DDE                                     | 72-55-9    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Dieldrin                                     | 60-57-1    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Endrin                                       | 72-20-8    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| beta-Endosulfan                              | 33213-65-9 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4,4'-DDD                                     | 72-54-8    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Endosulfan sulfate                           | 1031-07-8  | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |

(Preliminary Report)

Page : 20 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                                     |                   |     |       | Client sample ID | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH305 / 0.4E      | BH305 / 0.4E      |
|------------------------------------------------------------------------|-------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                            |                   |     |       |                  | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 20-Jul-2019 00:00 | 20-Jul-2019 00:00 |
| Compound                                                               | CAS Number        | LOR | Unit  |                  | ES1924021-007     | ES1924021-008     | ES1924021-009     | ES1924021-011     | ES1924021-012     |
|                                                                        |                   |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP075I: Organochlorine Pesticides - Continued</b>                   |                   |     |       |                  |                   |                   |                   |                   |                   |
| 4,4'-DDT                                                               | 50-29-3           | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | <1.0              | ----              |
| <b>EP075J: Organophosphorus Pesticides</b>                             |                   |     |       |                  |                   |                   |                   |                   |                   |
| Dichlorvos                                                             | 62-73-7           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Dimethoate                                                             | 60-51-5           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Diazinon                                                               | 333-41-5          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Chlorpyrifos-methyl                                                    | 5598-13-0         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Malathion                                                              | 121-75-5          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Fenthion                                                               | 55-38-9           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Chlorpyrifos                                                           | 2921-88-2         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Pirimphos-ethyl                                                        | 23505-41-1        | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Chlorfenvinphos                                                        | 470-90-6          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Prothiofos                                                             | 34643-46-4        | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Ethion                                                                 | 563-12-2          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| <b>EP080/071: Total Petroleum Hydrocarbons</b>                         |                   |     |       |                  |                   |                   |                   |                   |                   |
| C6 - C9 Fraction                                                       | ----              | 10  | mg/kg |                  | <10               | ----              | ----              | <10               | ----              |
| C10 - C14 Fraction                                                     | ----              | 50  | mg/kg |                  | <50               | ----              | ----              | <50               | ----              |
| C15 - C28 Fraction                                                     | ----              | 100 | mg/kg |                  | <100              | ----              | ----              | 460               | ----              |
| C29 - C36 Fraction                                                     | ----              | 100 | mg/kg |                  | <100              | ----              | ----              | 480               | ----              |
| ^ C10 - C36 Fraction (sum)                                             | ----              | 50  | mg/kg |                  | <50               | ----              | ----              | 940               | ----              |
| <b>EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions</b> |                   |     |       |                  |                   |                   |                   |                   |                   |
| C6 - C10 Fraction                                                      | C6_C10            | 10  | mg/kg |                  | <10               | ----              | ----              | <10               | ----              |
| ^ C6 - C10 Fraction minus BTEX (F1)                                    | C6_C10-BTEX       | 10  | mg/kg |                  | <10               | ----              | ----              | <10               | ----              |
| >C10 - C16 Fraction                                                    | ----              | 50  | mg/kg |                  | <50               | ----              | ----              | <50               | ----              |
| >C16 - C34 Fraction                                                    | ----              | 100 | mg/kg |                  | <100              | ----              | ----              | 830               | ----              |
| >C34 - C40 Fraction                                                    | ----              | 100 | mg/kg |                  | <100              | ----              | ----              | 240               | ----              |
| ^ >C10 - C40 Fraction (sum)                                            | ----              | 50  | mg/kg |                  | <50               | ----              | ----              | 1070              | ----              |
| ^ >C10 - C16 Fraction minus Naphthalene (F2)                           | ----              | 50  | mg/kg |                  | <50               | ----              | ----              | <50               | ----              |
| <b>EP080: BTEXN</b>                                                    |                   |     |       |                  |                   |                   |                   |                   |                   |
| Benzene                                                                | 71-43-2           | 0.2 | mg/kg |                  | <0.2              | ----              | ----              | <0.2              | ----              |
| Toluene                                                                | 108-88-3          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Ethylbenzene                                                           | 100-41-4          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| meta- & para-Xylene                                                    | 108-38-3 106-42-3 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |



| Sub-Matrix: SOIL<br>(Matrix: SOIL)      |            |        |       | Client sample ID  | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH305 / 0.4E      | BH305 / 0.4E |
|-----------------------------------------|------------|--------|-------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------|
| Client sampling date / time             |            |        |       | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 20-Jul-2019 00:00 | 20-Jul-2019 00:00 |              |
| Compound                                | CAS Number | LOR    | Unit  | ES1924021-007     | ES1924021-008     | ES1924021-009     | ES1924021-011     | ES1924021-012     |              |
|                                         |            |        |       | Result            | Result            | Result            | Result            | Result            |              |
| EP080: BTEXN - Continued                |            |        |       |                   |                   |                   |                   |                   |              |
| ortho-Xylene                            | 95-47-6    | 0.5    | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| ^ Sum of BTEX                           | ----       | 0.2    | mg/kg | <0.2              | ----              | ----              | <0.2              | ----              |              |
| ^ Total Xylenes                         | ----       | 0.5    | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Naphthalene                             | 91-20-3    | 1      | mg/kg | <1                | ----              | ----              | <1                | ----              |              |
| EP231A: Perfluoroalkyl Sulfonic Acids   |            |        |       |                   |                   |                   |                   |                   |              |
| Perfluorobutane sulfonic acid (PFBS)    | 375-73-5   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | <0.0002           |              |
| Perfluoropentane sulfonic acid (PFPeS)  | 2706-91-4  | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | <0.0002           |              |
| Perfluorohexane sulfonic acid (PFHxS)   | 355-46-4   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | <0.0002           |              |
| Perfluoroheptane sulfonic acid (PFHpS)  | 375-92-8   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | <0.0002           |              |
| Perfluorooctane sulfonic acid (PFOS)    | 1763-23-1  | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | <0.0002           |              |
| Perfluorodecane sulfonic acid (PFDS)    | 335-77-3   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | <0.0002           |              |
| EP231B: Perfluoroalkyl Carboxylic Acids |            |        |       |                   |                   |                   |                   |                   |              |
| Perfluorobutanoic acid (PFBA)           | 375-22-4   | 0.001  | mg/kg | ----              | <0.001            | ----              | ----              | <0.001            |              |
| Perfluoropentanoic acid (PFPeA)         | 2706-90-3  | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | <0.0002           |              |
| Perfluorohexanoic acid (PFHxA)          | 307-24-4   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | <0.0002           |              |
| Perfluoroheptanoic acid (PFHpA)         | 375-85-9   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | <0.0002           |              |
| Perfluorooctanoic acid (PFOA)           | 335-67-1   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | <0.0002           |              |
| Perfluorononanoic acid (PFNA)           | 375-95-1   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | <0.0002           |              |
| Perfluorodecanoic acid (PFDA)           | 335-76-2   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | <0.0002           |              |
| Perfluoroundecanoic acid (PFUnDA)       | 2058-94-8  | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | <0.0002           |              |
| Perfluorododecanoic acid (PFDoDA)       | 307-55-1   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | <0.0002           |              |
| Perfluorotridecanoic acid (PFTTrDA)     | 72629-94-8 | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | <0.0002           |              |
| Perfluorotetradecanoic acid (PFTeDA)    | 376-06-7   | 0.0005 | mg/kg | ----              | <0.0005           | ----              | ----              | <0.0005           |              |
| EP231C: Perfluoroalkyl Sulfonamides     |            |        |       |                   |                   |                   |                   |                   |              |

# (Preliminary Report)

Page : 22 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                        |                    |        |       | Client sample ID | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH305 / 0.4E      | BH305 / 0.4E      |
|-----------------------------------------------------------|--------------------|--------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                               |                    |        |       |                  | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 20-Jul-2019 00:00 | 20-Jul-2019 00:00 |
| Compound                                                  | CAS Number         | LOR    | Unit  |                  | ES1924021-007     | ES1924021-008     | ES1924021-009     | ES1924021-011     | ES1924021-012     |
|                                                           |                    |        |       |                  | Result            | Result            | Result            | Result            | Result            |
| EP231C: Perfluoroalkyl Sulfonamides - Continued           |                    |        |       |                  |                   |                   |                   |                   |                   |
| Perfluorooctane sulfonamide (FOSA)                        | 754-91-6           | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| N-Methyl perfluorooctane sulfonamide (MeFOSA)             | 31506-32-8         | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | <0.0005           |
| N-Ethyl perfluorooctane sulfonamide (EtFOSA)              | 4151-50-2          | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | <0.0005           |
| N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)      | 24448-09-7         | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | <0.0005           |
| N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)       | 1691-99-2          | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | <0.0005           |
| N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA) | 2355-31-9          | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)  | 2991-50-6          | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| EP231D: (n:2) Fluorotelomer Sulfonic Acids                |                    |        |       |                  |                   |                   |                   |                   |                   |
| 4:2 Fluorotelomer sulfonic acid (4:2 FTS)                 | 757124-72-4        | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | <0.0005           |
| 6:2 Fluorotelomer sulfonic acid (6:2 FTS)                 | 27619-97-2         | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | <0.0005           |
| 8:2 Fluorotelomer sulfonic acid (8:2 FTS)                 | 39108-34-4         | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | <0.0005           |
| 10:2 Fluorotelomer sulfonic acid (10:2 FTS)               | 120226-60-0        | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | <0.0005           |
| EP231P: PFAS Sums                                         |                    |        |       |                  |                   |                   |                   |                   |                   |
| Sum of PFAS                                               | ----               | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Sum of PFHxS and PFOS                                     | 355-46-4/1763-23-1 | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Sum of PFAS (WA DER List)                                 | ----               | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| EP066S: PCB Surrogate                                     |                    |        |       |                  |                   |                   |                   |                   |                   |
| Decachlorobiphenyl                                        | 2051-24-3          | 0.1    | %     |                  | 94.5              | ----              | ----              | 71.5              | ----              |
| EP074S: VOC Surrogates                                    |                    |        |       |                  |                   |                   |                   |                   |                   |
| 1,2-Dichloroethane-D4                                     | 17060-07-0         | 0.5    | %     |                  | 98.6              | ----              | ----              | 105               | ----              |
| Toluene-D8                                                | 2037-26-5          | 0.5    | %     |                  | 108               | ----              | ----              | 89.2              | ----              |

# (Preliminary Report)

Page : 23 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)          |            |        |      | Client sample ID | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH305 / 0.4E      | BH305 / 0.4E      |
|---------------------------------------------|------------|--------|------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                 |            |        |      |                  | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 20-Jul-2019 00:00 | 20-Jul-2019 00:00 |
| Compound                                    | CAS Number | LOR    | Unit |                  | ES1924021-007     | ES1924021-008     | ES1924021-009     | ES1924021-011     | ES1924021-012     |
|                                             |            |        |      |                  | Result            | Result            | Result            | Result            | Result            |
| EP074S: VOC Surrogates - Continued          |            |        |      |                  |                   |                   |                   |                   |                   |
| 4-Bromofluorobenzene                        | 460-00-4   | 0.5    | %    |                  | 93.5              | ----              | ----              | 89.0              | ----              |
| EP075(SIM)S: Phenolic Compound Surrogates   |            |        |      |                  |                   |                   |                   |                   |                   |
| Phenol-d6                                   | 13127-88-3 | 0.5    | %    |                  | 81.2              | ----              | ----              | 81.0              | ----              |
| 2-Chlorophenol-D4                           | 93951-73-6 | 0.5    | %    |                  | 87.8              | ----              | ----              | 87.9              | ----              |
| 2,4,6-Tribromophenol                        | 118-79-6   | 0.5    | %    |                  | 67.0              | ----              | ----              | 76.2              | ----              |
| EP075(SIM)T: PAH Surrogates                 |            |        |      |                  |                   |                   |                   |                   |                   |
| 2-Fluorobiphenyl                            | 321-60-8   | 0.5    | %    |                  | 94.2              | ----              | ----              | 95.6              | ----              |
| Anthracene-d10                              | 1719-06-8  | 0.5    | %    |                  | 94.5              | ----              | ----              | 90.4              | ----              |
| 4-Terphenyl-d14                             | 1718-51-0  | 0.5    | %    |                  | 96.8              | ----              | ----              | 101               | ----              |
| EP075S: Acid Extractable Surrogates         |            |        |      |                  |                   |                   |                   |                   |                   |
| 2-Fluorophenol                              | 367-12-4   | 0.5    | %    |                  | 98.5              | ----              | ----              | 102               | ----              |
| Phenol-d6                                   | 13127-88-3 | 0.5    | %    |                  | 90.2              | ----              | ----              | 95.7              | ----              |
| 2-Chlorophenol-D4                           | 93951-73-6 | 0.5    | %    |                  | 101               | ----              | ----              | 103               | ----              |
| 2,4,6-Tribromophenol                        | 118-79-6   | 0.5    | %    |                  | 53.2              | ----              | ----              | 99.1              | ----              |
| EP075T: Base/Neutral Extractable Surrogates |            |        |      |                  |                   |                   |                   |                   |                   |
| Nitrobenzene-D5                             | 4165-60-0  | 0.5    | %    |                  | 97.2              | ----              | ----              | 88.7              | ----              |
| 1,2-Dichlorobenzene-D4                      | 2199-69-1  | 0.5    | %    |                  | 98.6              | ----              | ----              | 102               | ----              |
| 2-Fluorobiphenyl                            | 321-60-8   | 0.5    | %    |                  | 120               | ----              | ----              | 119               | ----              |
| Anthracene-d10                              | 1719-06-8  | 0.5    | %    |                  | 95.1              | ----              | ----              | 87.4              | ----              |
| 4-Terphenyl-d14                             | 1718-51-0  | 0.5    | %    |                  | 121               | ----              | ----              | 108               | ----              |
| EP080S: TPH(V)/BTEX Surrogates              |            |        |      |                  |                   |                   |                   |                   |                   |
| 1,2-Dichloroethane-D4                       | 17060-07-0 | 0.2    | %    |                  | 97.4              | ----              | ----              | 106               | ----              |
| Toluene-D8                                  | 2037-26-5  | 0.2    | %    |                  | 85.2              | ----              | ----              | 94.0              | ----              |
| 4-Bromofluorobenzene                        | 460-00-4   | 0.2    | %    |                  | 86.7              | ----              | ----              | 96.2              | ----              |
| EP231S: PFAS Surrogate                      |            |        |      |                  |                   |                   |                   |                   |                   |
| 13C4-PFOS                                   | ----       | 0.0002 | %    |                  | ----              | 86.5              | ----              | ----              | 98.0              |
| 13C8-PFOA                                   | ----       | 0.0002 | %    |                  | ----              | 72.5              | ----              | ----              | 106               |

# (Preliminary Report)

Page : 24 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                               |            |      |        | Client sample ID | BH305 / 0.4E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 1.5E      |
|------------------------------------------------------------------|------------|------|--------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                      |            |      |        |                  | 20-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 |
| Compound                                                         | CAS Number | LOR  | Unit   |                  | ES1924021-013     | ES1924021-014     | ES1924021-015     | ES1924021-016     | ES1924021-017     |
|                                                                  |            |      |        |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EA055: Moisture Content (Dried @ 105-110°C)</b>               |            |      |        |                  |                   |                   |                   |                   |                   |
| Moisture Content                                                 | ----       | 0.1  | %      |                  | ----              | ----              | 13.4              | ----              | ----              |
| Moisture Content                                                 | ----       | 1.0  | %      |                  | ----              | 8.0               | ----              | ----              | 14.6              |
| <b>EA200: AS 4964 - 2004 Identification of Asbestos in Soils</b> |            |      |        |                  |                   |                   |                   |                   |                   |
| Asbestos Detected                                                | 1332-21-4  | 0.1  | g/kg   |                  | No                | ----              | ----              | Yes               | ----              |
| Asbestos (Trace)                                                 | 1332-21-4  | 5    | Fibres |                  | No                | ----              | ----              | No                | ----              |
| Asbestos Type                                                    | 1332-21-4  | -    | --     |                  | -                 | ----              | ----              | Ch + Am + Cr      | ----              |
| Sample weight (dry)                                              | ----       | 0.01 | g      |                  | 26.6              | ----              | ----              | 52.2              | ----              |
| APPROVED IDENTIFIER:                                             | ----       | -    | --     |                  | A. SMYLIE         | ----              | ----              | A. SMYLIE         | ----              |
| Synthetic Mineral Fibre                                          | ----       | 0.1  | g/kg   |                  | No                | ----              | ----              | No                | ----              |
| Organic Fibre                                                    | ----       | 0.1  | g/kg   |                  | No                | ----              | ----              | No                | ----              |
| <b>EG005(ED093)T: Total Metals by ICP-AES</b>                    |            |      |        |                  |                   |                   |                   |                   |                   |
| Arsenic                                                          | 7440-38-2  | 5    | mg/kg  |                  | ----              | <5                | ----              | ----              | 5                 |
| Cadmium                                                          | 7440-43-9  | 1    | mg/kg  |                  | ----              | <1                | ----              | ----              | <1                |
| Chromium                                                         | 7440-47-3  | 2    | mg/kg  |                  | ----              | 75                | ----              | ----              | 5                 |
| Copper                                                           | 7440-50-8  | 5    | mg/kg  |                  | ----              | 48                | ----              | ----              | 57                |
| Lead                                                             | 7439-92-1  | 5    | mg/kg  |                  | ----              | 205               | ----              | ----              | 17                |
| Nickel                                                           | 7440-02-0  | 2    | mg/kg  |                  | ----              | 76                | ----              | ----              | 7                 |
| Zinc                                                             | 7440-66-6  | 5    | mg/kg  |                  | ----              | 217               | ----              | ----              | 52                |
| <b>EG035T: Total Recoverable Mercury by FIMS</b>                 |            |      |        |                  |                   |                   |                   |                   |                   |
| Mercury                                                          | 7439-97-6  | 0.1  | mg/kg  |                  | ----              | 0.2               | ----              | ----              | <0.1              |
| <b>EP066: Polychlorinated Biphenyls (PCB)</b>                    |            |      |        |                  |                   |                   |                   |                   |                   |
| Total Polychlorinated biphenyls                                  | ----       | 0.1  | mg/kg  |                  | ----              | <0.1              | ----              | ----              | <0.1              |
| <b>EP074A: Monocyclic Aromatic Hydrocarbons</b>                  |            |      |        |                  |                   |                   |                   |                   |                   |
| Styrene                                                          | 100-42-5   | 0.5  | mg/kg  |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Isopropylbenzene                                                 | 98-82-8    | 0.5  | mg/kg  |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| n-Propylbenzene                                                  | 103-65-1   | 0.5  | mg/kg  |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,3,5-Trimethylbenzene                                           | 108-67-8   | 0.5  | mg/kg  |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| sec-Butylbenzene                                                 | 135-98-8   | 0.5  | mg/kg  |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,2,4-Trimethylbenzene                                           | 95-63-6    | 0.5  | mg/kg  |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| tert-Butylbenzene                                                | 98-06-6    | 0.5  | mg/kg  |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| p-Isopropyltoluene                                               | 99-87-6    | 0.5  | mg/kg  |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| n-Butylbenzene                                                   | 104-51-8   | 0.5  | mg/kg  |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| <b>EP074B: Oxygenated Compounds</b>                              |            |      |        |                  |                   |                   |                   |                   |                   |
| Vinyl Acetate                                                    | 108-05-4   | 5    | mg/kg  |                  | ----              | <5                | ----              | ----              | <5                |

(Preliminary Report)

Page : 25 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)       |            |     |       | Client sample ID | BH305 / 0.4E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 1.5E      |
|------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time              |            |     |       |                  | 20-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 |
| Compound                                 | CAS Number | LOR | Unit  |                  | ES1924021-013     | ES1924021-014     | ES1924021-015     | ES1924021-016     | ES1924021-017     |
|                                          |            |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| EP074B: Oxygenated Compounds - Continued |            |     |       |                  |                   |                   |                   |                   |                   |
| 2-Butanone (MEK)                         | 78-93-3    | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | <5                |
| 4-Methyl-2-pentanone (MIBK)              | 108-10-1   | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | <5                |
| 2-Hexanone (MBK)                         | 591-78-6   | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | <5                |
| EP074C: Sulfonated Compounds             |            |     |       |                  |                   |                   |                   |                   |                   |
| Carbon disulfide                         | 75-15-0    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| EP074D: Fumigants                        |            |     |       |                  |                   |                   |                   |                   |                   |
| 2,2-Dichloropropane                      | 594-20-7   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,2-Dichloropropane                      | 78-87-5    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| cis-1,3-Dichloropropylene                | 10061-01-5 | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| trans-1,3-Dichloropropylene              | 10061-02-6 | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,2-Dibromoethane (EDB)                  | 106-93-4   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| EP074E: Halogenated Aliphatic Compounds  |            |     |       |                  |                   |                   |                   |                   |                   |
| Dichlorodifluoromethane                  | 75-71-8    | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | <5                |
| Chloromethane                            | 74-87-3    | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | <5                |
| Vinyl chloride                           | 75-01-4    | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | <5                |
| Bromomethane                             | 74-83-9    | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | <5                |
| Chloroethane                             | 75-00-3    | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | <5                |
| Trichlorofluoromethane                   | 75-69-4    | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | <5                |
| 1,1-Dichloroethene                       | 75-35-4    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Iodomethane                              | 74-88-4    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| trans-1,2-Dichloroethene                 | 156-60-5   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,1-Dichloroethane                       | 75-34-3    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| cis-1,2-Dichloroethene                   | 156-59-2   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,1,1-Trichloroethane                    | 71-55-6    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,1-Dichloropropylene                    | 563-58-6   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Carbon Tetrachloride                     | 56-23-5    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,2-Dichloroethane                       | 107-06-2   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Trichloroethene                          | 79-01-6    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Dibromomethane                           | 74-95-3    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,1,2-Trichloroethane                    | 79-00-5    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,3-Dichloropropane                      | 142-28-9   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Tetrachloroethene                        | 127-18-4   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,1,1,2-Tetrachloroethane                | 630-20-6   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| trans-1,4-Dichloro-2-butene              | 110-57-6   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |

# (Preliminary Report)

Page : 26 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                  |                   |     |       | Client sample ID | BH305 / 0.4E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 1.5E      |
|-----------------------------------------------------|-------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                         |                   |     |       |                  | 20-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 |
| Compound                                            | CAS Number        | LOR | Unit  |                  | ES1924021-013     | ES1924021-014     | ES1924021-015     | ES1924021-016     | ES1924021-017     |
|                                                     |                   |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| EP074E: Halogenated Aliphatic Compounds - Continued |                   |     |       |                  |                   |                   |                   |                   |                   |
| cis-1,4-Dichloro-2-butene                           | 1476-11-5         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,1,2,2-Tetrachloroethane                           | 79-34-5           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,2,3-Trichloropropane                              | 96-18-4           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Pentachloroethane                                   | 76-01-7           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,2-Dibromo-3-chloropropane                         | 96-12-8           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| EP074F: Halogenated Aromatic Compounds              |                   |     |       |                  |                   |                   |                   |                   |                   |
| Chlorobenzene                                       | 108-90-7          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Bromobenzene                                        | 108-86-1          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 2-Chlorotoluene                                     | 95-49-8           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 4-Chlorotoluene                                     | 106-43-4          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,2,3-Trichlorobenzene                              | 87-61-6           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| EP074G: Trihalomethanes                             |                   |     |       |                  |                   |                   |                   |                   |                   |
| Chloroform                                          | 67-66-3           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Bromodichloromethane                                | 75-27-4           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Dibromochloromethane                                | 124-48-1          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Bromoform                                           | 75-25-2           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons      |                   |     |       |                  |                   |                   |                   |                   |                   |
| Naphthalene                                         | 91-20-3           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Acenaphthylene                                      | 208-96-8          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Acenaphthene                                        | 83-32-9           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Fluorene                                            | 86-73-7           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Phenanthrene                                        | 85-01-8           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Anthracene                                          | 120-12-7          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Fluoranthene                                        | 206-44-0          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Pyrene                                              | 129-00-0          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Benz(a)anthracene                                   | 56-55-3           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Chrysene                                            | 218-01-9          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Benzo(b+j)fluoranthene                              | 205-99-2 205-82-3 | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Benzo(k)fluoranthene                                | 207-08-9          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Benzo(a)pyrene                                      | 50-32-8           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Indeno(1,2,3-cd)pyrene                              | 193-39-5          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Dibenz(a,h)anthracene                               | 53-70-3           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Benzo(g,h,i)perylene                                | 191-24-2          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| ^ Sum of polycyclic aromatic hydrocarbons           | ----              | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |

# (Preliminary Report)

Page : 27 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                         |            |     |       | Client sample ID | BH305 / 0.4E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 1.5E      |
|------------------------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                |            |     |       |                  | 20-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 |
| Compound                                                   | CAS Number | LOR | Unit  |                  | ES1924021-013     | ES1924021-014     | ES1924021-015     | ES1924021-016     | ES1924021-017     |
|                                                            |            |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued |            |     |       |                  |                   |                   |                   |                   |                   |
| ^ Benzo(a)pyrene TEQ (zero)                                | ----       | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| ^ Benzo(a)pyrene TEQ (half LOR)                            | ----       | 0.5 | mg/kg |                  | ----              | 0.6               | ----              | ----              | 0.6               |
| ^ Benzo(a)pyrene TEQ (LOR)                                 | ----       | 0.5 | mg/kg |                  | ----              | 1.2               | ----              | ----              | 1.2               |
| EP075A: Phenolic Compounds                                 |            |     |       |                  |                   |                   |                   |                   |                   |
| Phenol                                                     | 108-95-2   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 2-Chlorophenol                                             | 95-57-8    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 2-Methylphenol                                             | 95-48-7    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 3- & 4-Methylphenol                                        | 1319-77-3  | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 2-Nitrophenol                                              | 88-75-5    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 2,4-Dimethylphenol                                         | 105-67-9   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 2,4-Dichlorophenol                                         | 120-83-2   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 2,6-Dichlorophenol                                         | 87-65-0    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 4-Chloro-3-methylphenol                                    | 59-50-7    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 2,4,6-Trichlorophenol                                      | 88-06-2    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 2,4,5-Trichlorophenol                                      | 95-95-4    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Pentachlorophenol                                          | 87-86-5    | 1   | mg/kg |                  | ----              | <1                | ----              | ----              | <1                |
| EP075B: Polynuclear Aromatic Hydrocarbons                  |            |     |       |                  |                   |                   |                   |                   |                   |
| 2-Methylnaphthalene                                        | 91-57-6    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| N-2-Fluorenyl Acetamide                                    | 53-96-3    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 7,12-Dimethylbenz(a)anthracene                             | 57-97-6    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 3-Methylcholanthrene                                       | 56-49-5    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| EP075C: Phthalate Esters                                   |            |     |       |                  |                   |                   |                   |                   |                   |
| Dimethyl phthalate                                         | 131-11-3   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Diethyl phthalate                                          | 84-66-2    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Di-n-butyl phthalate                                       | 84-74-2    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Butyl benzyl phthalate                                     | 85-68-7    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| bis(2-ethylhexyl) phthalate                                | 117-81-7   | 5.0 | mg/kg |                  | ----              | <5.0              | ----              | ----              | <5.0              |
| Di-n-octylphthalate                                        | 117-84-0   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| EP075D: Nitrosamines                                       |            |     |       |                  |                   |                   |                   |                   |                   |
| N-Nitrosomethylethylamine                                  | 10595-95-6 | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| N-Nitrosodiethylamine                                      | 55-18-5    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| N-Nitrosopyrrolidine                                       | 930-55-2   | 1.0 | mg/kg |                  | ----              | <1.0              | ----              | ----              | <1.0              |
| N-Nitrosomorpholine                                        | 59-89-2    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| N-Nitrosodi-n-propylamine                                  | 621-64-7   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |

# (Preliminary Report)

Page : 28 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL) |                  |     |       | Client sample ID | BH305 / 0.4E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 1.5E      |
|------------------------------------|------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time        |                  |     |       |                  | 20-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 |
| Compound                           | CAS Number       | LOR | Unit  |                  | ES1924021-013     | ES1924021-014     | ES1924021-015     | ES1924021-016     | ES1924021-017     |
|                                    |                  |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| EP075D: Nitrosamines - Continued   |                  |     |       |                  |                   |                   |                   |                   |                   |
| N-Nitrosopiperidine                | 100-75-4         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| N-Nitrosodibutylamine              | 924-16-3         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| N-Nitrosodiphenyl & Diphenylamine  | 86-30-6 122-39-4 | 1.0 | mg/kg |                  | ----              | <1.0              | ----              | ----              | <1.0              |
| Methapyrilene                      | 91-80-5          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| EP075E: Nitroaromatics and Ketones |                  |     |       |                  |                   |                   |                   |                   |                   |
| 2-Picoline                         | 109-06-8         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Acetophenone                       | 98-86-2          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Nitrobenzene                       | 98-95-3          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Isophorone                         | 78-59-1          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 2,6-Dinitrotoluene                 | 606-20-2         | 1.0 | mg/kg |                  | ----              | <1.0              | ----              | ----              | <1.0              |
| 2,4-Dinitrotoluene                 | 121-14-2         | 1.0 | mg/kg |                  | ----              | <1.0              | ----              | ----              | <1.0              |
| 1-Naphthylamine                    | 134-32-7         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 4-Nitroquinoline-N-oxide           | 56-57-5          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 5-Nitro-o-toluidine                | 99-55-8          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Azobenzene                         | 103-33-3         | 1   | mg/kg |                  | ----              | <1                | ----              | ----              | <1                |
| 1,3,5-Trinitrobenzene              | 99-35-4          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Phenacetin                         | 62-44-2          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 4-Aminobiphenyl                    | 92-67-1          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Pentachloronitrobenzene            | 82-68-8          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Pronamide                          | 23950-58-5       | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Dimethylaminoazobenzene            | 60-11-7          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Chlorobenzilate                    | 510-15-6         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| EP075F: Haloethers                 |                  |     |       |                  |                   |                   |                   |                   |                   |
| Bis(2-chloroethyl) ether           | 111-44-4         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Bis(2-chloroethoxy) methane        | 111-91-1         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 4-Chlorophenyl phenyl ether        | 7005-72-3        | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 4-Bromophenyl phenyl ether         | 101-55-3         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| EP075G: Chlorinated Hydrocarbons   |                  |     |       |                  |                   |                   |                   |                   |                   |
| 1,3-Dichlorobenzene                | 541-73-1         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,4-Dichlorobenzene                | 106-46-7         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,2-Dichlorobenzene                | 95-50-1          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Hexachloroethane                   | 67-72-1          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,2,4-Trichlorobenzene             | 120-82-1         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |

# (Preliminary Report)

Page : 29 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                  |            |     |       | Client sample ID | BH305 / 0.4E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 1.5E      |
|-----------------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                         |            |     |       |                  | 20-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 |
| Compound                                            | CAS Number | LOR | Unit  |                  | ES1924021-013     | ES1924021-014     | ES1924021-015     | ES1924021-016     | ES1924021-017     |
|                                                     |            |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP075G: Chlorinated Hydrocarbons - Continued</b> |            |     |       |                  |                   |                   |                   |                   |                   |
| Hexachloropropylene                                 | 1888-71-7  | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Hexachlorobutadiene                                 | 87-68-3    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Hexachlorocyclopentadiene                           | 77-47-4    | 2.5 | mg/kg |                  | ----              | <2.5              | ----              | ----              | <2.5              |
| Pentachlorobenzene                                  | 608-93-5   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Hexachlorobenzene (HCB)                             | 118-74-1   | 1.0 | mg/kg |                  | ----              | <1.0              | ----              | ----              | <1.0              |
| <b>EP075H: Anilines and Benzidines</b>              |            |     |       |                  |                   |                   |                   |                   |                   |
| Aniline                                             | 62-53-3    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 4-Chloroaniline                                     | 106-47-8   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 2-Nitroaniline                                      | 88-74-4    | 1.0 | mg/kg |                  | ----              | <1.0              | ----              | ----              | <1.0              |
| 3-Nitroaniline                                      | 99-09-2    | 1.0 | mg/kg |                  | ----              | <1.0              | ----              | ----              | <1.0              |
| Dibenzofuran                                        | 132-64-9   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 4-Nitroaniline                                      | 100-01-6   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Carbazole                                           | 86-74-8    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 3,3'-Dichlorobenzidine                              | 91-94-1    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| <b>EP075I: Organochlorine Pesticides</b>            |            |     |       |                  |                   |                   |                   |                   |                   |
| alpha-BHC                                           | 319-84-6   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| beta-BHC                                            | 319-85-7   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| gamma-BHC                                           | 58-89-9    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| delta-BHC                                           | 319-86-8   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Heptachlor                                          | 76-44-8    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Aldrin                                              | 309-00-2   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Heptachlor epoxide                                  | 1024-57-3  | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| alpha-Endosulfan                                    | 959-98-8   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 4,4'-DDE                                            | 72-55-9    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Dieldrin                                            | 60-57-1    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Endrin                                              | 72-20-8    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| beta-Endosulfan                                     | 33213-65-9 | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 4,4'-DDD                                            | 72-54-8    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Endosulfan sulfate                                  | 1031-07-8  | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 4,4'-DDT                                            | 50-29-3    | 1.0 | mg/kg |                  | ----              | <1.0              | ----              | ----              | <1.0              |
| <b>EP075J: Organophosphorus Pesticides</b>          |            |     |       |                  |                   |                   |                   |                   |                   |
| Dichlorvos                                          | 62-73-7    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Dimethoate                                          | 60-51-5    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Diazinon                                            | 333-41-5   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |



| Sub-Matrix: SOIL<br>(Matrix: SOIL)                              |                   |     |       | Client sample ID  | BH305 / 0.4E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 1.5E      |
|-----------------------------------------------------------------|-------------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                     |                   |     |       | 20-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 |
| Compound                                                        | CAS Number        | LOR | Unit  | ES1924021-013     | ES1924021-014     | ES1924021-015     | ES1924021-016     | ES1924021-017     |                   |
|                                                                 |                   |     |       | Result            | Result            | Result            | Result            | Result            |                   |
| EP075J: Organophosphorus Pesticides - Continued                 |                   |     |       |                   |                   |                   |                   |                   |                   |
| Chlorpyrifos-methyl                                             | 5598-13-0         | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| Malathion                                                       | 121-75-5          | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| Fenthion                                                        | 55-38-9           | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| Chlorpyrifos                                                    | 2921-88-2         | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| Pirimphos-ethyl                                                 | 23505-41-1        | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| Chlorfenvinphos                                                 | 470-90-6          | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| Prothiofos                                                      | 34643-46-4        | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| Ethion                                                          | 563-12-2          | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| EP080/071: Total Petroleum Hydrocarbons                         |                   |     |       |                   |                   |                   |                   |                   |                   |
| C6 - C9 Fraction                                                | ----              | 10  | mg/kg | ----              | <10               | ----              | ----              | <10               |                   |
| C10 - C14 Fraction                                              | ----              | 50  | mg/kg | ----              | <50               | ----              | ----              | <50               |                   |
| C15 - C28 Fraction                                              | ----              | 100 | mg/kg | ----              | <100              | ----              | ----              | <100              |                   |
| C29 - C36 Fraction                                              | ----              | 100 | mg/kg | ----              | <100              | ----              | ----              | <100              |                   |
| ^ C10 - C36 Fraction (sum)                                      | ----              | 50  | mg/kg | ----              | <50               | ----              | ----              | <50               |                   |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions |                   |     |       |                   |                   |                   |                   |                   |                   |
| C6 - C10 Fraction                                               | C6_C10            | 10  | mg/kg | ----              | <10               | ----              | ----              | <10               |                   |
| ^ C6 - C10 Fraction minus BTEX (F1)                             | C6_C10-BTEX       | 10  | mg/kg | ----              | <10               | ----              | ----              | <10               |                   |
| >C10 - C16 Fraction                                             | ----              | 50  | mg/kg | ----              | <50               | ----              | ----              | <50               |                   |
| >C16 - C34 Fraction                                             | ----              | 100 | mg/kg | ----              | <100              | ----              | ----              | <100              |                   |
| >C34 - C40 Fraction                                             | ----              | 100 | mg/kg | ----              | <100              | ----              | ----              | <100              |                   |
| ^ >C10 - C40 Fraction (sum)                                     | ----              | 50  | mg/kg | ----              | <50               | ----              | ----              | <50               |                   |
| ^ >C10 - C16 Fraction minus Naphthalene (F2)                    | ----              | 50  | mg/kg | ----              | <50               | ----              | ----              | <50               |                   |
| EP080: BTEXN                                                    |                   |     |       |                   |                   |                   |                   |                   |                   |
| Benzene                                                         | 71-43-2           | 0.2 | mg/kg | ----              | <0.2              | ----              | ----              | <0.2              |                   |
| Toluene                                                         | 108-88-3          | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| Ethylbenzene                                                    | 100-41-4          | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| meta- & para-Xylene                                             | 108-38-3 106-42-3 | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| ortho-Xylene                                                    | 95-47-6           | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| ^ Sum of BTEX                                                   | ----              | 0.2 | mg/kg | ----              | <0.2              | ----              | ----              | <0.2              |                   |
| ^ Total Xylenes                                                 | ----              | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| Naphthalene                                                     | 91-20-3           | 1   | mg/kg | ----              | <1                | ----              | ----              | <1                |                   |
| EP231A: Perfluoroalkyl Sulfonic Acids                           |                   |     |       |                   |                   |                   |                   |                   |                   |

# (Preliminary Report)

Page : 31 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                       |            |        |       | Client sample ID | BH305 / 0.4E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 1.5E      |
|----------------------------------------------------------|------------|--------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                              |            |        |       |                  | 20-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 |
| Compound                                                 | CAS Number | LOR    | Unit  |                  | ES1924021-013     | ES1924021-014     | ES1924021-015     | ES1924021-016     | ES1924021-017     |
|                                                          |            |        |       |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP231A: Perfluoroalkyl Sulfonic Acids - Continued</b> |            |        |       |                  |                   |                   |                   |                   |                   |
| Perfluorobutane sulfonic acid (PFBS)                     | 375-73-5   | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----              |
| Perfluoropentane sulfonic acid (PFPeS)                   | 2706-91-4  | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----              |
| Perfluorohexane sulfonic acid (PFHxS)                    | 355-46-4   | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----              |
| Perfluoroheptane sulfonic acid (PFHpS)                   | 375-92-8   | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----              |
| Perfluorooctane sulfonic acid (PFOS)                     | 1763-23-1  | 0.0002 | mg/kg |                  | ----              | ----              | 0.0006            | ----              | ----              |
| Perfluorodecane sulfonic acid (PFDS)                     | 335-77-3   | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----              |
| <b>EP231B: Perfluoroalkyl Carboxylic Acids</b>           |            |        |       |                  |                   |                   |                   |                   |                   |
| Perfluorobutanoic acid (PFBA)                            | 375-22-4   | 0.001  | mg/kg |                  | ----              | ----              | <0.001            | ----              | ----              |
| Perfluoropentanoic acid (PFPeA)                          | 2706-90-3  | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----              |
| Perfluorohexanoic acid (PFHxA)                           | 307-24-4   | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----              |
| Perfluoroheptanoic acid (PFHpA)                          | 375-85-9   | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----              |
| Perfluorooctanoic acid (PFOA)                            | 335-67-1   | 0.0002 | mg/kg |                  | ----              | ----              | 0.0004            | ----              | ----              |
| Perfluorononanoic acid (PFNA)                            | 375-95-1   | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----              |
| Perfluorodecanoic acid (PFDA)                            | 335-76-2   | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----              |
| Perfluoroundecanoic acid (PFUnDA)                        | 2058-94-8  | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----              |
| Perfluorododecanoic acid (PFDoDA)                        | 307-55-1   | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----              |
| Perfluorotridecanoic acid (PFTrDA)                       | 72629-94-8 | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----              |
| Perfluorotetradecanoic acid (PFTeDA)                     | 376-06-7   | 0.0005 | mg/kg |                  | ----              | ----              | <0.0005           | ----              | ----              |
| <b>EP231C: Perfluoroalkyl Sulfonamides</b>               |            |        |       |                  |                   |                   |                   |                   |                   |
| Perfluorooctane sulfonamide (FOSA)                       | 754-91-6   | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----              |
| N-Methyl perfluorooctane sulfonamide (MeFOSA)            | 31506-32-8 | 0.0005 | mg/kg |                  | ----              | ----              | <0.0005           | ----              | ----              |
| N-Ethyl perfluorooctane sulfonamide (EtFOSA)             | 4151-50-2  | 0.0005 | mg/kg |                  | ----              | ----              | <0.0005           | ----              | ----              |



| Sub-Matrix: SOIL<br>(Matrix: SOIL)                        |                    |        |       | Client sample ID  | BH305 / 0.4E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 1.5E |
|-----------------------------------------------------------|--------------------|--------|-------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------|
| Client sampling date / time                               |                    |        |       | 20-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 |              |
| Compound                                                  | CAS Number         | LOR    | Unit  | ES1924021-013     | ES1924021-014     | ES1924021-015     | ES1924021-016     | ES1924021-017     |              |
|                                                           |                    |        |       | Result            | Result            | Result            | Result            | Result            |              |
| EP231C: Perfluoroalkyl Sulfonamides - Continued           |                    |        |       |                   |                   |                   |                   |                   |              |
| N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)      | 24448-09-7         | 0.0005 | mg/kg | ----              | ----              | <0.0005           | ----              | ----              |              |
| N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)       | 1691-99-2          | 0.0005 | mg/kg | ----              | ----              | <0.0005           | ----              | ----              |              |
| N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA) | 2355-31-9          | 0.0002 | mg/kg | ----              | ----              | <0.0002           | ----              | ----              |              |
| N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)  | 2991-50-6          | 0.0002 | mg/kg | ----              | ----              | <0.0002           | ----              | ----              |              |
| EP231D: (n:2) Fluorotelomer Sulfonic Acids                |                    |        |       |                   |                   |                   |                   |                   |              |
| 4:2 Fluorotelomer sulfonic acid (4:2 FTS)                 | 757124-72-4        | 0.0005 | mg/kg | ----              | ----              | <0.0005           | ----              | ----              |              |
| 6:2 Fluorotelomer sulfonic acid (6:2 FTS)                 | 27619-97-2         | 0.0005 | mg/kg | ----              | ----              | <0.0005           | ----              | ----              |              |
| 8:2 Fluorotelomer sulfonic acid (8:2 FTS)                 | 39108-34-4         | 0.0005 | mg/kg | ----              | ----              | <0.0005           | ----              | ----              |              |
| 10:2 Fluorotelomer sulfonic acid (10:2 FTS)               | 120226-60-0        | 0.0005 | mg/kg | ----              | ----              | <0.0005           | ----              | ----              |              |
| EP231P: PFAS Sums                                         |                    |        |       |                   |                   |                   |                   |                   |              |
| Sum of PFAS                                               | ----               | 0.0002 | mg/kg | ----              | ----              | 0.0010            | ----              | ----              |              |
| Sum of PFHxS and PFOS                                     | 355-46-4/1763-23-1 | 0.0002 | mg/kg | ----              | ----              | 0.0006            | ----              | ----              |              |
| Sum of PFAS (WA DER List)                                 | ----               | 0.0002 | mg/kg | ----              | ----              | 0.0010            | ----              | ----              |              |
| EP066S: PCB Surrogate                                     |                    |        |       |                   |                   |                   |                   |                   |              |
| Decachlorobiphenyl                                        | 2051-24-3          | 0.1    | %     | ----              | 82.8              | ----              | ----              | 84.3              |              |
| EP074S: VOC Surrogates                                    |                    |        |       |                   |                   |                   |                   |                   |              |
| 1,2-Dichloroethane-D4                                     | 17060-07-0         | 0.5    | %     | ----              | 103               | ----              | ----              | 90.6              |              |
| Toluene-D8                                                | 2037-26-5          | 0.5    | %     | ----              | 113               | ----              | ----              | 95.1              |              |
| 4-Bromofluorobenzene                                      | 460-00-4           | 0.5    | %     | ----              | 98.2              | ----              | ----              | 85.5              |              |
| EP075(SIM)S: Phenolic Compound Surrogates                 |                    |        |       |                   |                   |                   |                   |                   |              |
| Phenol-d6                                                 | 13127-88-3         | 0.5    | %     | ----              | 82.3              | ----              | ----              | 85.7              |              |
| 2-Chlorophenol-D4                                         | 93951-73-6         | 0.5    | %     | ----              | 88.0              | ----              | ----              | 91.8              |              |
| 2,4,6-Tribromophenol                                      | 118-79-6           | 0.5    | %     | ----              | 71.6              | ----              | ----              | 72.6              |              |
| EP075(SIM)T: PAH Surrogates                               |                    |        |       |                   |                   |                   |                   |                   |              |

(Preliminary Report)

Page : 33 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)          |            |        |      | Client sample ID | BH305 / 0.4E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 1.5E      |
|---------------------------------------------|------------|--------|------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                 |            |        |      |                  | 20-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 |
| Compound                                    | CAS Number | LOR    | Unit |                  | ES1924021-013     | ES1924021-014     | ES1924021-015     | ES1924021-016     | ES1924021-017     |
|                                             |            |        |      |                  | Result            | Result            | Result            | Result            | Result            |
| EP075(SIM)T: PAH Surrogates - Continued     |            |        |      |                  |                   |                   |                   |                   |                   |
| 2-Fluorobiphenyl                            | 321-60-8   | 0.5    | %    |                  | ----              | 93.7              | ----              | ----              | 97.9              |
| Anthracene-d10                              | 1719-06-8  | 0.5    | %    |                  | ----              | 92.8              | ----              | ----              | 101               |
| 4-Terphenyl-d14                             | 1718-51-0  | 0.5    | %    |                  | ----              | 96.8              | ----              | ----              | 102               |
| EP075S: Acid Extractable Surrogates         |            |        |      |                  |                   |                   |                   |                   |                   |
| 2-Fluorophenol                              | 367-12-4   | 0.5    | %    |                  | ----              | 100               | ----              | ----              | 101               |
| Phenol-d6                                   | 13127-88-3 | 0.5    | %    |                  | ----              | 97.4              | ----              | ----              | 89.5              |
| 2-Chlorophenol-D4                           | 93951-73-6 | 0.5    | %    |                  | ----              | 102               | ----              | ----              | 95.2              |
| 2,4,6-Tribromophenol                        | 118-79-6   | 0.5    | %    |                  | ----              | 81.5              | ----              | ----              | 66.1              |
| EP075T: Base/Neutral Extractable Surrogates |            |        |      |                  |                   |                   |                   |                   |                   |
| Nitrobenzene-D5                             | 4165-60-0  | 0.5    | %    |                  | ----              | 90.4              | ----              | ----              | 84.8              |
| 1,2-Dichlorobenzene-D4                      | 2199-69-1  | 0.5    | %    |                  | ----              | 96.9              | ----              | ----              | 94.6              |
| 2-Fluorobiphenyl                            | 321-60-8   | 0.5    | %    |                  | ----              | 119               | ----              | ----              | 118               |
| Anthracene-d10                              | 1719-06-8  | 0.5    | %    |                  | ----              | 95.1              | ----              | ----              | 94.2              |
| 4-Terphenyl-d14                             | 1718-51-0  | 0.5    | %    |                  | ----              | 117               | ----              | ----              | 114               |
| EP080S: TPH(V)/BTEX Surrogates              |            |        |      |                  |                   |                   |                   |                   |                   |
| 1,2-Dichloroethane-D4                       | 17060-07-0 | 0.2    | %    |                  | ----              | 101               | ----              | ----              | 89.1              |
| Toluene-D8                                  | 2037-26-5  | 0.2    | %    |                  | ----              | 89.4              | ----              | ----              | 75.0              |
| 4-Bromofluorobenzene                        | 460-00-4   | 0.2    | %    |                  | ----              | 94.0              | ----              | ----              | 80.4              |
| EP231S: PFAS Surrogate                      |            |        |      |                  |                   |                   |                   |                   |                   |
| 13C4-PFOS                                   | ----       | 0.0002 | %    |                  | ----              | ----              | 93.5              | ----              | ----              |
| 13C8-PFOA                                   | ----       | 0.0002 | %    |                  | ----              | ----              | 88.5              | ----              | ----              |

## (Preliminary Report)

Page : 34 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



### Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                               |            |      |         | Client sample ID | BH306 / 1.5E      | BH307 / 0.5E      | BH307 / 0.5E      | BH307 / 0.5E      | BH309 / 0.4E      |
|------------------------------------------------------------------|------------|------|---------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                      |            |      |         |                  | 09-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 23-Jul-2019 00:00 |
| Compound                                                         | CAS Number | LOR  | Unit    |                  | ES1924021-018     | ES1924021-020     | ES1924021-021     | ES1924021-022     | ES1924021-024     |
|                                                                  |            |      |         |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EA055: Moisture Content (Dried @ 105-110°C)</b>               |            |      |         |                  |                   |                   |                   |                   |                   |
| Moisture Content                                                 | ----       | 0.1  | %       |                  | 15.2              | ----              | 16.3              | ----              | ----              |
| Moisture Content                                                 | ----       | 1.0  | %       |                  | ----              | 16.3              | ----              | ----              | 19.4              |
| <b>EA200: AS 4964 - 2004 Identification of Asbestos in Soils</b> |            |      |         |                  |                   |                   |                   |                   |                   |
| Asbestos Detected                                                | 1332-21-4  | 0.1  | g/kg    |                  | ----              | ----              | ----              | No                | ----              |
| Asbestos (Trace)                                                 | 1332-21-4  | 5    | Fibres  |                  | ----              | ----              | ----              | No                | ----              |
| Asbestos Type                                                    | 1332-21-4  | -    | --      |                  | ----              | ----              | ----              | -                 | ----              |
| Sample weight (dry)                                              | ----       | 0.01 | g       |                  | ----              | ----              | ----              | 43.1              | ----              |
| APPROVED IDENTIFIER:                                             | ----       | -    | --      |                  | ----              | ----              | ----              | A. SMYLLIE        | ----              |
| Synthetic Mineral Fibre                                          | ----       | 0.1  | g/kg    |                  | ----              | ----              | ----              | No                | ----              |
| Organic Fibre                                                    | ----       | 0.1  | g/kg    |                  | ----              | ----              | ----              | No                | ----              |
| <b>EG005(ED093)T: Total Metals by ICP-AES</b>                    |            |      |         |                  |                   |                   |                   |                   |                   |
| Arsenic                                                          | 7440-38-2  | 5    | mg/kg   |                  | ----              | 15                | ----              | ----              | 12                |
| Cadmium                                                          | 7440-43-9  | 1    | mg/kg   |                  | ----              | <1                | ----              | ----              | <1                |
| Chromium                                                         | 7440-47-3  | 2    | mg/kg   |                  | ----              | 14                | ----              | ----              | 18                |
| Copper                                                           | 7440-50-8  | 5    | mg/kg   |                  | ----              | 18                | ----              | ----              | 26                |
| Lead                                                             | 7439-92-1  | 5    | mg/kg   |                  | ----              | 12                | ----              | ----              | 15                |
| Nickel                                                           | 7440-02-0  | 2    | mg/kg   |                  | ----              | 6                 | ----              | ----              | 9                 |
| Zinc                                                             | 7440-66-6  | 5    | mg/kg   |                  | ----              | 28                | ----              | ----              | 36                |
| <b>EG035T: Total Recoverable Mercury by FIMS</b>                 |            |      |         |                  |                   |                   |                   |                   |                   |
| Mercury                                                          | 7439-97-6  | 0.1  | mg/kg   |                  | ----              | <0.1              | ----              | ----              | <0.1              |
| <b>EN33: TCLP Leach</b>                                          |            |      |         |                  |                   |                   |                   |                   |                   |
| Initial pH                                                       | ----       | 0.1  | pH Unit |                  | ----              | 7.1               | ----              | ----              | ----              |
| After HCl pH                                                     | ----       | 0.1  | pH Unit |                  | ----              | 1.3               | ----              | ----              | ----              |
| Extraction Fluid Number                                          | ----       | 1    | -       |                  | ----              | 1                 | ----              | ----              | ----              |
| Final pH                                                         | ----       | 0.1  | pH Unit |                  | ----              | 5.0               | ----              | ----              | ----              |
| <b>EP066: Polychlorinated Biphenyls (PCB)</b>                    |            |      |         |                  |                   |                   |                   |                   |                   |
| Total Polychlorinated biphenyls                                  | ----       | 0.1  | mg/kg   |                  | ----              | <0.1              | ----              | ----              | <0.1              |
| <b>EP074A: Monocyclic Aromatic Hydrocarbons</b>                  |            |      |         |                  |                   |                   |                   |                   |                   |
| Styrene                                                          | 100-42-5   | 0.5  | mg/kg   |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Isopropylbenzene                                                 | 98-82-8    | 0.5  | mg/kg   |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| n-Propylbenzene                                                  | 103-65-1   | 0.5  | mg/kg   |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,3,5-Trimethylbenzene                                           | 108-67-8   | 0.5  | mg/kg   |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| sec-Butylbenzene                                                 | 135-98-8   | 0.5  | mg/kg   |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,2,4-Trimethylbenzene                                           | 95-63-6    | 0.5  | mg/kg   |                  | ----              | <0.5              | ----              | ----              | <0.5              |

## (Preliminary Report)

Page : 35 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



### Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                          |            |     |       | Client sample ID | BH306 / 1.5E      | BH307 / 0.5E      | BH307 / 0.5E      | BH307 / 0.5E      | BH309 / 0.4E      |
|-------------------------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                 |            |     |       |                  | 09-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 23-Jul-2019 00:00 |
| Compound                                                    | CAS Number | LOR | Unit  |                  | ES1924021-018     | ES1924021-020     | ES1924021-021     | ES1924021-022     | ES1924021-024     |
|                                                             |            |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP074A: Monocyclic Aromatic Hydrocarbons - Continued</b> |            |     |       |                  |                   |                   |                   |                   |                   |
| tert-Butylbenzene                                           | 98-06-6    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| p-Isopropyltoluene                                          | 99-87-6    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| n-Butylbenzene                                              | 104-51-8   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| <b>EP074B: Oxygenated Compounds</b>                         |            |     |       |                  |                   |                   |                   |                   |                   |
| Vinyl Acetate                                               | 108-05-4   | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | <5                |
| 2-Butanone (MEK)                                            | 78-93-3    | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | <5                |
| 4-Methyl-2-pentanone (MIBK)                                 | 108-10-1   | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | <5                |
| 2-Hexanone (MBK)                                            | 591-78-6   | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | <5                |
| <b>EP074C: Sulfonated Compounds</b>                         |            |     |       |                  |                   |                   |                   |                   |                   |
| Carbon disulfide                                            | 75-15-0    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| <b>EP074D: Fumigants</b>                                    |            |     |       |                  |                   |                   |                   |                   |                   |
| 2,2-Dichloropropane                                         | 594-20-7   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,2-Dichloropropane                                         | 78-87-5    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| cis-1,3-Dichloropropylene                                   | 10061-01-5 | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| trans-1,3-Dichloropropylene                                 | 10061-02-6 | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,2-Dibromoethane (EDB)                                     | 106-93-4   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| <b>EP074E: Halogenated Aliphatic Compounds</b>              |            |     |       |                  |                   |                   |                   |                   |                   |
| Dichlorodifluoromethane                                     | 75-71-8    | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | <5                |
| Chloromethane                                               | 74-87-3    | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | <5                |
| Vinyl chloride                                              | 75-01-4    | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | <5                |
| Bromomethane                                                | 74-83-9    | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | <5                |
| Chloroethane                                                | 75-00-3    | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | <5                |
| Trichlorofluoromethane                                      | 75-69-4    | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | <5                |
| 1,1-Dichloroethene                                          | 75-35-4    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Iodomethane                                                 | 74-88-4    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| trans-1,2-Dichloroethene                                    | 156-60-5   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,1-Dichloroethane                                          | 75-34-3    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| cis-1,2-Dichloroethene                                      | 156-59-2   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,1,1-Trichloroethane                                       | 71-55-6    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,1-Dichloropropylene                                       | 563-58-6   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Carbon Tetrachloride                                        | 56-23-5    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,2-Dichloroethane                                          | 107-06-2   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Trichloroethene                                             | 79-01-6    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Dibromomethane                                              | 74-95-3    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |

# (Preliminary Report)

Page : 36 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                  |                   |     |       | Client sample ID | BH306 / 1.5E      | BH307 / 0.5E      | BH307 / 0.5E      | BH307 / 0.5E      | BH309 / 0.4E      |
|-----------------------------------------------------|-------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                         |                   |     |       |                  | 09-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 23-Jul-2019 00:00 |
| Compound                                            | CAS Number        | LOR | Unit  |                  | ES1924021-018     | ES1924021-020     | ES1924021-021     | ES1924021-022     | ES1924021-024     |
|                                                     |                   |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| EP074E: Halogenated Aliphatic Compounds - Continued |                   |     |       |                  |                   |                   |                   |                   |                   |
| 1.1.2-Trichloroethane                               | 79-00-5           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1.3-Dichloropropane                                 | 142-28-9          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Tetrachloroethene                                   | 127-18-4          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1.1.1.2-Tetrachloroethane                           | 630-20-6          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| trans-1.4-Dichloro-2-butene                         | 110-57-6          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| cis-1.4-Dichloro-2-butene                           | 1476-11-5         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1.1.2.2-Tetrachloroethane                           | 79-34-5           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1.2.3-Trichloropropane                              | 96-18-4           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Pentachloroethane                                   | 76-01-7           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1.2-Dibromo-3-chloropropane                         | 96-12-8           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| EP074F: Halogenated Aromatic Compounds              |                   |     |       |                  |                   |                   |                   |                   |                   |
| Chlorobenzene                                       | 108-90-7          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Bromobenzene                                        | 108-86-1          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 2-Chlorotoluene                                     | 95-49-8           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 4-Chlorotoluene                                     | 106-43-4          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1.2.3-Trichlorobenzene                              | 87-61-6           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| EP074G: Trihalomethanes                             |                   |     |       |                  |                   |                   |                   |                   |                   |
| Chloroform                                          | 67-66-3           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Bromodichloromethane                                | 75-27-4           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Dibromochloromethane                                | 124-48-1          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Bromoform                                           | 75-25-2           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons      |                   |     |       |                  |                   |                   |                   |                   |                   |
| Naphthalene                                         | 91-20-3           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Acenaphthylene                                      | 208-96-8          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Acenaphthene                                        | 83-32-9           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Fluorene                                            | 86-73-7           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Phenanthrene                                        | 85-01-8           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Anthracene                                          | 120-12-7          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Fluoranthene                                        | 206-44-0          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Pyrene                                              | 129-00-0          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Benz(a)anthracene                                   | 56-55-3           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Chrysene                                            | 218-01-9          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Benzo(b+j)fluoranthene                              | 205-99-2 205-82-3 | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Benzo(k)fluoranthene                                | 207-08-9          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |

Page : 37 of 67  
Work Order : ES1924021  
Client : GOLDER  
Project : 19125312

## Analytical Results

Sub-Matrix: **SOIL**  
(Matrix: **SOIL**)

Client sample ID

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                         |            |     |       | Client sample ID  | BH306 / 1.5E      | BH307 / 0.5E      | BH307 / 0.5E      | BH307 / 0.5E      | BH309 / 0.4E |
|------------------------------------------------------------|------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------|
| Client sampling date / time                                |            |     |       | 09-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 23-Jul-2019 00:00 |              |
| Compound                                                   | CAS Number | LOR | Unit  | ES1924021-018     | ES1924021-020     | ES1924021-021     | ES1924021-022     | ES1924021-024     |              |
|                                                            |            |     |       | Result            | Result            | Result            | Result            | Result            |              |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued |            |     |       |                   |                   |                   |                   |                   |              |
| Benzo(a)pyrene                                             | 50-32-8    | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| Indeno(1.2.3.cd)pyrene                                     | 193-39-5   | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| Dibenz(a.h)anthracene                                      | 53-70-3    | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| Benzo(g.h.i)perylene                                       | 191-24-2   | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| ^ Sum of polycyclic aromatic hydrocarbons                  | ----       | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| ^ Benzo(a)pyrene TEQ (zero)                                | ----       | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| ^ Benzo(a)pyrene TEQ (half LOR)                            | ----       | 0.5 | mg/kg | ----              | 0.6               | ----              | ----              | 0.6               |              |
| ^ Benzo(a)pyrene TEQ (LOR)                                 | ----       | 0.5 | mg/kg | ----              | 1.2               | ----              | ----              | 1.2               |              |
| EP075A: Phenolic Compounds                                 |            |     |       |                   |                   |                   |                   |                   |              |
| Phenol                                                     | 108-95-2   | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| 2-Chlorophenol                                             | 95-57-8    | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| 2-Methylphenol                                             | 95-48-7    | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| 3- & 4-Methylphenol                                        | 1319-77-3  | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| 2-Nitrophenol                                              | 88-75-5    | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| 2.4-Dimethylphenol                                         | 105-67-9   | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| 2.4-Dichlorophenol                                         | 120-83-2   | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| 2.6-Dichlorophenol                                         | 87-65-0    | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| 4-Chloro-3-methylphenol                                    | 59-50-7    | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| 2.4.6-Trichlorophenol                                      | 88-06-2    | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| 2.4.5-Trichlorophenol                                      | 95-95-4    | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| Pentachlorophenol                                          | 87-86-5    | 1   | mg/kg | ----              | <1                | ----              | ----              | <1                |              |
| EP075B: Polynuclear Aromatic Hydrocarbons                  |            |     |       |                   |                   |                   |                   |                   |              |
| 2-Methylnaphthalene                                        | 91-57-6    | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| N-2-Fluorenyl Acetamide                                    | 53-96-3    | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| 7.12-Dimethylbenz(a)anthracene                             | 57-97-6    | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| 3-Methylcholanthrene                                       | 56-49-5    | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| EP075C: Phthalate Esters                                   |            |     |       |                   |                   |                   |                   |                   |              |
| Dimethyl phthalate                                         | 131-11-3   | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| Diethyl phthalate                                          | 84-66-2    | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| Di-n-butyl phthalate                                       | 84-74-2    | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| Butyl benzyl phthalate                                     | 85-68-7    | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| bis(2-ethylhexyl) phthalate                                | 117-81-7   | 5.0 | mg/kg | ----              | <5.0              | ----              | ----              | <5.0              |              |
| Di-n-octylphthalate                                        | 117-84-0   | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| EP075D: Nitrosamines                                       |            |     |       |                   |                   |                   |                   |                   |              |



| Sub-Matrix: SOIL<br>(Matrix: SOIL) |                  |     |       | Client sample ID  | BH306 / 1.5E      | BH307 / 0.5E      | BH307 / 0.5E      | BH307 / 0.5E      | BH309 / 0.4E      |
|------------------------------------|------------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time        |                  |     |       | 09-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 23-Jul-2019 00:00 |
| Compound                           | CAS Number       | LOR | Unit  | ES1924021-018     | ES1924021-020     | ES1924021-021     | ES1924021-022     | ES1924021-024     |                   |
|                                    |                  |     |       | Result            | Result            | Result            | Result            | Result            |                   |
| EP075D: Nitrosamines - Continued   |                  |     |       |                   |                   |                   |                   |                   |                   |
| N-Nitrosomethylethylamine          | 10595-95-6       | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| N-Nitrosodiethylamine              | 55-18-5          | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| N-Nitrosopyrrolidine               | 930-55-2         | 1.0 | mg/kg | ----              | <1.0              | ----              | ----              | <1.0              |                   |
| N-Nitrosomorpholine                | 59-89-2          | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| N-Nitrosodi-n-propylamine          | 621-64-7         | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| N-Nitrosopiperidine                | 100-75-4         | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| N-Nitrosodibutylamine              | 924-16-3         | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| N-Nitrosodiphenyl & Diphenylamine  | 86-30-6 122-39-4 | 1.0 | mg/kg | ----              | <1.0              | ----              | ----              | <1.0              |                   |
| Methapyrilene                      | 91-80-5          | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| EP075E: Nitroaromatics and Ketones |                  |     |       |                   |                   |                   |                   |                   |                   |
| 2-Picoline                         | 109-06-8         | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| Acetophenone                       | 98-86-2          | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| Nitrobenzene                       | 98-95-3          | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| Isophorone                         | 78-59-1          | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| 2,6-Dinitrotoluene                 | 606-20-2         | 1.0 | mg/kg | ----              | <1.0              | ----              | ----              | <1.0              |                   |
| 2,4-Dinitrotoluene                 | 121-14-2         | 1.0 | mg/kg | ----              | <1.0              | ----              | ----              | <1.0              |                   |
| 1-Naphthylamine                    | 134-32-7         | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| 4-Nitroquinoline-N-oxide           | 56-57-5          | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| 5-Nitro-o-toluidine                | 99-55-8          | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| Azobenzene                         | 103-33-3         | 1   | mg/kg | ----              | <1                | ----              | ----              | <1                |                   |
| 1,3,5-Trinitrobenzene              | 99-35-4          | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| Phenacetin                         | 62-44-2          | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| 4-Aminobiphenyl                    | 92-67-1          | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| Pentachloronitrobenzene            | 82-68-8          | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| Pronamide                          | 23950-58-5       | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| Dimethylaminoazobenzene            | 60-11-7          | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| Chlorobenzilate                    | 510-15-6         | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| EP075F: Haloethers                 |                  |     |       |                   |                   |                   |                   |                   |                   |
| Bis(2-chloroethyl) ether           | 111-44-4         | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| Bis(2-chloroethoxy) methane        | 111-91-1         | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| 4-Chlorophenyl phenyl ether        | 7005-72-3        | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| 4-Bromophenyl phenyl ether         | 101-55-3         | 0.5 | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |                   |
| EP075G: Chlorinated Hydrocarbons   |                  |     |       |                   |                   |                   |                   |                   |                   |

(Preliminary Report)

Page : 39 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                  |            |     |       | Client sample ID | BH306 / 1.5E      | BH307 / 0.5E      | BH307 / 0.5E      | BH307 / 0.5E      | BH309 / 0.4E      |
|-----------------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                         |            |     |       |                  | 09-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 23-Jul-2019 00:00 |
| Compound                                            | CAS Number | LOR | Unit  |                  | ES1924021-018     | ES1924021-020     | ES1924021-021     | ES1924021-022     | ES1924021-024     |
|                                                     |            |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP075G: Chlorinated Hydrocarbons - Continued</b> |            |     |       |                  |                   |                   |                   |                   |                   |
| 1,3-Dichlorobenzene                                 | 541-73-1   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,4-Dichlorobenzene                                 | 106-46-7   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,2-Dichlorobenzene                                 | 95-50-1    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Hexachloroethane                                    | 67-72-1    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 1,2,4-Trichlorobenzene                              | 120-82-1   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Hexachloropropylene                                 | 1888-71-7  | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Hexachlorobutadiene                                 | 87-68-3    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Hexachlorocyclopentadiene                           | 77-47-4    | 2.5 | mg/kg |                  | ----              | <2.5              | ----              | ----              | <2.5              |
| Pentachlorobenzene                                  | 608-93-5   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Hexachlorobenzene (HCB)                             | 118-74-1   | 1.0 | mg/kg |                  | ----              | <1.0              | ----              | ----              | <1.0              |
| <b>EP075H: Anilines and Benzidines</b>              |            |     |       |                  |                   |                   |                   |                   |                   |
| Aniline                                             | 62-53-3    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 4-Chloroaniline                                     | 106-47-8   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 2-Nitroaniline                                      | 88-74-4    | 1.0 | mg/kg |                  | ----              | <1.0              | ----              | ----              | <1.0              |
| 3-Nitroaniline                                      | 99-09-2    | 1.0 | mg/kg |                  | ----              | <1.0              | ----              | ----              | <1.0              |
| Dibenzofuran                                        | 132-64-9   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 4-Nitroaniline                                      | 100-01-6   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Carbazole                                           | 86-74-8    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 3,3'-Dichlorobenzidine                              | 91-94-1    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| <b>EP075I: Organochlorine Pesticides</b>            |            |     |       |                  |                   |                   |                   |                   |                   |
| alpha-BHC                                           | 319-84-6   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| beta-BHC                                            | 319-85-7   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| gamma-BHC                                           | 58-89-9    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| delta-BHC                                           | 319-86-8   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Heptachlor                                          | 76-44-8    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Aldrin                                              | 309-00-2   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Heptachlor epoxide                                  | 1024-57-3  | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| alpha-Endosulfan                                    | 959-98-8   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 4,4'-DDE                                            | 72-55-9    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Dieldrin                                            | 60-57-1    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Endrin                                              | 72-20-8    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| beta-Endosulfan                                     | 33213-65-9 | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| 4,4'-DDD                                            | 72-54-8    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Endosulfan sulfate                                  | 1031-07-8  | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |

# (Preliminary Report)

Page : 40 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                                     |                   |     |       | Client sample ID | BH306 / 1.5E      | BH307 / 0.5E      | BH307 / 0.5E      | BH307 / 0.5E      | BH309 / 0.4E      |
|------------------------------------------------------------------------|-------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                            |                   |     |       |                  | 09-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 23-Jul-2019 00:00 |
| Compound                                                               | CAS Number        | LOR | Unit  |                  | ES1924021-018     | ES1924021-020     | ES1924021-021     | ES1924021-022     | ES1924021-024     |
|                                                                        |                   |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP075I: Organochlorine Pesticides - Continued</b>                   |                   |     |       |                  |                   |                   |                   |                   |                   |
| 4,4'-DDT                                                               | 50-29-3           | 1.0 | mg/kg |                  | ----              | <1.0              | ----              | ----              | <1.0              |
| <b>EP075J: Organophosphorus Pesticides</b>                             |                   |     |       |                  |                   |                   |                   |                   |                   |
| Dichlorvos                                                             | 62-73-7           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Dimethoate                                                             | 60-51-5           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Diazinon                                                               | 333-41-5          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Chlorpyrifos-methyl                                                    | 5598-13-0         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Malathion                                                              | 121-75-5          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Fenthion                                                               | 55-38-9           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Chlorpyrifos                                                           | 2921-88-2         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Pirimphos-ethyl                                                        | 23505-41-1        | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Chlorfenvinphos                                                        | 470-90-6          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Prothiofos                                                             | 34643-46-4        | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Ethion                                                                 | 563-12-2          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| <b>EP080/071: Total Petroleum Hydrocarbons</b>                         |                   |     |       |                  |                   |                   |                   |                   |                   |
| C6 - C9 Fraction                                                       | ----              | 10  | mg/kg |                  | ----              | <10               | ----              | ----              | <10               |
| C10 - C14 Fraction                                                     | ----              | 50  | mg/kg |                  | ----              | <50               | ----              | ----              | <50               |
| C15 - C28 Fraction                                                     | ----              | 100 | mg/kg |                  | ----              | <100              | ----              | ----              | <100              |
| C29 - C36 Fraction                                                     | ----              | 100 | mg/kg |                  | ----              | <100              | ----              | ----              | <100              |
| ^ C10 - C36 Fraction (sum)                                             | ----              | 50  | mg/kg |                  | ----              | <50               | ----              | ----              | <50               |
| <b>EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions</b> |                   |     |       |                  |                   |                   |                   |                   |                   |
| C6 - C10 Fraction                                                      | C6_C10            | 10  | mg/kg |                  | ----              | <10               | ----              | ----              | <10               |
| ^ C6 - C10 Fraction minus BTEX (F1)                                    | C6_C10-BTEX       | 10  | mg/kg |                  | ----              | <10               | ----              | ----              | <10               |
| >C10 - C16 Fraction                                                    | ----              | 50  | mg/kg |                  | ----              | <50               | ----              | ----              | <50               |
| >C16 - C34 Fraction                                                    | ----              | 100 | mg/kg |                  | ----              | <100              | ----              | ----              | <100              |
| >C34 - C40 Fraction                                                    | ----              | 100 | mg/kg |                  | ----              | <100              | ----              | ----              | <100              |
| ^ >C10 - C40 Fraction (sum)                                            | ----              | 50  | mg/kg |                  | ----              | <50               | ----              | ----              | <50               |
| ^ >C10 - C16 Fraction minus Naphthalene (F2)                           | ----              | 50  | mg/kg |                  | ----              | <50               | ----              | ----              | <50               |
| <b>EP080: BTEXN</b>                                                    |                   |     |       |                  |                   |                   |                   |                   |                   |
| Benzene                                                                | 71-43-2           | 0.2 | mg/kg |                  | ----              | <0.2              | ----              | ----              | <0.2              |
| Toluene                                                                | 108-88-3          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| Ethylbenzene                                                           | 100-41-4          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |
| meta- & para-Xylene                                                    | 108-38-3 106-42-3 | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | <0.5              |



| Sub-Matrix: SOIL<br>(Matrix: SOIL)      |            |        |       | Client sample ID  | BH306 / 1.5E      | BH307 / 0.5E      | BH307 / 0.5E      | BH307 / 0.5E      | BH309 / 0.4E |
|-----------------------------------------|------------|--------|-------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------|
| Client sampling date / time             |            |        |       | 09-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 23-Jul-2019 00:00 |              |
| Compound                                | CAS Number | LOR    | Unit  | ES1924021-018     | ES1924021-020     | ES1924021-021     | ES1924021-022     | ES1924021-024     |              |
|                                         |            |        |       | Result            | Result            | Result            | Result            | Result            |              |
| EP080: BTEXN - Continued                |            |        |       |                   |                   |                   |                   |                   |              |
| ortho-Xylene                            | 95-47-6    | 0.5    | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| ^ Sum of BTEX                           | ----       | 0.2    | mg/kg | ----              | <0.2              | ----              | ----              | <0.2              |              |
| ^ Total Xylenes                         | ----       | 0.5    | mg/kg | ----              | <0.5              | ----              | ----              | <0.5              |              |
| Naphthalene                             | 91-20-3    | 1      | mg/kg | ----              | <1                | ----              | ----              | <1                |              |
| EP231A: Perfluoroalkyl Sulfonic Acids   |            |        |       |                   |                   |                   |                   |                   |              |
| Perfluorobutane sulfonic acid (PFBS)    | 375-73-5   | 0.0002 | mg/kg | <0.0002           | ----              | <0.0002           | ----              | ----              |              |
| Perfluoropentane sulfonic acid (PFPeS)  | 2706-91-4  | 0.0002 | mg/kg | <0.0002           | ----              | <0.0002           | ----              | ----              |              |
| Perfluorohexane sulfonic acid (PFHxS)   | 355-46-4   | 0.0002 | mg/kg | <0.0002           | ----              | <0.0002           | ----              | ----              |              |
| Perfluoroheptane sulfonic acid (PFHpS)  | 375-92-8   | 0.0002 | mg/kg | <0.0002           | ----              | <0.0002           | ----              | ----              |              |
| Perfluorooctane sulfonic acid (PFOS)    | 1763-23-1  | 0.0002 | mg/kg | <0.0002           | ----              | <0.0002           | ----              | ----              |              |
| Perfluorodecane sulfonic acid (PFDS)    | 335-77-3   | 0.0002 | mg/kg | <0.0002           | ----              | <0.0002           | ----              | ----              |              |
| EP231B: Perfluoroalkyl Carboxylic Acids |            |        |       |                   |                   |                   |                   |                   |              |
| Perfluorobutanoic acid (PFBA)           | 375-22-4   | 0.001  | mg/kg | <0.001            | ----              | <0.001            | ----              | ----              |              |
| Perfluoropentanoic acid (PFPeA)         | 2706-90-3  | 0.0002 | mg/kg | <0.0002           | ----              | <0.0002           | ----              | ----              |              |
| Perfluorohexanoic acid (PFHxA)          | 307-24-4   | 0.0002 | mg/kg | <0.0002           | ----              | <0.0002           | ----              | ----              |              |
| Perfluoroheptanoic acid (PFHpA)         | 375-85-9   | 0.0002 | mg/kg | <0.0002           | ----              | <0.0002           | ----              | ----              |              |
| Perfluorooctanoic acid (PFOA)           | 335-67-1   | 0.0002 | mg/kg | <0.0002           | ----              | <0.0002           | ----              | ----              |              |
| Perfluorononanoic acid (PFNA)           | 375-95-1   | 0.0002 | mg/kg | <0.0002           | ----              | <0.0002           | ----              | ----              |              |
| Perfluorodecanoic acid (PFDA)           | 335-76-2   | 0.0002 | mg/kg | <0.0002           | ----              | <0.0002           | ----              | ----              |              |
| Perfluoroundecanoic acid (PFUnDA)       | 2058-94-8  | 0.0002 | mg/kg | <0.0002           | ----              | <0.0002           | ----              | ----              |              |
| Perfluorododecanoic acid (PFDoDA)       | 307-55-1   | 0.0002 | mg/kg | <0.0002           | ----              | <0.0002           | ----              | ----              |              |
| Perfluorotridecanoic acid (PFTTrDA)     | 72629-94-8 | 0.0002 | mg/kg | <0.0002           | ----              | <0.0002           | ----              | ----              |              |
| Perfluorotetradecanoic acid (PFTeDA)    | 376-06-7   | 0.0005 | mg/kg | <0.0005           | ----              | <0.0005           | ----              | ----              |              |
| EP231C: Perfluoroalkyl Sulfonamides     |            |        |       |                   |                   |                   |                   |                   |              |

(Preliminary Report)

Page : 42 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                        |                    |        |       | Client sample ID | BH306 / 1.5E      | BH307 / 0.5E      | BH307 / 0.5E      | BH307 / 0.5E      | BH309 / 0.4E      |
|-----------------------------------------------------------|--------------------|--------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                               |                    |        |       |                  | 09-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 23-Jul-2019 00:00 |
| Compound                                                  | CAS Number         | LOR    | Unit  |                  | ES1924021-018     | ES1924021-020     | ES1924021-021     | ES1924021-022     | ES1924021-024     |
|                                                           |                    |        |       |                  | Result            | Result            | Result            | Result            | Result            |
| EP231C: Perfluoroalkyl Sulfonamides - Continued           |                    |        |       |                  |                   |                   |                   |                   |                   |
| Perfluorooctane sulfonamide (FOSA)                        | 754-91-6           | 0.0002 | mg/kg |                  | <0.0002           | ----              | <0.0002           | ----              | ----              |
| N-Methyl perfluorooctane sulfonamide (MeFOSA)             | 31506-32-8         | 0.0005 | mg/kg |                  | <0.0005           | ----              | <0.0005           | ----              | ----              |
| N-Ethyl perfluorooctane sulfonamide (EtFOSA)              | 4151-50-2          | 0.0005 | mg/kg |                  | <0.0005           | ----              | <0.0005           | ----              | ----              |
| N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)      | 24448-09-7         | 0.0005 | mg/kg |                  | <0.0005           | ----              | <0.0005           | ----              | ----              |
| N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)       | 1691-99-2          | 0.0005 | mg/kg |                  | <0.0005           | ----              | <0.0005           | ----              | ----              |
| N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA) | 2355-31-9          | 0.0002 | mg/kg |                  | <0.0002           | ----              | <0.0002           | ----              | ----              |
| N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)  | 2991-50-6          | 0.0002 | mg/kg |                  | <0.0002           | ----              | <0.0002           | ----              | ----              |
| EP231D: (n:2) Fluorotelomer Sulfonic Acids                |                    |        |       |                  |                   |                   |                   |                   |                   |
| 4:2 Fluorotelomer sulfonic acid (4:2 FTS)                 | 757124-72-4        | 0.0005 | mg/kg |                  | <0.0005           | ----              | <0.0005           | ----              | ----              |
| 6:2 Fluorotelomer sulfonic acid (6:2 FTS)                 | 27619-97-2         | 0.0005 | mg/kg |                  | <0.0005           | ----              | <0.0005           | ----              | ----              |
| 8:2 Fluorotelomer sulfonic acid (8:2 FTS)                 | 39108-34-4         | 0.0005 | mg/kg |                  | <0.0005           | ----              | <0.0005           | ----              | ----              |
| 10:2 Fluorotelomer sulfonic acid (10:2 FTS)               | 120226-60-0        | 0.0005 | mg/kg |                  | <0.0005           | ----              | <0.0005           | ----              | ----              |
| EP231P: PFAS Sums                                         |                    |        |       |                  |                   |                   |                   |                   |                   |
| Sum of PFAS                                               | ----               | 0.0002 | mg/kg |                  | <0.0002           | ----              | <0.0002           | ----              | ----              |
| Sum of PFHxS and PFOS                                     | 355-46-4/1763-23-1 | 0.0002 | mg/kg |                  | <0.0002           | ----              | <0.0002           | ----              | ----              |
| Sum of PFAS (WA DER List)                                 | ----               | 0.0002 | mg/kg |                  | <0.0002           | ----              | <0.0002           | ----              | ----              |
| EP066S: PCB Surrogate                                     |                    |        |       |                  |                   |                   |                   |                   |                   |
| Decachlorobiphenyl                                        | 2051-24-3          | 0.1    | %     |                  | ----              | 100               | ----              | ----              | 96.4              |
| EP074S: VOC Surrogates                                    |                    |        |       |                  |                   |                   |                   |                   |                   |
| 1,2-Dichloroethane-D4                                     | 17060-07-0         | 0.5    | %     |                  | ----              | 97.7              | ----              | ----              | 95.7              |
| Toluene-D8                                                | 2037-26-5          | 0.5    | %     |                  | ----              | 104               | ----              | ----              | 106               |

# (Preliminary Report)

Page : 43 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)          |            |        |      | Client sample ID | BH306 / 1.5E      | BH307 / 0.5E      | BH307 / 0.5E      | BH307 / 0.5E      | BH309 / 0.4E      |
|---------------------------------------------|------------|--------|------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                 |            |        |      |                  | 09-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 23-Jul-2019 00:00 |
| Compound                                    | CAS Number | LOR    | Unit |                  | ES1924021-018     | ES1924021-020     | ES1924021-021     | ES1924021-022     | ES1924021-024     |
|                                             |            |        |      |                  | Result            | Result            | Result            | Result            | Result            |
| EP074S: VOC Surrogates - Continued          |            |        |      |                  |                   |                   |                   |                   |                   |
| 4-Bromofluorobenzene                        | 460-00-4   | 0.5    | %    |                  | ----              | 86.9              | ----              | ----              | 90.7              |
| EP075(SIM)S: Phenolic Compound Surrogates   |            |        |      |                  |                   |                   |                   |                   |                   |
| Phenol-d6                                   | 13127-88-3 | 0.5    | %    |                  | ----              | 81.2              | ----              | ----              | 84.1              |
| 2-Chlorophenol-D4                           | 93951-73-6 | 0.5    | %    |                  | ----              | 88.9              | ----              | ----              | 90.9              |
| 2,4,6-Tribromophenol                        | 118-79-6   | 0.5    | %    |                  | ----              | 67.8              | ----              | ----              | 66.9              |
| EP075(SIM)T: PAH Surrogates                 |            |        |      |                  |                   |                   |                   |                   |                   |
| 2-Fluorobiphenyl                            | 321-60-8   | 0.5    | %    |                  | ----              | 94.6              | ----              | ----              | 95.8              |
| Anthracene-d10                              | 1719-06-8  | 0.5    | %    |                  | ----              | 99.0              | ----              | ----              | 99.9              |
| 4-Terphenyl-d14                             | 1718-51-0  | 0.5    | %    |                  | ----              | 99.7              | ----              | ----              | 102               |
| EP075S: Acid Extractable Surrogates         |            |        |      |                  |                   |                   |                   |                   |                   |
| 2-Fluorophenol                              | 367-12-4   | 0.5    | %    |                  | ----              | 104               | ----              | ----              | 104               |
| Phenol-d6                                   | 13127-88-3 | 0.5    | %    |                  | ----              | 102               | ----              | ----              | 101               |
| 2-Chlorophenol-D4                           | 93951-73-6 | 0.5    | %    |                  | ----              | 109               | ----              | ----              | 110               |
| 2,4,6-Tribromophenol                        | 118-79-6   | 0.5    | %    |                  | ----              | 67.2              | ----              | ----              | 66.1              |
| EP075T: Base/Neutral Extractable Surrogates |            |        |      |                  |                   |                   |                   |                   |                   |
| Nitrobenzene-D5                             | 4165-60-0  | 0.5    | %    |                  | ----              | 84.2              | ----              | ----              | 90.6              |
| 1,2-Dichlorobenzene-D4                      | 2199-69-1  | 0.5    | %    |                  | ----              | 108               | ----              | ----              | 105               |
| 2-Fluorobiphenyl                            | 321-60-8   | 0.5    | %    |                  | ----              | 125               | ----              | ----              | 122               |
| Anthracene-d10                              | 1719-06-8  | 0.5    | %    |                  | ----              | 96.7              | ----              | ----              | 94.3              |
| 4-Terphenyl-d14                             | 1718-51-0  | 0.5    | %    |                  | ----              | 121               | ----              | ----              | 120               |
| EP080S: TPH(V)/BTEX Surrogates              |            |        |      |                  |                   |                   |                   |                   |                   |
| 1,2-Dichloroethane-D4                       | 17060-07-0 | 0.2    | %    |                  | ----              | 96.2              | ----              | ----              | 95.5              |
| Toluene-D8                                  | 2037-26-5  | 0.2    | %    |                  | ----              | 82.5              | ----              | ----              | 83.8              |
| 4-Bromofluorobenzene                        | 460-00-4   | 0.2    | %    |                  | ----              | 83.9              | ----              | ----              | 87.2              |
| EP231S: PFAS Surrogate                      |            |        |      |                  |                   |                   |                   |                   |                   |
| 13C4-PFOS                                   | ----       | 0.0002 | %    |                  | 76.5              | ----              | 84.0              | ----              | ----              |
| 13C8-PFOA                                   | ----       | 0.0002 | %    |                  | 80.0              | ----              | 78.0              | ----              | ----              |

# (Preliminary Report)

Page : 44 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                               |            |      |        | Client sample ID | BH403 / 0.2E      | BH403 / 0.2E      | BH403 / 0.2E      | BH404 / 0.1E      | BH404 / 0.1E      |
|------------------------------------------------------------------|------------|------|--------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                      |            |      |        |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                                                         | CAS Number | LOR  | Unit   |                  | ES1924021-026     | ES1924021-027     | ES1924021-028     | ES1924021-029     | ES1924021-030     |
|                                                                  |            |      |        |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EA055: Moisture Content (Dried @ 105-110°C)</b>               |            |      |        |                  |                   |                   |                   |                   |                   |
| Moisture Content                                                 | ----       | 0.1  | %      | ----             | 8.2               | ----              | ----              | ----              | 6.6               |
| Moisture Content                                                 | ----       | 1.0  | %      | 14.1             | ----              | ----              | 9.4               | ----              | ----              |
| <b>EA200: AS 4964 - 2004 Identification of Asbestos in Soils</b> |            |      |        |                  |                   |                   |                   |                   |                   |
| Asbestos Detected                                                | 1332-21-4  | 0.1  | g/kg   | ----             | ----              | No                | ----              | ----              | ----              |
| Asbestos (Trace)                                                 | 1332-21-4  | 5    | Fibres | ----             | ----              | No                | ----              | ----              | ----              |
| Asbestos Type                                                    | 1332-21-4  | -    | --     | ----             | ----              | -                 | ----              | ----              | ----              |
| Sample weight (dry)                                              | ----       | 0.01 | g      | ----             | ----              | 48.1              | ----              | ----              | ----              |
| APPROVED IDENTIFIER:                                             | ----       | -    | --     | ----             | ----              | A. SMYLIE         | ----              | ----              | ----              |
| Synthetic Mineral Fibre                                          | ----       | 0.1  | g/kg   | ----             | ----              | No                | ----              | ----              | ----              |
| Organic Fibre                                                    | ----       | 0.1  | g/kg   | ----             | ----              | No                | ----              | ----              | ----              |
| <b>EG005(ED093)T: Total Metals by ICP-AES</b>                    |            |      |        |                  |                   |                   |                   |                   |                   |
| Arsenic                                                          | 7440-38-2  | 5    | mg/kg  | 8                | ----              | ----              | 6                 | ----              | ----              |
| Cadmium                                                          | 7440-43-9  | 1    | mg/kg  | <1               | ----              | ----              | <1                | ----              | ----              |
| Chromium                                                         | 7440-47-3  | 2    | mg/kg  | 5                | ----              | ----              | 13                | ----              | ----              |
| Copper                                                           | 7440-50-8  | 5    | mg/kg  | 29               | ----              | ----              | 75                | ----              | ----              |
| Lead                                                             | 7439-92-1  | 5    | mg/kg  | 23               | ----              | ----              | 49                | ----              | ----              |
| Nickel                                                           | 7440-02-0  | 2    | mg/kg  | 10               | ----              | ----              | 44                | ----              | ----              |
| Zinc                                                             | 7440-66-6  | 5    | mg/kg  | 47               | ----              | ----              | 107               | ----              | ----              |
| <b>EG035T: Total Recoverable Mercury by FIMS</b>                 |            |      |        |                  |                   |                   |                   |                   |                   |
| Mercury                                                          | 7439-97-6  | 0.1  | mg/kg  | <0.1             | ----              | ----              | <0.1              | ----              | ----              |
| <b>EP066: Polychlorinated Biphenyls (PCB)</b>                    |            |      |        |                  |                   |                   |                   |                   |                   |
| Total Polychlorinated biphenyls                                  | ----       | 0.1  | mg/kg  | <0.1             | ----              | ----              | <0.1              | ----              | ----              |
| <b>EP074A: Monocyclic Aromatic Hydrocarbons</b>                  |            |      |        |                  |                   |                   |                   |                   |                   |
| Styrene                                                          | 100-42-5   | 0.5  | mg/kg  | <0.5             | ----              | ----              | <0.5              | ----              | ----              |
| Isopropylbenzene                                                 | 98-82-8    | 0.5  | mg/kg  | <0.5             | ----              | ----              | <0.5              | ----              | ----              |
| n-Propylbenzene                                                  | 103-65-1   | 0.5  | mg/kg  | <0.5             | ----              | ----              | <0.5              | ----              | ----              |
| 1,3,5-Trimethylbenzene                                           | 108-67-8   | 0.5  | mg/kg  | <0.5             | ----              | ----              | <0.5              | ----              | ----              |
| sec-Butylbenzene                                                 | 135-98-8   | 0.5  | mg/kg  | <0.5             | ----              | ----              | <0.5              | ----              | ----              |
| 1,2,4-Trimethylbenzene                                           | 95-63-6    | 0.5  | mg/kg  | <0.5             | ----              | ----              | <0.5              | ----              | ----              |
| tert-Butylbenzene                                                | 98-06-6    | 0.5  | mg/kg  | <0.5             | ----              | ----              | <0.5              | ----              | ----              |
| p-Isopropyltoluene                                               | 99-87-6    | 0.5  | mg/kg  | <0.5             | ----              | ----              | <0.5              | ----              | ----              |
| n-Butylbenzene                                                   | 104-51-8   | 0.5  | mg/kg  | <0.5             | ----              | ----              | <0.5              | ----              | ----              |
| <b>EP074B: Oxygenated Compounds</b>                              |            |      |        |                  |                   |                   |                   |                   |                   |
| Vinyl Acetate                                                    | 108-05-4   | 5    | mg/kg  | <5               | ----              | ----              | <5                | ----              | ----              |

# (Preliminary Report)

Page : 45 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)       |            |     |       | Client sample ID | BH403 / 0.2E      | BH403 / 0.2E      | BH403 / 0.2E      | BH404 / 0.1E      | BH404 / 0.1E      |
|------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time              |            |     |       |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                                 | CAS Number | LOR | Unit  |                  | ES1924021-026     | ES1924021-027     | ES1924021-028     | ES1924021-029     | ES1924021-030     |
|                                          |            |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| EP074B: Oxygenated Compounds - Continued |            |     |       |                  |                   |                   |                   |                   |                   |
| 2-Butanone (MEK)                         | 78-93-3    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| 4-Methyl-2-pentanone (MIBK)              | 108-10-1   | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| 2-Hexanone (MBK)                         | 591-78-6   | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| EP074C: Sulfonated Compounds             |            |     |       |                  |                   |                   |                   |                   |                   |
| Carbon disulfide                         | 75-15-0    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP074D: Fumigants                        |            |     |       |                  |                   |                   |                   |                   |                   |
| 2,2-Dichloropropane                      | 594-20-7   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2-Dichloropropane                      | 78-87-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| cis-1,3-Dichloropropylene                | 10061-01-5 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| trans-1,3-Dichloropropylene              | 10061-02-6 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2-Dibromoethane (EDB)                  | 106-93-4   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP074E: Halogenated Aliphatic Compounds  |            |     |       |                  |                   |                   |                   |                   |                   |
| Dichlorodifluoromethane                  | 75-71-8    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Chloromethane                            | 74-87-3    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Vinyl chloride                           | 75-01-4    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Bromomethane                             | 74-83-9    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Chloroethane                             | 75-00-3    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Trichlorofluoromethane                   | 75-69-4    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| 1,1-Dichloroethene                       | 75-35-4    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Iodomethane                              | 74-88-4    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| trans-1,2-Dichloroethene                 | 156-60-5   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,1-Dichloroethane                       | 75-34-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| cis-1,2-Dichloroethene                   | 156-59-2   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,1,1-Trichloroethane                    | 71-55-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,1-Dichloropropylene                    | 563-58-6   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Carbon Tetrachloride                     | 56-23-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2-Dichloroethane                       | 107-06-2   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Trichloroethene                          | 79-01-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Dibromomethane                           | 74-95-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,1,2-Trichloroethane                    | 79-00-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,3-Dichloropropane                      | 142-28-9   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Tetrachloroethene                        | 127-18-4   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,1,1,2-Tetrachloroethane                | 630-20-6   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| trans-1,4-Dichloro-2-butene              | 110-57-6   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |

# (Preliminary Report)

Page : 46 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                  |                   |     |       | Client sample ID | BH403 / 0.2E      | BH403 / 0.2E      | BH403 / 0.2E      | BH404 / 0.1E      | BH404 / 0.1E      |
|-----------------------------------------------------|-------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                         |                   |     |       |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                                            | CAS Number        | LOR | Unit  |                  | ES1924021-026     | ES1924021-027     | ES1924021-028     | ES1924021-029     | ES1924021-030     |
|                                                     |                   |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| EP074E: Halogenated Aliphatic Compounds - Continued |                   |     |       |                  |                   |                   |                   |                   |                   |
| cis-1,4-Dichloro-2-butene                           | 1476-11-5         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,1,2,2-Tetrachloroethane                           | 79-34-5           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2,3-Trichloropropane                              | 96-18-4           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Pentachloroethane                                   | 76-01-7           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2-Dibromo-3-chloropropane                         | 96-12-8           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP074F: Halogenated Aromatic Compounds              |                   |     |       |                  |                   |                   |                   |                   |                   |
| Chlorobenzene                                       | 108-90-7          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Bromobenzene                                        | 108-86-1          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 2-Chlorotoluene                                     | 95-49-8           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4-Chlorotoluene                                     | 106-43-4          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2,3-Trichlorobenzene                              | 87-61-6           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP074G: Trihalomethanes                             |                   |     |       |                  |                   |                   |                   |                   |                   |
| Chloroform                                          | 67-66-3           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Bromodichloromethane                                | 75-27-4           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Dibromochloromethane                                | 124-48-1          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Bromoform                                           | 75-25-2           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons      |                   |     |       |                  |                   |                   |                   |                   |                   |
| Naphthalene                                         | 91-20-3           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Acenaphthylene                                      | 208-96-8          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Acenaphthene                                        | 83-32-9           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Fluorene                                            | 86-73-7           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Phenanthrene                                        | 85-01-8           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Anthracene                                          | 120-12-7          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Fluoranthene                                        | 206-44-0          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Pyrene                                              | 129-00-0          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Benz(a)anthracene                                   | 56-55-3           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Chrysene                                            | 218-01-9          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Benzo(b+j)fluoranthene                              | 205-99-2 205-82-3 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Benzo(k)fluoranthene                                | 207-08-9          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Benzo(a)pyrene                                      | 50-32-8           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Indeno(1,2,3-cd)pyrene                              | 193-39-5          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Dibenz(a,h)anthracene                               | 53-70-3           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Benzo(g,h,i)perylene                                | 191-24-2          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| ^ Sum of polycyclic aromatic hydrocarbons           | ----              | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |

(Preliminary Report)

Page : 47 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                         |            |     |       | Client sample ID | BH403 / 0.2E      | BH403 / 0.2E      | BH403 / 0.2E      | BH404 / 0.1E      | BH404 / 0.1E      |
|------------------------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                |            |     |       |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                                                   | CAS Number | LOR | Unit  |                  | ES1924021-026     | ES1924021-027     | ES1924021-028     | ES1924021-029     | ES1924021-030     |
|                                                            |            |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued |            |     |       |                  |                   |                   |                   |                   |                   |
| ^ Benzo(a)pyrene TEQ (zero)                                | ----       | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| ^ Benzo(a)pyrene TEQ (half LOR)                            | ----       | 0.5 | mg/kg |                  | 0.6               | ----              | ----              | 0.6               | ----              |
| ^ Benzo(a)pyrene TEQ (LOR)                                 | ----       | 0.5 | mg/kg |                  | 1.2               | ----              | ----              | 1.2               | ----              |
| EP075A: Phenolic Compounds                                 |            |     |       |                  |                   |                   |                   |                   |                   |
| Phenol                                                     | 108-95-2   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 2-Chlorophenol                                             | 95-57-8    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 2-Methylphenol                                             | 95-48-7    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 3- & 4-Methylphenol                                        | 1319-77-3  | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 2-Nitrophenol                                              | 88-75-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 2,4-Dimethylphenol                                         | 105-67-9   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 2,4-Dichlorophenol                                         | 120-83-2   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 2,6-Dichlorophenol                                         | 87-65-0    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4-Chloro-3-methylphenol                                    | 59-50-7    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 2,4,6-Trichlorophenol                                      | 88-06-2    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 2,4,5-Trichlorophenol                                      | 95-95-4    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Pentachlorophenol                                          | 87-86-5    | 1   | mg/kg |                  | <1                | ----              | ----              | <1                | ----              |
| EP075B: Polynuclear Aromatic Hydrocarbons                  |            |     |       |                  |                   |                   |                   |                   |                   |
| 2-Methylnaphthalene                                        | 91-57-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| N-2-Fluorenyl Acetamide                                    | 53-96-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 7,12-Dimethylbenz(a)anthracene                             | 57-97-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 3-Methylcholanthrene                                       | 56-49-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP075C: Phthalate Esters                                   |            |     |       |                  |                   |                   |                   |                   |                   |
| Dimethyl phthalate                                         | 131-11-3   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Diethyl phthalate                                          | 84-66-2    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Di-n-butyl phthalate                                       | 84-74-2    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Butyl benzyl phthalate                                     | 85-68-7    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| bis(2-ethylhexyl) phthalate                                | 117-81-7   | 5.0 | mg/kg |                  | <5.0              | ----              | ----              | <5.0              | ----              |
| Di-n-octylphthalate                                        | 117-84-0   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP075D: Nitrosamines                                       |            |     |       |                  |                   |                   |                   |                   |                   |
| N-Nitrosomethylethylamine                                  | 10595-95-6 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| N-Nitrosodiethylamine                                      | 55-18-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| N-Nitrosopyrrolidine                                       | 930-55-2   | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | <1.0              | ----              |
| N-Nitrosomorpholine                                        | 59-89-2    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| N-Nitrosodi-n-propylamine                                  | 621-64-7   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |

# (Preliminary Report)

Page : 48 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL) |                  |     |       | Client sample ID | BH403 / 0.2E      | BH403 / 0.2E      | BH403 / 0.2E      | BH404 / 0.1E      | BH404 / 0.1E      |
|------------------------------------|------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time        |                  |     |       |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                           | CAS Number       | LOR | Unit  |                  | ES1924021-026     | ES1924021-027     | ES1924021-028     | ES1924021-029     | ES1924021-030     |
|                                    |                  |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| EP075D: Nitrosamines - Continued   |                  |     |       |                  |                   |                   |                   |                   |                   |
| N-Nitrosopiperidine                | 100-75-4         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| N-Nitrosodibutylamine              | 924-16-3         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| N-Nitrosodiphenyl & Diphenylamine  | 86-30-6 122-39-4 | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | <1.0              | ----              |
| Methapyrilene                      | 91-80-5          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP075E: Nitroaromatics and Ketones |                  |     |       |                  |                   |                   |                   |                   |                   |
| 2-Picoline                         | 109-06-8         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Acetophenone                       | 98-86-2          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Nitrobenzene                       | 98-95-3          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Isophorone                         | 78-59-1          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 2,6-Dinitrotoluene                 | 606-20-2         | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | <1.0              | ----              |
| 2,4-Dinitrotoluene                 | 121-14-2         | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | <1.0              | ----              |
| 1-Naphthylamine                    | 134-32-7         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4-Nitroquinoline-N-oxide           | 56-57-5          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 5-Nitro-o-toluidine                | 99-55-8          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Azobenzene                         | 103-33-3         | 1   | mg/kg |                  | <1                | ----              | ----              | <1                | ----              |
| 1,3,5-Trinitrobenzene              | 99-35-4          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Phenacetin                         | 62-44-2          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4-Aminobiphenyl                    | 92-67-1          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Pentachloronitrobenzene            | 82-68-8          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Pronamide                          | 23950-58-5       | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Dimethylaminoazobenzene            | 60-11-7          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Chlorobenzilate                    | 510-15-6         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP075F: Haloethers                 |                  |     |       |                  |                   |                   |                   |                   |                   |
| Bis(2-chloroethyl) ether           | 111-44-4         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Bis(2-chloroethoxy) methane        | 111-91-1         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4-Chlorophenyl phenyl ether        | 7005-72-3        | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4-Bromophenyl phenyl ether         | 101-55-3         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP075G: Chlorinated Hydrocarbons   |                  |     |       |                  |                   |                   |                   |                   |                   |
| 1,3-Dichlorobenzene                | 541-73-1         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,4-Dichlorobenzene                | 106-46-7         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2-Dichlorobenzene                | 95-50-1          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Hexachloroethane                   | 67-72-1          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2,4-Trichlorobenzene             | 120-82-1         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |

# (Preliminary Report)

Page : 49 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)           |            |     |       | Client sample ID | BH403 / 0.2E      | BH403 / 0.2E      | BH403 / 0.2E      | BH404 / 0.1E      | BH404 / 0.1E      |
|----------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                  |            |     |       |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                                     | CAS Number | LOR | Unit  |                  | ES1924021-026     | ES1924021-027     | ES1924021-028     | ES1924021-029     | ES1924021-030     |
|                                              |            |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| EP075G: Chlorinated Hydrocarbons - Continued |            |     |       |                  |                   |                   |                   |                   |                   |
| Hexachloropropylene                          | 1888-71-7  | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Hexachlorobutadiene                          | 87-68-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Hexachlorocyclopentadiene                    | 77-47-4    | 2.5 | mg/kg |                  | <2.5              | ----              | ----              | <2.5              | ----              |
| Pentachlorobenzene                           | 608-93-5   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Hexachlorobenzene (HCB)                      | 118-74-1   | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | <1.0              | ----              |
| EP075H: Anilines and Benzidines              |            |     |       |                  |                   |                   |                   |                   |                   |
| Aniline                                      | 62-53-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4-Chloroaniline                              | 106-47-8   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 2-Nitroaniline                               | 88-74-4    | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | <1.0              | ----              |
| 3-Nitroaniline                               | 99-09-2    | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | <1.0              | ----              |
| Dibenzofuran                                 | 132-64-9   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4-Nitroaniline                               | 100-01-6   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Carbazole                                    | 86-74-8    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 3,3'-Dichlorobenzidine                       | 91-94-1    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| EP075I: Organochlorine Pesticides            |            |     |       |                  |                   |                   |                   |                   |                   |
| alpha-BHC                                    | 319-84-6   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| beta-BHC                                     | 319-85-7   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| gamma-BHC                                    | 58-89-9    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| delta-BHC                                    | 319-86-8   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Heptachlor                                   | 76-44-8    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Aldrin                                       | 309-00-2   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Heptachlor epoxide                           | 1024-57-3  | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| alpha-Endosulfan                             | 959-98-8   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4,4'-DDE                                     | 72-55-9    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Dieldrin                                     | 60-57-1    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Endrin                                       | 72-20-8    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| beta-Endosulfan                              | 33213-65-9 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4,4'-DDD                                     | 72-54-8    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Endosulfan sulfate                           | 1031-07-8  | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4,4'-DDT                                     | 50-29-3    | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | <1.0              | ----              |
| EP075J: Organophosphorus Pesticides          |            |     |       |                  |                   |                   |                   |                   |                   |
| Dichlorvos                                   | 62-73-7    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Dimethoate                                   | 60-51-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Diazinon                                     | 333-41-5   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |

Page : 50 of 67  
Work Order : ES1924021  
Client : GOLDER  
Project : 19125312

## Analytical Results

Sub-Matrix: **SOIL**  
(Matrix: **SOIL**)

Client sample ID

| Sub-Matrix: SOIL<br>(Matrix: SOIL) |            |     |      | Client sample ID | BH403 / 0.2E      | BH403 / 0.2E      | BH403 / 0.2E      | BH404 / 0.1E      | BH404 / 0.1E      |
|------------------------------------|------------|-----|------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time        |            |     |      |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                           | CAS Number | LOR | Unit | ES1924021-026    | ES1924021-027     | ES1924021-028     | ES1924021-029     | ES1924021-030     |                   |
|                                    |            |     |      | Result           | Result            | Result            | Result            | Result            |                   |

## EP075J: Organophosphorus Pesticides - Continued

|                     |            |     |       |      |      |      |      |      |
|---------------------|------------|-----|-------|------|------|------|------|------|
| Chlorpyrifos-methyl | 5598-13-0  | 0.5 | mg/kg | <0.5 | ---- | ---- | <0.5 | ---- |
| Malathion           | 121-75-5   | 0.5 | mg/kg | <0.5 | ---- | ---- | <0.5 | ---- |
| Fenthion            | 55-38-9    | 0.5 | mg/kg | <0.5 | ---- | ---- | <0.5 | ---- |
| Chlorpyrifos        | 2921-88-2  | 0.5 | mg/kg | <0.5 | ---- | ---- | <0.5 | ---- |
| Pirimphos-ethyl     | 23505-41-1 | 0.5 | mg/kg | <0.5 | ---- | ---- | <0.5 | ---- |
| Chlorfenvinphos     | 470-90-6   | 0.5 | mg/kg | <0.5 | ---- | ---- | <0.5 | ---- |
| Prothiofos          | 34643-46-4 | 0.5 | mg/kg | <0.5 | ---- | ---- | <0.5 | ---- |
| Ethion              | 563-12-2   | 0.5 | mg/kg | <0.5 | ---- | ---- | <0.5 | ---- |

## EP080/071: Total Petroleum Hydrocarbons

|                                       |      |     |       |      |      |      |      |      |
|---------------------------------------|------|-----|-------|------|------|------|------|------|
| C6 - C9 Fraction                      | ---- | 10  | mg/kg | <10  | ---- | ---- | <10  | ---- |
| C10 - C14 Fraction                    | ---- | 50  | mg/kg | <50  | ---- | ---- | <50  | ---- |
| C15 - C28 Fraction                    | ---- | 100 | mg/kg | <100 | ---- | ---- | <100 | ---- |
| C29 - C36 Fraction                    | ---- | 100 | mg/kg | <100 | ---- | ---- | <100 | ---- |
| <sup>^</sup> C10 - C36 Fraction (sum) | ---- | 50  | mg/kg | <50  | ---- | ---- | <50  | ---- |

**EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions**

| C6 - C10 Fraction Recovery by GC/MS - All 10 Fractions |             |     |       |      |      |      |      |      |
|--------------------------------------------------------|-------------|-----|-------|------|------|------|------|------|
| C6 - C10 Fraction                                      | C6_C10      | 10  | mg/kg | <10  | ---- | ---- | <10  | ---- |
| ^ C6 - C10 Fraction minus BTEX (F1)                    | C6_C10-BTEX | 10  | mg/kg | <10  | ---- | ---- | <10  | ---- |
| >C10 - C16 Fraction                                    | ----        | 50  | mg/kg | <50  | ---- | ---- | <50  | ---- |
| >C16 - C34 Fraction                                    | ----        | 100 | mg/kg | <100 | ---- | ---- | <100 | ---- |
| >C34 - C40 Fraction                                    | ----        | 100 | mg/kg | <100 | ---- | ---- | <100 | ---- |
| ^ >C10 - C40 Fraction (sum)                            | ----        | 50  | mg/kg | <50  | ---- | ---- | <50  | ---- |
| ^ >C10 - C16 Fraction minus Naphthalene (F2)           | ----        | 50  | mg/kg | <50  | ---- | ---- | <50  | ---- |

## EP080: BTEXN

|                     |                   |     |       |      |      |      |      |      |
|---------------------|-------------------|-----|-------|------|------|------|------|------|
| Benzene             | 71-43-2           | 0.2 | mg/kg | <0.2 | ---- | ---- | <0.2 | ---- |
| Toluene             | 108-88-3          | 0.5 | mg/kg | <0.5 | ---- | ---- | <0.5 | ---- |
| Ethylbenzene        | 100-41-4          | 0.5 | mg/kg | <0.5 | ---- | ---- | <0.5 | ---- |
| meta- & para-Xylene | 108-38-3 106-42-3 | 0.5 | mg/kg | <0.5 | ---- | ---- | <0.5 | ---- |
| ortho-Xylene        | 95-47-6           | 0.5 | mg/kg | <0.5 | ---- | ---- | <0.5 | ---- |
| ^ Sum of BTEX       | ----              | 0.2 | mg/kg | <0.2 | ---- | ---- | <0.2 | ---- |
| ^ Total Xylenes     | ----              | 0.5 | mg/kg | <0.5 | ---- | ---- | <0.5 | ---- |
| Naphthalene         | 91-20-3           | 1   | mg/kg | <1   | ---- | ---- | <1   | ---- |

## EP231A: Perfluoroalkyl Sulfonic Acids

# (Preliminary Report)

Page : 51 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                |            |        |       | Client sample ID | BH403 / 0.2E      | BH403 / 0.2E      | BH403 / 0.2E      | BH404 / 0.1E      | BH404 / 0.1E      |
|---------------------------------------------------|------------|--------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                       |            |        |       |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                                          | CAS Number | LOR    | Unit  |                  | ES1924021-026     | ES1924021-027     | ES1924021-028     | ES1924021-029     | ES1924021-030     |
|                                                   |            |        |       |                  | Result            | Result            | Result            | Result            | Result            |
| EP231A: Perfluoroalkyl Sulfonic Acids - Continued |            |        |       |                  |                   |                   |                   |                   |                   |
| Perfluorobutane sulfonic acid (PFBS)              | 375-73-5   | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluoropentane sulfonic acid (PFPeS)            | 2706-91-4  | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluorohexane sulfonic acid (PFHxS)             | 355-46-4   | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluoroheptane sulfonic acid (PFHpS)            | 375-92-8   | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluorooctane sulfonic acid (PFOS)              | 1763-23-1  | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluorodecane sulfonic acid (PFDS)              | 335-77-3   | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| EP231B: Perfluoroalkyl Carboxylic Acids           |            |        |       |                  |                   |                   |                   |                   |                   |
| Perfluorobutanoic acid (PFBA)                     | 375-22-4   | 0.001  | mg/kg |                  | ----              | <0.001            | ----              | ----              | <0.001            |
| Perfluoropentanoic acid (PFPeA)                   | 2706-90-3  | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluorohexanoic acid (PFHxA)                    | 307-24-4   | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluoroheptanoic acid (PFHpA)                   | 375-85-9   | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluorooctanoic acid (PFOA)                     | 335-67-1   | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluorononanoic acid (PFNA)                     | 375-95-1   | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluorodecanoic acid (PFDA)                     | 335-76-2   | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluoroundecanoic acid (PFUnDA)                 | 2058-94-8  | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluorododecanoic acid (PFDoDA)                 | 307-55-1   | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluorotridecanoic acid (PFTrDA)                | 72629-94-8 | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluorotetradecanoic acid (PFTeDA)              | 376-06-7   | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | <0.0005           |
| EP231C: Perfluoroalkyl Sulfonamides               |            |        |       |                  |                   |                   |                   |                   |                   |
| Perfluorooctane sulfonamide (FOSA)                | 754-91-6   | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| N-Methyl perfluorooctane sulfonamide (MeFOSA)     | 31506-32-8 | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | <0.0005           |
| N-Ethyl perfluorooctane sulfonamide (EtFOSA)      | 4151-50-2  | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | <0.0005           |



| Sub-Matrix: SOIL<br>(Matrix: SOIL)                        |                    |        |       | Client sample ID  | BH403 / 0.2E      | BH403 / 0.2E      | BH403 / 0.2E      | BH404 / 0.1E      | BH404 / 0.1E |
|-----------------------------------------------------------|--------------------|--------|-------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------|
| Client sampling date / time                               |                    |        |       | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 |              |
| Compound                                                  | CAS Number         | LOR    | Unit  | ES1924021-026     | ES1924021-027     | ES1924021-028     | ES1924021-029     | ES1924021-030     |              |
|                                                           |                    |        |       | Result            | Result            | Result            | Result            | Result            |              |
| EP231C: Perfluoroalkyl Sulfonamides - Continued           |                    |        |       |                   |                   |                   |                   |                   |              |
| N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)      | 24448-09-7         | 0.0005 | mg/kg | ----              | <0.0005           | ----              | ----              | <0.0005           |              |
| N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)       | 1691-99-2          | 0.0005 | mg/kg | ----              | <0.0005           | ----              | ----              | <0.0005           |              |
| N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA) | 2355-31-9          | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | <0.0002           |              |
| N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)  | 2991-50-6          | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | <0.0002           |              |
| EP231D: (n:2) Fluorotelomer Sulfonic Acids                |                    |        |       |                   |                   |                   |                   |                   |              |
| 4:2 Fluorotelomer sulfonic acid (4:2 FTS)                 | 757124-72-4        | 0.0005 | mg/kg | ----              | <0.0005           | ----              | ----              | <0.0005           |              |
| 6:2 Fluorotelomer sulfonic acid (6:2 FTS)                 | 27619-97-2         | 0.0005 | mg/kg | ----              | <0.0005           | ----              | ----              | <0.0005           |              |
| 8:2 Fluorotelomer sulfonic acid (8:2 FTS)                 | 39108-34-4         | 0.0005 | mg/kg | ----              | <0.0005           | ----              | ----              | <0.0005           |              |
| 10:2 Fluorotelomer sulfonic acid (10:2 FTS)               | 120226-60-0        | 0.0005 | mg/kg | ----              | <0.0005           | ----              | ----              | <0.0005           |              |
| EP231P: PFAS Sums                                         |                    |        |       |                   |                   |                   |                   |                   |              |
| Sum of PFAS                                               | ----               | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | <0.0002           |              |
| Sum of PFHxS and PFOS                                     | 355-46-4/1763-23-1 | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | <0.0002           |              |
| Sum of PFAS (WA DER List)                                 | ----               | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | <0.0002           |              |
| EP066S: PCB Surrogate                                     |                    |        |       |                   |                   |                   |                   |                   |              |
| Decachlorobiphenyl                                        | 2051-24-3          | 0.1    | %     | 103               | ----              | ----              | 104               | ----              |              |
| EP074S: VOC Surrogates                                    |                    |        |       |                   |                   |                   |                   |                   |              |
| 1,2-Dichloroethane-D4                                     | 17060-07-0         | 0.5    | %     | 92.3              | ----              | ----              | 98.7              | ----              |              |
| Toluene-D8                                                | 2037-26-5          | 0.5    | %     | 92.0              | ----              | ----              | 99.4              | ----              |              |
| 4-Bromofluorobenzene                                      | 460-00-4           | 0.5    | %     | 82.6              | ----              | ----              | 87.8              | ----              |              |
| EP075(SIM)S: Phenolic Compound Surrogates                 |                    |        |       |                   |                   |                   |                   |                   |              |
| Phenol-d6                                                 | 13127-88-3         | 0.5    | %     | 83.5              | ----              | ----              | 81.6              | ----              |              |
| 2-Chlorophenol-D4                                         | 93951-73-6         | 0.5    | %     | 91.0              | ----              | ----              | 88.4              | ----              |              |
| 2,4,6-Tribromophenol                                      | 118-79-6           | 0.5    | %     | 64.7              | ----              | ----              | 63.9              | ----              |              |
| EP075(SIM)T: PAH Surrogates                               |                    |        |       |                   |                   |                   |                   |                   |              |

(Preliminary Report)

Page : 53 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)          |            |        |      | Client sample ID | BH403 / 0.2E      | BH403 / 0.2E      | BH403 / 0.2E      | BH404 / 0.1E      | BH404 / 0.1E      |
|---------------------------------------------|------------|--------|------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                 |            |        |      |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                                    | CAS Number | LOR    | Unit |                  | ES1924021-026     | ES1924021-027     | ES1924021-028     | ES1924021-029     | ES1924021-030     |
|                                             |            |        |      |                  | Result            | Result            | Result            | Result            | Result            |
| EP075(SIM)T: PAH Surrogates - Continued     |            |        |      |                  |                   |                   |                   |                   |                   |
| 2-Fluorobiphenyl                            | 321-60-8   | 0.5    | %    |                  | 96.9              | ----              | ----              | 94.3              | ----              |
| Anthracene-d10                              | 1719-06-8  | 0.5    | %    |                  | 100               | ----              | ----              | 96.0              | ----              |
| 4-Terphenyl-d14                             | 1718-51-0  | 0.5    | %    |                  | 101               | ----              | ----              | 97.7              | ----              |
| EP075S: Acid Extractable Surrogates         |            |        |      |                  |                   |                   |                   |                   |                   |
| 2-Fluorophenol                              | 367-12-4   | 0.5    | %    |                  | 92.3              | ----              | ----              | 96.1              | ----              |
| Phenol-d6                                   | 13127-88-3 | 0.5    | %    |                  | 95.3              | ----              | ----              | 89.2              | ----              |
| 2-Chlorophenol-D4                           | 93951-73-6 | 0.5    | %    |                  | 99.1              | ----              | ----              | 95.7              | ----              |
| 2,4,6-Tribromophenol                        | 118-79-6   | 0.5    | %    |                  | 69.1              | ----              | ----              | 63.8              | ----              |
| EP075T: Base/Neutral Extractable Surrogates |            |        |      |                  |                   |                   |                   |                   |                   |
| Nitrobenzene-D5                             | 4165-60-0  | 0.5    | %    |                  | 86.4              | ----              | ----              | 82.5              | ----              |
| 1,2-Dichlorobenzene-D4                      | 2199-69-1  | 0.5    | %    |                  | 101               | ----              | ----              | 93.4              | ----              |
| 2-Fluorobiphenyl                            | 321-60-8   | 0.5    | %    |                  | 120               | ----              | ----              | 117               | ----              |
| Anthracene-d10                              | 1719-06-8  | 0.5    | %    |                  | 92.2              | ----              | ----              | 89.9              | ----              |
| 4-Terphenyl-d14                             | 1718-51-0  | 0.5    | %    |                  | 116               | ----              | ----              | 112               | ----              |
| EP080S: TPH(V)/BTEX Surrogates              |            |        |      |                  |                   |                   |                   |                   |                   |
| 1,2-Dichloroethane-D4                       | 17060-07-0 | 0.2    | %    |                  | 92.0              | ----              | ----              | 98.4              | ----              |
| Toluene-D8                                  | 2037-26-5  | 0.2    | %    |                  | 75.3              | ----              | ----              | 78.7              | ----              |
| 4-Bromofluorobenzene                        | 460-00-4   | 0.2    | %    |                  | 80.2              | ----              | ----              | 84.8              | ----              |
| EP231S: PFAS Surrogate                      |            |        |      |                  |                   |                   |                   |                   |                   |
| 13C4-PFOS                                   | ----       | 0.0002 | %    |                  | ----              | 76.5              | ----              | ----              | 88.5              |
| 13C8-PFOA                                   | ----       | 0.0002 | %    |                  | ----              | 70.0              | ----              | ----              | 97.0              |

# (Preliminary Report)

Page : 54 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

|                                                           |            |      |        |                  |                   |                   |                   |                   |       |
|-----------------------------------------------------------|------------|------|--------|------------------|-------------------|-------------------|-------------------|-------------------|-------|
| Sub-Matrix: SOIL<br>(Matrix: SOIL)                        |            |      |        | Client sample ID | BH404 / 0.1E      | BH404 / 0.5E      | BH404 / 0.5E      | BH404 / 0.5E      | ----  |
| Client sampling date / time                               |            |      |        |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | ----  |
| Compound                                                  | CAS Number | LOR  | Unit   |                  | ES1924021-031     | ES1924021-032     | ES1924021-033     | ES1924021-034     | ----- |
|                                                           |            |      |        |                  | Result            | Result            | Result            | Result            | ----  |
| EA055: Moisture Content (Dried @ 105-110°C)               |            |      |        |                  |                   |                   |                   |                   |       |
| Moisture Content                                          | ----       | 0.1  | %      |                  | ----              | ----              | 12.0              | ----              | ----  |
| Moisture Content                                          | ----       | 1.0  | %      |                  | ----              | 12.8              | ----              | ----              | ----  |
| EA200: AS 4964 - 2004 Identification of Asbestos in Soils |            |      |        |                  |                   |                   |                   |                   |       |
| Asbestos Detected                                         | 1332-21-4  | 0.1  | g/kg   |                  | No                | ----              | ----              | No                | ----  |
| Asbestos (Trace)                                          | 1332-21-4  | 5    | Fibres |                  | No                | ----              | ----              | No                | ----  |
| Asbestos Type                                             | 1332-21-4  | -    | --     |                  | -                 | ----              | ----              | -                 | ----  |
| Sample weight (dry)                                       | ----       | 0.01 | g      |                  | 51.8              | ----              | ----              | 28.1              | ----  |
| APPROVED IDENTIFIER:                                      | ----       | -    | --     |                  | A. SMYLIE         | ----              | ----              | A. SMYLIE         | ----  |
| Synthetic Mineral Fibre                                   | ----       | 0.1  | g/kg   |                  | No                | ----              | ----              | No                | ----  |
| Organic Fibre                                             | ----       | 0.1  | g/kg   |                  | No                | ----              | ----              | No                | ----  |
| EG005(ED093)T: Total Metals by ICP-AES                    |            |      |        |                  |                   |                   |                   |                   |       |
| Arsenic                                                   | 7440-38-2  | 5    | mg/kg  |                  | ----              | 11                | ----              | ----              | ----  |
| Cadmium                                                   | 7440-43-9  | 1    | mg/kg  |                  | ----              | <1                | ----              | ----              | ----  |
| Chromium                                                  | 7440-47-3  | 2    | mg/kg  |                  | ----              | 26                | ----              | ----              | ----  |
| Copper                                                    | 7440-50-8  | 5    | mg/kg  |                  | ----              | 52                | ----              | ----              | ----  |
| Lead                                                      | 7439-92-1  | 5    | mg/kg  |                  | ----              | 217               | ----              | ----              | ----  |
| Nickel                                                    | 7440-02-0  | 2    | mg/kg  |                  | ----              | 30                | ----              | ----              | ----  |
| Zinc                                                      | 7440-66-6  | 5    | mg/kg  |                  | ----              | 230               | ----              | ----              | ----  |
| EG035T: Total Recoverable Mercury by FIMS                 |            |      |        |                  |                   |                   |                   |                   |       |
| Mercury                                                   | 7439-97-6  | 0.1  | mg/kg  |                  | ----              | 0.3               | ----              | ----              | ----  |
| EP066: Polychlorinated Biphenyls (PCB)                    |            |      |        |                  |                   |                   |                   |                   |       |
| Total Polychlorinated biphenyls                           | ----       | 0.1  | mg/kg  |                  | ----              | <0.1              | ----              | ----              | ----  |
| EP074A: Monocyclic Aromatic Hydrocarbons                  |            |      |        |                  |                   |                   |                   |                   |       |
| Styrene                                                   | 100-42-5   | 0.5  | mg/kg  |                  | ----              | <0.5              | ----              | ----              | ----  |
| Isopropylbenzene                                          | 98-82-8    | 0.5  | mg/kg  |                  | ----              | <0.5              | ----              | ----              | ----  |
| n-Propylbenzene                                           | 103-65-1   | 0.5  | mg/kg  |                  | ----              | <0.5              | ----              | ----              | ----  |
| 1,3,5-Trimethylbenzene                                    | 108-67-8   | 0.5  | mg/kg  |                  | ----              | <0.5              | ----              | ----              | ----  |
| sec-Butylbenzene                                          | 135-98-8   | 0.5  | mg/kg  |                  | ----              | <0.5              | ----              | ----              | ----  |
| 1,2,4-Trimethylbenzene                                    | 95-63-6    | 0.5  | mg/kg  |                  | ----              | <0.5              | ----              | ----              | ----  |
| tert-Butylbenzene                                         | 98-06-6    | 0.5  | mg/kg  |                  | ----              | <0.5              | ----              | ----              | ----  |
| p-Isopropyltoluene                                        | 99-87-6    | 0.5  | mg/kg  |                  | ----              | <0.5              | ----              | ----              | ----  |
| n-Butylbenzene                                            | 104-51-8   | 0.5  | mg/kg  |                  | ----              | <0.5              | ----              | ----              | ----  |
| EP074B: Oxygenated Compounds                              |            |      |        |                  |                   |                   |                   |                   |       |
| Vinyl Acetate                                             | 108-05-4   | 5    | mg/kg  |                  | ----              | <5                | ----              | ----              | ----  |

# (Preliminary Report)

Page : 55 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)       |            |     |       | Client sample ID | BH404 / 0.1E      | BH404 / 0.5E      | BH404 / 0.5E      | BH404 / 0.5E      | ----  |
|------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------|
| Client sampling date / time              |            |     |       |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | ----  |
| Compound                                 | CAS Number | LOR | Unit  |                  | ES1924021-031     | ES1924021-032     | ES1924021-033     | ES1924021-034     | ----- |
|                                          |            |     |       |                  | Result            | Result            | Result            | Result            | ----  |
| EP074B: Oxygenated Compounds - Continued |            |     |       |                  |                   |                   |                   |                   |       |
| 2-Butanone (MEK)                         | 78-93-3    | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | ----  |
| 4-Methyl-2-pentanone (MIBK)              | 108-10-1   | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | ----  |
| 2-Hexanone (MBK)                         | 591-78-6   | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | ----  |
| EP074C: Sulfonated Compounds             |            |     |       |                  |                   |                   |                   |                   |       |
| Carbon disulfide                         | 75-15-0    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| EP074D: Fumigants                        |            |     |       |                  |                   |                   |                   |                   |       |
| 2,2-Dichloropropane                      | 594-20-7   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 1,2-Dichloropropane                      | 78-87-5    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| cis-1,3-Dichloropropylene                | 10061-01-5 | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| trans-1,3-Dichloropropylene              | 10061-02-6 | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 1,2-Dibromoethane (EDB)                  | 106-93-4   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| EP074E: Halogenated Aliphatic Compounds  |            |     |       |                  |                   |                   |                   |                   |       |
| Dichlorodifluoromethane                  | 75-71-8    | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | ----  |
| Chloromethane                            | 74-87-3    | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | ----  |
| Vinyl chloride                           | 75-01-4    | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | ----  |
| Bromomethane                             | 74-83-9    | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | ----  |
| Chloroethane                             | 75-00-3    | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | ----  |
| Trichlorofluoromethane                   | 75-69-4    | 5   | mg/kg |                  | ----              | <5                | ----              | ----              | ----  |
| 1,1-Dichloroethene                       | 75-35-4    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Iodomethane                              | 74-88-4    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| trans-1,2-Dichloroethene                 | 156-60-5   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 1,1-Dichloroethane                       | 75-34-3    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| cis-1,2-Dichloroethene                   | 156-59-2   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 1,1,1-Trichloroethane                    | 71-55-6    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 1,1-Dichloropropylene                    | 563-58-6   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Carbon Tetrachloride                     | 56-23-5    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 1,2-Dichloroethane                       | 107-06-2   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Trichloroethene                          | 79-01-6    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Dibromomethane                           | 74-95-3    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 1,1,2-Trichloroethane                    | 79-00-5    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 1,3-Dichloropropane                      | 142-28-9   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Tetrachloroethene                        | 127-18-4   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 1,1,1,2-Tetrachloroethane                | 630-20-6   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| trans-1,4-Dichloro-2-butene              | 110-57-6   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |

# (Preliminary Report)

Page : 56 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

|                                                     |                   |     |       |                  |                   |                   |                   |                   |       |
|-----------------------------------------------------|-------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------|
| Sub-Matrix: SOIL<br>(Matrix: SOIL)                  |                   |     |       | Client sample ID | BH404 / 0.1E      | BH404 / 0.5E      | BH404 / 0.5E      | BH404 / 0.5E      | ----  |
| Client sampling date / time                         |                   |     |       |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | ----  |
| Compound                                            | CAS Number        | LOR | Unit  |                  | ES1924021-031     | ES1924021-032     | ES1924021-033     | ES1924021-034     | ----- |
|                                                     |                   |     |       |                  | Result            | Result            | Result            | Result            | ----  |
| EP074E: Halogenated Aliphatic Compounds - Continued |                   |     |       |                  |                   |                   |                   |                   |       |
| cis-1,4-Dichloro-2-butene                           | 1476-11-5         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 1,1,2,2-Tetrachloroethane                           | 79-34-5           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 1,2,3-Trichloropropane                              | 96-18-4           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Pentachloroethane                                   | 76-01-7           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 1,2-Dibromo-3-chloropropane                         | 96-12-8           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| EP074F: Halogenated Aromatic Compounds              |                   |     |       |                  |                   |                   |                   |                   |       |
| Chlorobenzene                                       | 108-90-7          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Bromobenzene                                        | 108-86-1          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 2-Chlorotoluene                                     | 95-49-8           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 4-Chlorotoluene                                     | 106-43-4          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 1,2,3-Trichlorobenzene                              | 87-61-6           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| EP074G: Trihalomethanes                             |                   |     |       |                  |                   |                   |                   |                   |       |
| Chloroform                                          | 67-66-3           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Bromodichloromethane                                | 75-27-4           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Dibromochloromethane                                | 124-48-1          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Bromoform                                           | 75-25-2           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons      |                   |     |       |                  |                   |                   |                   |                   |       |
| Naphthalene                                         | 91-20-3           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Acenaphthylene                                      | 208-96-8          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Acenaphthene                                        | 83-32-9           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Fluorene                                            | 86-73-7           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Phenanthrene                                        | 85-01-8           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Anthracene                                          | 120-12-7          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Fluoranthene                                        | 206-44-0          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Pyrene                                              | 129-00-0          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Benz(a)anthracene                                   | 56-55-3           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Chrysene                                            | 218-01-9          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Benzo(b+j)fluoranthene                              | 205-99-2 205-82-3 | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Benzo(k)fluoranthene                                | 207-08-9          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Benzo(a)pyrene                                      | 50-32-8           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Indeno(1,2,3.cd)pyrene                              | 193-39-5          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Dibenz(a,h)anthracene                               | 53-70-3           | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Benzo(g,h,i)perylene                                | 191-24-2          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| ^ Sum of polycyclic aromatic hydrocarbons           | ----              | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |

# (Preliminary Report)

Page : 57 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                         |            |     |       | Client sample ID | BH404 / 0.1E      | BH404 / 0.5E      | BH404 / 0.5E      | BH404 / 0.5E      | ----  |
|------------------------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------|
| Client sampling date / time                                |            |     |       |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | ----  |
| Compound                                                   | CAS Number | LOR | Unit  |                  | ES1924021-031     | ES1924021-032     | ES1924021-033     | ES1924021-034     | ----- |
|                                                            |            |     |       |                  | Result            | Result            | Result            | Result            | ----  |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued |            |     |       |                  |                   |                   |                   |                   |       |
| ^ Benzo(a)pyrene TEQ (zero)                                | ----       | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| ^ Benzo(a)pyrene TEQ (half LOR)                            | ----       | 0.5 | mg/kg |                  | ----              | 0.6               | ----              | ----              | ----  |
| ^ Benzo(a)pyrene TEQ (LOR)                                 | ----       | 0.5 | mg/kg |                  | ----              | 1.2               | ----              | ----              | ----  |
| EP075A: Phenolic Compounds                                 |            |     |       |                  |                   |                   |                   |                   |       |
| Phenol                                                     | 108-95-2   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 2-Chlorophenol                                             | 95-57-8    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 2-Methylphenol                                             | 95-48-7    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 3- & 4-Methylphenol                                        | 1319-77-3  | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 2-Nitrophenol                                              | 88-75-5    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 2,4-Dimethylphenol                                         | 105-67-9   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 2,4-Dichlorophenol                                         | 120-83-2   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 2,6-Dichlorophenol                                         | 87-65-0    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 4-Chloro-3-methylphenol                                    | 59-50-7    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 2,4,6-Trichlorophenol                                      | 88-06-2    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 2,4,5-Trichlorophenol                                      | 95-95-4    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Pentachlorophenol                                          | 87-86-5    | 1   | mg/kg |                  | ----              | <1                | ----              | ----              | ----  |
| EP075B: Polynuclear Aromatic Hydrocarbons                  |            |     |       |                  |                   |                   |                   |                   |       |
| 2-Methylnaphthalene                                        | 91-57-6    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| N-2-Fluorenyl Acetamide                                    | 53-96-3    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 7,12-Dimethylbenz(a)anthracene                             | 57-97-6    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 3-Methylcholanthrene                                       | 56-49-5    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| EP075C: Phthalate Esters                                   |            |     |       |                  |                   |                   |                   |                   |       |
| Dimethyl phthalate                                         | 131-11-3   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Diethyl phthalate                                          | 84-66-2    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Di-n-butyl phthalate                                       | 84-74-2    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Butyl benzyl phthalate                                     | 85-68-7    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| bis(2-ethylhexyl) phthalate                                | 117-81-7   | 5.0 | mg/kg |                  | ----              | <5.0              | ----              | ----              | ----  |
| Di-n-octylphthalate                                        | 117-84-0   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| EP075D: Nitrosamines                                       |            |     |       |                  |                   |                   |                   |                   |       |
| N-Nitrosomethylethylamine                                  | 10595-95-6 | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| N-Nitrosodiethylamine                                      | 55-18-5    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| N-Nitrosopyrrolidine                                       | 930-55-2   | 1.0 | mg/kg |                  | ----              | <1.0              | ----              | ----              | ----  |
| N-Nitrosomorpholine                                        | 59-89-2    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| N-Nitrosodi-n-propylamine                                  | 621-64-7   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |

# (Preliminary Report)

Page : 58 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL) |                  |     |       | Client sample ID | BH404 / 0.1E      | BH404 / 0.5E      | BH404 / 0.5E      | BH404 / 0.5E      | ----  |
|------------------------------------|------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------|
| Client sampling date / time        |                  |     |       |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | ----  |
| Compound                           | CAS Number       | LOR | Unit  |                  | ES1924021-031     | ES1924021-032     | ES1924021-033     | ES1924021-034     | ----- |
|                                    |                  |     |       |                  | Result            | Result            | Result            | Result            | ----  |
| EP075D: Nitrosamines - Continued   |                  |     |       |                  |                   |                   |                   |                   |       |
| N-Nitrosopiperidine                | 100-75-4         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| N-Nitrosodibutylamine              | 924-16-3         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| N-Nitrosodiphenyl & Diphenylamine  | 86-30-6 122-39-4 | 1.0 | mg/kg |                  | ----              | <1.0              | ----              | ----              | ----  |
| Methapyrilene                      | 91-80-5          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| EP075E: Nitroaromatics and Ketones |                  |     |       |                  |                   |                   |                   |                   |       |
| 2-Picoline                         | 109-06-8         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Acetophenone                       | 98-86-2          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Nitrobenzene                       | 98-95-3          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Isophorone                         | 78-59-1          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 2,6-Dinitrotoluene                 | 606-20-2         | 1.0 | mg/kg |                  | ----              | <1.0              | ----              | ----              | ----  |
| 2,4-Dinitrotoluene                 | 121-14-2         | 1.0 | mg/kg |                  | ----              | <1.0              | ----              | ----              | ----  |
| 1-Naphthylamine                    | 134-32-7         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 4-Nitroquinoline-N-oxide           | 56-57-5          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 5-Nitro-o-toluidine                | 99-55-8          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Azobenzene                         | 103-33-3         | 1   | mg/kg |                  | ----              | <1                | ----              | ----              | ----  |
| 1,3,5-Trinitrobenzene              | 99-35-4          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Phenacetin                         | 62-44-2          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 4-Aminobiphenyl                    | 92-67-1          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Pentachloronitrobenzene            | 82-68-8          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Pronamide                          | 23950-58-5       | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Dimethylaminoazobenzene            | 60-11-7          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Chlorobenzilate                    | 510-15-6         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| EP075F: Haloethers                 |                  |     |       |                  |                   |                   |                   |                   |       |
| Bis(2-chloroethyl) ether           | 111-44-4         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Bis(2-chloroethoxy) methane        | 111-91-1         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 4-Chlorophenyl phenyl ether        | 7005-72-3        | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 4-Bromophenyl phenyl ether         | 101-55-3         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| EP075G: Chlorinated Hydrocarbons   |                  |     |       |                  |                   |                   |                   |                   |       |
| 1,3-Dichlorobenzene                | 541-73-1         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 1,4-Dichlorobenzene                | 106-46-7         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 1,2-Dichlorobenzene                | 95-50-1          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Hexachloroethane                   | 67-72-1          | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 1,2,4-Trichlorobenzene             | 120-82-1         | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |

# (Preliminary Report)

Page : 59 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)           |            |     |       | Client sample ID | BH404 / 0.1E      | BH404 / 0.5E      | BH404 / 0.5E      | BH404 / 0.5E      | ----  |
|----------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------|
| Client sampling date / time                  |            |     |       |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | ----  |
| Compound                                     | CAS Number | LOR | Unit  |                  | ES1924021-031     | ES1924021-032     | ES1924021-033     | ES1924021-034     | ----- |
|                                              |            |     |       |                  | Result            | Result            | Result            | Result            | ----  |
| EP075G: Chlorinated Hydrocarbons - Continued |            |     |       |                  |                   |                   |                   |                   |       |
| Hexachloropropylene                          | 1888-71-7  | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Hexachlorobutadiene                          | 87-68-3    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Hexachlorocyclopentadiene                    | 77-47-4    | 2.5 | mg/kg |                  | ----              | <2.5              | ----              | ----              | ----  |
| Pentachlorobenzene                           | 608-93-5   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Hexachlorobenzene (HCB)                      | 118-74-1   | 1.0 | mg/kg |                  | ----              | <1.0              | ----              | ----              | ----  |
| EP075H: Anilines and Benzidines              |            |     |       |                  |                   |                   |                   |                   |       |
| Aniline                                      | 62-53-3    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 4-Chloroaniline                              | 106-47-8   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 2-Nitroaniline                               | 88-74-4    | 1.0 | mg/kg |                  | ----              | <1.0              | ----              | ----              | ----  |
| 3-Nitroaniline                               | 99-09-2    | 1.0 | mg/kg |                  | ----              | <1.0              | ----              | ----              | ----  |
| Dibenzofuran                                 | 132-64-9   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 4-Nitroaniline                               | 100-01-6   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Carbazole                                    | 86-74-8    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 3,3'-Dichlorobenzidine                       | 91-94-1    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| EP075I: Organochlorine Pesticides            |            |     |       |                  |                   |                   |                   |                   |       |
| alpha-BHC                                    | 319-84-6   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| beta-BHC                                     | 319-85-7   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| gamma-BHC                                    | 58-89-9    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| delta-BHC                                    | 319-86-8   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Heptachlor                                   | 76-44-8    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Aldrin                                       | 309-00-2   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Heptachlor epoxide                           | 1024-57-3  | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| alpha-Endosulfan                             | 959-98-8   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 4,4'-DDE                                     | 72-55-9    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Dieldrin                                     | 60-57-1    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Endrin                                       | 72-20-8    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| beta-Endosulfan                              | 33213-65-9 | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 4,4'-DDD                                     | 72-54-8    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Endosulfan sulfate                           | 1031-07-8  | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| 4,4'-DDT                                     | 50-29-3    | 1.0 | mg/kg |                  | ----              | <1.0              | ----              | ----              | ----  |
| EP075J: Organophosphorus Pesticides          |            |     |       |                  |                   |                   |                   |                   |       |
| Dichlorvos                                   | 62-73-7    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Dimethoate                                   | 60-51-5    | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |
| Diazinon                                     | 333-41-5   | 0.5 | mg/kg |                  | ----              | <0.5              | ----              | ----              | ----  |

## Analytical Results

## EP231A: Perfluoroalkyl Sulfonic Acids

(Preliminary Report)

Page : 61 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Analytical Results

|                                                   |            |        |       |                  |                   |                   |                   |                   |       |
|---------------------------------------------------|------------|--------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------|
| Sub-Matrix: SOIL<br>(Matrix: SOIL)                |            |        |       | Client sample ID | BH404 / 0.1E      | BH404 / 0.5E      | BH404 / 0.5E      | BH404 / 0.5E      | ----  |
| Client sampling date / time                       |            |        |       |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | ----  |
| Compound                                          | CAS Number | LOR    | Unit  |                  | ES1924021-031     | ES1924021-032     | ES1924021-033     | ES1924021-034     | ----- |
|                                                   |            |        |       |                  | Result            | Result            | Result            | Result            | ----  |
| EP231A: Perfluoroalkyl Sulfonic Acids - Continued |            |        |       |                  |                   |                   |                   |                   |       |
| Perfluorobutane sulfonic acid (PFBS)              | 375-73-5   | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----  |
| Perfluoropentane sulfonic acid (PFPeS)            | 2706-91-4  | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----  |
| Perfluorohexane sulfonic acid (PFHxS)             | 355-46-4   | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----  |
| Perfluoroheptane sulfonic acid (PFHpS)            | 375-92-8   | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----  |
| Perfluorooctane sulfonic acid (PFOS)              | 1763-23-1  | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----  |
| Perfluorodecane sulfonic acid (PFDS)              | 335-77-3   | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----  |
| EP231B: Perfluoroalkyl Carboxylic Acids           |            |        |       |                  |                   |                   |                   |                   |       |
| Perfluorobutanoic acid (PFBA)                     | 375-22-4   | 0.001  | mg/kg |                  | ----              | ----              | <0.001            | ----              | ----  |
| Perfluoropentanoic acid (PFPeA)                   | 2706-90-3  | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----  |
| Perfluorohexanoic acid (PFHxA)                    | 307-24-4   | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----  |
| Perfluoroheptanoic acid (PFHpA)                   | 375-85-9   | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----  |
| Perfluorooctanoic acid (PFOA)                     | 335-67-1   | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----  |
| Perfluorononanoic acid (PFNA)                     | 375-95-1   | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----  |
| Perfluorodecanoic acid (PFDA)                     | 335-76-2   | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----  |
| Perfluoroundecanoic acid (PFUnDA)                 | 2058-94-8  | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----  |
| Perfluorododecanoic acid (PFDoDA)                 | 307-55-1   | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----  |
| Perfluorotridecanoic acid (PFTrDA)                | 72629-94-8 | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----  |
| Perfluorotetradecanoic acid (PFTeDA)              | 376-06-7   | 0.0005 | mg/kg |                  | ----              | ----              | <0.0005           | ----              | ----  |
| EP231C: Perfluoroalkyl Sulfonamides               |            |        |       |                  |                   |                   |                   |                   |       |
| Perfluorooctane sulfonamide (FOSA)                | 754-91-6   | 0.0002 | mg/kg |                  | ----              | ----              | <0.0002           | ----              | ----  |
| N-Methyl perfluorooctane sulfonamide (MeFOSA)     | 31506-32-8 | 0.0005 | mg/kg |                  | ----              | ----              | <0.0005           | ----              | ----  |
| N-Ethyl perfluorooctane sulfonamide (EtFOSA)      | 4151-50-2  | 0.0005 | mg/kg |                  | ----              | ----              | <0.0005           | ----              | ----  |



| Sub-Matrix: SOIL<br>(Matrix: SOIL)                        |                    |        |       | Client sample ID  | BH404 / 0.1E      | BH404 / 0.5E      | BH404 / 0.5E      | BH404 / 0.5E      | ---- |
|-----------------------------------------------------------|--------------------|--------|-------|-------------------|-------------------|-------------------|-------------------|-------------------|------|
| Client sampling date / time                               |                    |        |       | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | ---- |
| Compound                                                  | CAS Number         | LOR    | Unit  | ES1924021-031     | ES1924021-032     | ES1924021-033     | ES1924021-034     | -----             |      |
|                                                           |                    |        |       | Result            | Result            | Result            | Result            | ----              |      |
| EP231C: Perfluoroalkyl Sulfonamides - Continued           |                    |        |       |                   |                   |                   |                   |                   |      |
| N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)      | 24448-09-7         | 0.0005 | mg/kg | ----              | ----              | <0.0005           | ----              | ----              |      |
| N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)       | 1691-99-2          | 0.0005 | mg/kg | ----              | ----              | <0.0005           | ----              | ----              |      |
| N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA) | 2355-31-9          | 0.0002 | mg/kg | ----              | ----              | <0.0002           | ----              | ----              |      |
| N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)  | 2991-50-6          | 0.0002 | mg/kg | ----              | ----              | <0.0002           | ----              | ----              |      |
| EP231D: (n:2) Fluorotelomer Sulfonic Acids                |                    |        |       |                   |                   |                   |                   |                   |      |
| 4:2 Fluorotelomer sulfonic acid (4:2 FTS)                 | 757124-72-4        | 0.0005 | mg/kg | ----              | ----              | <0.0005           | ----              | ----              |      |
| 6:2 Fluorotelomer sulfonic acid (6:2 FTS)                 | 27619-97-2         | 0.0005 | mg/kg | ----              | ----              | <0.0005           | ----              | ----              |      |
| 8:2 Fluorotelomer sulfonic acid (8:2 FTS)                 | 39108-34-4         | 0.0005 | mg/kg | ----              | ----              | <0.0005           | ----              | ----              |      |
| 10:2 Fluorotelomer sulfonic acid (10:2 FTS)               | 120226-60-0        | 0.0005 | mg/kg | ----              | ----              | <0.0005           | ----              | ----              |      |
| EP231P: PFAS Sums                                         |                    |        |       |                   |                   |                   |                   |                   |      |
| Sum of PFAS                                               | ----               | 0.0002 | mg/kg | ----              | ----              | <0.0002           | ----              | ----              |      |
| Sum of PFHxS and PFOS                                     | 355-46-4/1763-23-1 | 0.0002 | mg/kg | ----              | ----              | <0.0002           | ----              | ----              |      |
| Sum of PFAS (WA DER List)                                 | ----               | 0.0002 | mg/kg | ----              | ----              | <0.0002           | ----              | ----              |      |
| EP066S: PCB Surrogate                                     |                    |        |       |                   |                   |                   |                   |                   |      |
| Decachlorobiphenyl                                        | 2051-24-3          | 0.1    | %     | ----              | 93.4              | ----              | ----              | ----              |      |
| EP074S: VOC Surrogates                                    |                    |        |       |                   |                   |                   |                   |                   |      |
| 1,2-Dichloroethane-D4                                     | 17060-07-0         | 0.5    | %     | ----              | 89.0              | ----              | ----              | ----              |      |
| Toluene-D8                                                | 2037-26-5          | 0.5    | %     | ----              | 92.0              | ----              | ----              | ----              |      |
| 4-Bromofluorobenzene                                      | 460-00-4           | 0.5    | %     | ----              | 80.8              | ----              | ----              | ----              |      |
| EP075(SIM)S: Phenolic Compound Surrogates                 |                    |        |       |                   |                   |                   |                   |                   |      |
| Phenol-d6                                                 | 13127-88-3         | 0.5    | %     | ----              | 81.1              | ----              | ----              | ----              |      |
| 2-Chlorophenol-D4                                         | 93951-73-6         | 0.5    | %     | ----              | 87.5              | ----              | ----              | ----              |      |
| 2,4,6-Tribromophenol                                      | 118-79-6           | 0.5    | %     | ----              | 63.7              | ----              | ----              | ----              |      |
| EP075(SIM)T: PAH Surrogates                               |                    |        |       |                   |                   |                   |                   |                   |      |

(Preliminary Report)

Page : 63 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Analytical Results

|                                             |            |        |      |                  |                   |                   |                   |                   |       |
|---------------------------------------------|------------|--------|------|------------------|-------------------|-------------------|-------------------|-------------------|-------|
| Sub-Matrix: SOIL<br>(Matrix: SOIL)          |            |        |      | Client sample ID | BH404 / 0.1E      | BH404 / 0.5E      | BH404 / 0.5E      | BH404 / 0.5E      | ----  |
| Client sampling date / time                 |            |        |      |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | ----  |
| Compound                                    | CAS Number | LOR    | Unit |                  | ES1924021-031     | ES1924021-032     | ES1924021-033     | ES1924021-034     | ----- |
|                                             |            |        |      |                  | Result            | Result            | Result            | Result            | ----  |
| EP075(SIM)T: PAH Surrogates - Continued     |            |        |      |                  |                   |                   |                   |                   |       |
| 2-Fluorobiphenyl                            | 321-60-8   | 0.5    | %    |                  | ----              | 93.5              | ----              | ----              | ----  |
| Anthracene-d10                              | 1719-06-8  | 0.5    | %    |                  | ----              | 96.3              | ----              | ----              | ----  |
| 4-Terphenyl-d14                             | 1718-51-0  | 0.5    | %    |                  | ----              | 98.7              | ----              | ----              | ----  |
| EP075S: Acid Extractable Surrogates         |            |        |      |                  |                   |                   |                   |                   |       |
| 2-Fluorophenol                              | 367-12-4   | 0.5    | %    |                  | ----              | 106               | ----              | ----              | ----  |
| Phenol-d6                                   | 13127-88-3 | 0.5    | %    |                  | ----              | 98.7              | ----              | ----              | ----  |
| 2-Chlorophenol-D4                           | 93951-73-6 | 0.5    | %    |                  | ----              | 102               | ----              | ----              | ----  |
| 2,4,6-Tribromophenol                        | 118-79-6   | 0.5    | %    |                  | ----              | 49.7              | ----              | ----              | ----  |
| EP075T: Base/Neutral Extractable Surrogates |            |        |      |                  |                   |                   |                   |                   |       |
| Nitrobenzene-D5                             | 4165-60-0  | 0.5    | %    |                  | ----              | 89.5              | ----              | ----              | ----  |
| 1,2-Dichlorobenzene-D4                      | 2199-69-1  | 0.5    | %    |                  | ----              | 99.1              | ----              | ----              | ----  |
| 2-Fluorobiphenyl                            | 321-60-8   | 0.5    | %    |                  | ----              | 121               | ----              | ----              | ----  |
| Anthracene-d10                              | 1719-06-8  | 0.5    | %    |                  | ----              | 91.6              | ----              | ----              | ----  |
| 4-Terphenyl-d14                             | 1718-51-0  | 0.5    | %    |                  | ----              | 116               | ----              | ----              | ----  |
| EP080S: TPH(V)/BTEX Surrogates              |            |        |      |                  |                   |                   |                   |                   |       |
| 1,2-Dichloroethane-D4                       | 17060-07-0 | 0.2    | %    |                  | ----              | 88.8              | ----              | ----              | ----  |
| Toluene-D8                                  | 2037-26-5  | 0.2    | %    |                  | ----              | 80.9              | ----              | ----              | ----  |
| 4-Bromofluorobenzene                        | 460-00-4   | 0.2    | %    |                  | ----              | 77.4              | ----              | ----              | ----  |
| EP231S: PFAS Surrogate                      |            |        |      |                  |                   |                   |                   |                   |       |
| 13C4-PFOS                                   | ----       | 0.0002 | %    |                  | ----              | ----              | 88.5              | ----              | ----  |
| 13C8-PFOA                                   | ----       | 0.0002 | %    |                  | ----              | ----              | 99.0              | ----              | ----  |

(Preliminary Report)

Page : 64 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Analytical Results

Sub-Matrix: TCLP LEACHATE  
(Matrix: WATER)

Client sample ID

|                                                |                   |        |      | BH301 / 0.15E     | BH305 / 0.4E      | BH307 / 0.5E      | ----  | ----  |
|------------------------------------------------|-------------------|--------|------|-------------------|-------------------|-------------------|-------|-------|
| Client sampling date / time                    |                   |        |      | 24-Jul-2019 00:00 | 20-Jul-2019 00:00 | 18-Jul-2019 00:00 | ----  | ----  |
| Compound                                       | CAS Number        | LOR    | Unit | ES1924021-001     | ES1924021-011     | ES1924021-020     | ----- | ----- |
|                                                |                   |        |      | Result            | Result            | Result            | ----  | ----  |
| EG005(ED093)C: Leachable Metals by ICPAES      |                   |        |      |                   |                   |                   |       |       |
| Arsenic                                        | 7440-38-2         | 0.1    | mg/L | <0.1              | <0.1              | <0.1              | ----  | ----  |
| Cadmium                                        | 7440-43-9         | 0.05   | mg/L | <0.05             | <0.05             | <0.05             | ----  | ----  |
| Chromium                                       | 7440-47-3         | 0.1    | mg/L | <0.1              | <0.1              | <0.1              | ----  | ----  |
| Copper                                         | 7440-50-8         | 0.1    | mg/L | 0.7               | <0.1              | <0.1              | ----  | ----  |
| Lead                                           | 7439-92-1         | 0.1    | mg/L | 2.8               | <0.1              | <0.1              | ----  | ----  |
| Nickel                                         | 7440-02-0         | 0.1    | mg/L | <0.1              | <0.1              | <0.1              | ----  | ----  |
| Zinc                                           | 7440-66-6         | 0.1    | mg/L | 1.8               | 0.2               | <0.1              | ----  | ----  |
| EG035C: Leachable Mercury by FIMS              |                   |        |      |                   |                   |                   |       |       |
| Mercury                                        | 7439-97-6         | 0.0010 | mg/L | <0.0010           | <0.0010           | <0.0010           | ----  | ----  |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons |                   |        |      |                   |                   |                   |       |       |
| Naphthalene                                    | 91-20-3           | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Acenaphthylene                                 | 208-96-8          | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Acenaphthene                                   | 83-32-9           | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Fluorene                                       | 86-73-7           | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Phenanthrene                                   | 85-01-8           | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Anthracene                                     | 120-12-7          | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Fluoranthene                                   | 206-44-0          | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Pyrene                                         | 129-00-0          | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Benz(a)anthracene                              | 56-55-3           | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Chrysene                                       | 218-01-9          | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Benzo(b+j)fluoranthene                         | 205-99-2 205-82-3 | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Benzo(k)fluoranthene                           | 207-08-9          | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Benzo(a)pyrene                                 | 50-32-8           | 0.5    | µg/L | <0.5              | <0.5              | <0.5              | ----  | ----  |
| Indeno(1.2.3.cd)pyrene                         | 193-39-5          | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Dibenz(a.h)anthracene                          | 53-70-3           | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Benzo(g.h.i)perylene                           | 191-24-2          | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| ^ Sum of polycyclic aromatic hydrocarbons      | ----              | 0.5    | µg/L | <0.5              | <0.5              | <0.5              | ----  | ----  |
| ^ Benzo(a)pyrene TEQ (zero)                    | ----              | 0.5    | µg/L | <0.5              | <0.5              | <0.5              | ----  | ----  |
| EP075(SIM)S: Phenolic Compound Surrogates      |                   |        |      |                   |                   |                   |       |       |
| Phenol-d6                                      | 13127-88-3        | 1.0    | %    | 28.0              | 27.6              | 30.2              | ----  | ----  |
| 2-Chlorophenol-D4                              | 93951-73-6        | 1.0    | %    | 57.2              | 58.6              | 69.4              | ----  | ----  |
| 2,4,6-Tribromophenol                           | 118-79-6          | 1.0    | %    | 74.6              | 70.7              | 79.1              | ----  | ----  |
| EP075(SIM)T: PAH Surrogates                    |                   |        |      |                   |                   |                   |       |       |
| 2-Fluorobiphenyl                               | 321-60-8          | 1.0    | %    | 93.0              | 89.1              | 95.8              | ----  | ----  |

## (Preliminary Report)

Page : 65 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



### Analytical Results

Sub-Matrix: **TCLP LEACHATE**  
(Matrix: **WATER**)

Client sample ID

|                                                |            |     |      | BH301 / 0.15E     | BH305 / 0.4E      | BH307 / 0.5E      | ----  | ----  |
|------------------------------------------------|------------|-----|------|-------------------|-------------------|-------------------|-------|-------|
| Client sampling date / time                    |            |     |      | 24-Jul-2019 00:00 | 20-Jul-2019 00:00 | 18-Jul-2019 00:00 | ----  | ----  |
| Compound                                       | CAS Number | LOR | Unit | ES1924021-001     | ES1924021-011     | ES1924021-020     | ----- | ----- |
|                                                |            |     |      | Result            | Result            | Result            | ----  | ----  |
| <b>EP075(SIM)T: PAH Surrogates - Continued</b> |            |     |      |                   |                   |                   |       |       |
| <b>Anthracene-d10</b>                          | 1719-06-8  | 1.0 | %    | <b>92.7</b>       | <b>97.2</b>       | <b>89.4</b>       | ----  | ----  |
| <b>4-Terphenyl-d14</b>                         | 1718-51-0  | 1.0 | %    | <b>92.9</b>       | <b>95.6</b>       | <b>97.6</b>       | ----  | ----  |

### Analytical Results

#### Descriptive Results

Sub-Matrix: **SOIL**

| Method: Compound                                                 | Client sample ID - Client sampling date / time | Analytical Results                                                                                                                    |
|------------------------------------------------------------------|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <b>EA200: AS 4964 - 2004 Identification of Asbestos in Soils</b> |                                                |                                                                                                                                       |
| EA200: Description                                               | BH301 / 0.15E - 24-Jul-2019 00:00              | Mid brown soil.                                                                                                                       |
| EA200: Description                                               | BH303 / 0.2E - 15-Jul-2019 00:00               | Mid brown soil.                                                                                                                       |
| EA200: Description                                               | BH304 / 0.7E - 11-Jul-2019 00:00               | Mid brown soil.                                                                                                                       |
| EA200: Description                                               | BH305 / 0.4E - 20-Jul-2019 00:00               | Mid brown soil.                                                                                                                       |
| EA200: Description                                               | BH306 / 0.5E - 09-Jul-2019 00:00               | Mid brown soil containing several fragments of asbestos cement debris approximately 2x2x2mm and several loose asbestos fibre bundles. |
| EA200: Description                                               | BH307 / 0.5E - 18-Jul-2019 00:00               | Mid brown soil.                                                                                                                       |
| EA200: Description                                               | BH403 / 0.2E - 10-Jul-2019 00:00               | Mid brown soil.                                                                                                                       |
| EA200: Description                                               | BH404 / 0.1E - 10-Jul-2019 00:00               | Mid brown soil.                                                                                                                       |
| EA200: Description                                               | BH404 / 0.5E - 10-Jul-2019 00:00               | Mid brown soil.                                                                                                                       |

Page : 66 of 67  
 Work Order : ES1924021  
 Client : GOLDER ASSOCIATES  
 Project : 19125312



## Surrogate Control Limits

| Sub-Matrix: SOIL                                   |            | Recovery Limits (%) |      |
|----------------------------------------------------|------------|---------------------|------|
| Compound                                           | CAS Number | Low                 | High |
| <b>EP066S: PCB Surrogate</b>                       |            |                     |      |
| Decachlorobiphenyl                                 | 2051-24-3  | 39                  | 149  |
| <b>EP074S: VOC Surrogates</b>                      |            |                     |      |
| 1,2-Dichloroethane-D4                              | 17060-07-0 | 64                  | 130  |
| Toluene-D8                                         | 2037-26-5  | 66                  | 136  |
| 4-Bromofluorobenzene                               | 460-00-4   | 60                  | 122  |
| <b>EP075(SIM)S: Phenolic Compound Surrogates</b>   |            |                     |      |
| Phenol-d6                                          | 13127-88-3 | 63                  | 123  |
| 2-Chlorophenol-D4                                  | 93951-73-6 | 66                  | 122  |
| 2,4,6-Tribromophenol                               | 118-79-6   | 40                  | 138  |
| <b>EP075(SIM)T: PAH Surrogates</b>                 |            |                     |      |
| 2-Fluorobiphenyl                                   | 321-60-8   | 70                  | 122  |
| Anthracene-d10                                     | 1719-06-8  | 66                  | 128  |
| 4-Terphenyl-d14                                    | 1718-51-0  | 65                  | 129  |
| <b>EP075S: Acid Extractable Surrogates</b>         |            |                     |      |
| 2-Fluorophenol                                     | 367-12-4   | 29                  | 149  |
| Phenol-d6                                          | 13127-88-3 | 32                  | 128  |
| 2-Chlorophenol-D4                                  | 93951-73-6 | 32                  | 128  |
| 2,4,6-Tribromophenol                               | 118-79-6   | 13                  | 121  |
| <b>EP075T: Base/Neutral Extractable Surrogates</b> |            |                     |      |
| Nitrobenzene-D5                                    | 4165-60-0  | 33                  | 125  |
| 1,2-Dichlorobenzene-D4                             | 2199-69-1  | 34                  | 108  |
| 2-Fluorobiphenyl                                   | 321-60-8   | 35                  | 121  |
| Anthracene-d10                                     | 1719-06-8  | 35                  | 123  |
| 4-Terphenyl-d14                                    | 1718-51-0  | 33                  | 125  |
| <b>EP080S: TPH(V)/BTEX Surrogates</b>              |            |                     |      |
| 1,2-Dichloroethane-D4                              | 17060-07-0 | 73                  | 133  |
| Toluene-D8                                         | 2037-26-5  | 74                  | 132  |
| 4-Bromofluorobenzene                               | 460-00-4   | 72                  | 130  |
| <b>EP231S: PFAS Surrogate</b>                      |            |                     |      |
| 13C4-PFOS                                          | ----       | 60                  | 120  |
| 13C8-PFOA                                          | ----       | 60                  | 120  |

| Sub-Matrix: TCLP LEACHATE                        |            | Recovery Limits (%) |      |
|--------------------------------------------------|------------|---------------------|------|
| Compound                                         | CAS Number | Low                 | High |
| <b>EP075(SIM)S: Phenolic Compound Surrogates</b> |            |                     |      |
| Phenol-d6                                        | 13127-88-3 | 10                  | 44   |
| 2-Chlorophenol-D4                                | 93951-73-6 | 14                  | 94   |
| 2,4,6-Tribromophenol                             | 118-79-6   | 17                  | 125  |

(Preliminary Report)

Page : 67 of 67  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



| Sub-Matrix: TCLP LEACHATE   |            | Recovery Limits (%) |      |
|-----------------------------|------------|---------------------|------|
| Compound                    | CAS Number | Low                 | High |
| EP075(SIM)T: PAH Surrogates |            |                     |      |
| 2-Fluorobiphenyl            | 321-60-8   | 20                  | 104  |
| Anthracene-d10              | 1719-06-8  | 27                  | 113  |
| 4-Terphenyl-d14             | 1718-51-0  | 32                  | 112  |

## CERTIFICATE OF ANALYSIS

**Work Order** : **ES1924021**  
**Client** : **GOLDER ASSOCIATES**  
**Contact** : ERIC WON  
**Address** : LEVEL 1, 124 PACIFIC HIGHWAY  
 ST LEONARDS NSW, AUSTRALIA 2065  
**Telephone** : ----  
**Project** : 19125312  
**Order number** : 19125312  
**C-O-C number** : ----  
**Sampler** : ----  
**Site** : ----  
**Quote number** : EN/002/18 National BQ  
**No. of samples received** : 33  
**No. of samples analysed** : 33

**Page** : 1 of 80  
**Laboratory** : Environmental Division Sydney  
**Contact** : Customer Services ES  
**Address** : 277-289 Woodpark Road Smithfield NSW Australia 2164  
**Telephone** : +61-2-8784 8555  
**Date Samples Received** : 31-Jul-2019 11:24  
**Date Analysis Commenced** : 02-Aug-2019  
**Issue Date** : 12-Aug-2019 16:12



Accreditation No. 825  
 Accredited for compliance with  
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

**Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.**

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| <i>Signatories</i> | <i>Position</i>                  | <i>Accreditation Category</i>               |
|--------------------|----------------------------------|---------------------------------------------|
| Alana Smylie       | Asbestos Identifier              | Newcastle - Asbestos, Mayfield West, NSW    |
| Ben Felgendrejeris | Senior Acid Sulfate Soil Chemist | Brisbane Acid Sulphate Soils, Stafford, QLD |
| Celine Conceicao   | Senior Spectroscopist            | Sydney Inorganics, Smithfield, NSW          |
| Edwandy Fadjjar    | Organic Coordinator              | Sydney Organics, Smithfield, NSW            |
| Evie Sidarta       | Inorganic Chemist                | Sydney Inorganics, Smithfield, NSW          |
| Franco Lentini     | LCMS Coordinator                 | Sydney Organics, Smithfield, NSW            |
| Kim McCabe         | Senior Inorganic Chemist         | Brisbane Acid Sulphate Soils, Stafford, QLD |



## General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

^ = This result is computed from individual analyte detections at or above the level of reporting

ø = ALS is not NATA accredited for these tests.

~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP071: Results of sample BH305 / 0.4E have been confirmed by re-extraction and re-analysis.
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.
- EP075: 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO<sub>3</sub>) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m<sup>3</sup> in-situ soil, multiply reported results x wet bulk density of soil in t/m<sup>3</sup>.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.



- EA200: 'No\*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
  - EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.
-



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                               |            |      |         | Client sample ID | BH301 / 0.15E     | BH301 / 0.15E     | BH301 / 0.15E     | BH303 / 0.2E      | BH303 / 0.2E      |
|------------------------------------------------------------------|------------|------|---------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                      |            |      |         |                  | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 15-Jul-2019 00:00 | 15-Jul-2019 00:00 |
| Compound                                                         | CAS Number | LOR  | Unit    |                  | ES1924021-001     | ES1924021-002     | ES1924021-003     | ES1924021-004     | ES1924021-006     |
|                                                                  |            |      |         |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EA055: Moisture Content (Dried @ 105-110°C)</b>               |            |      |         |                  |                   |                   |                   |                   |                   |
| Moisture Content                                                 | ----       | 0.1  | %       | ----             | 25.8              | ----              | ----              | ----              | ----              |
| Moisture Content                                                 | ----       | 1.0  | %       | 25.1             | ----              | ----              | 12.6              | ----              | ----              |
| <b>EA200: AS 4964 - 2004 Identification of Asbestos in Soils</b> |            |      |         |                  |                   |                   |                   |                   |                   |
| Asbestos Detected                                                | 1332-21-4  | 0.1  | g/kg    | ----             | ----              | No                | ----              | No                | No                |
| Asbestos (Trace)                                                 | 1332-21-4  | 5    | Fibres  | ----             | ----              | No                | ----              | No                | No                |
| Asbestos Type                                                    | 1332-21-4  | -    | --      | ----             | ----              | -                 | ----              | -                 | -                 |
| Sample weight (dry)                                              | ----       | 0.01 | g       | ----             | ----              | 14.8              | ----              | 38.4              | 38.4              |
| APPROVED IDENTIFIER:                                             | ----       | -    | --      | ----             | ----              | A. SMYLIE         | ----              | A. SMYLIE         | A. SMYLIE         |
| Synthetic Mineral Fibre                                          | ----       | 0.1  | g/kg    | ----             | ----              | No                | ----              | No                | No                |
| Organic Fibre                                                    | ----       | 0.1  | g/kg    | ----             | ----              | No                | ----              | No                | No                |
| <b>EG005(ED093)T: Total Metals by ICP-AES</b>                    |            |      |         |                  |                   |                   |                   |                   |                   |
| Arsenic                                                          | 7440-38-2  | 5    | mg/kg   | 12               | ----              | ----              | 8                 | ----              | ----              |
| Cadmium                                                          | 7440-43-9  | 1    | mg/kg   | <1               | ----              | ----              | <1                | ----              | ----              |
| Chromium                                                         | 7440-47-3  | 2    | mg/kg   | 13               | ----              | ----              | 10                | ----              | ----              |
| Copper                                                           | 7440-50-8  | 5    | mg/kg   | 64               | ----              | ----              | 37                | ----              | ----              |
| Lead                                                             | 7439-92-1  | 5    | mg/kg   | 285              | ----              | ----              | 66                | ----              | ----              |
| Nickel                                                           | 7440-02-0  | 2    | mg/kg   | 8                | ----              | ----              | 17                | ----              | ----              |
| Zinc                                                             | 7440-66-6  | 5    | mg/kg   | 392              | ----              | ----              | 67                | ----              | ----              |
| <b>EG035T: Total Recoverable Mercury by FIMS</b>                 |            |      |         |                  |                   |                   |                   |                   |                   |
| Mercury                                                          | 7439-97-6  | 0.1  | mg/kg   | 0.1              | ----              | ----              | <0.1              | ----              | ----              |
| <b>EN33: TCLP Leach</b>                                          |            |      |         |                  |                   |                   |                   |                   |                   |
| Initial pH                                                       | ----       | 0.1  | pH Unit | 9.4              | ----              | ----              | ----              | ----              | ----              |
| After HCl pH                                                     | ----       | 0.1  | pH Unit | 1.5              | ----              | ----              | ----              | ----              | ----              |
| Extraction Fluid Number                                          | ----       | 1    | -       | 1                | ----              | ----              | ----              | ----              | ----              |
| Final pH                                                         | ----       | 0.1  | pH Unit | 5.4              | ----              | ----              | ----              | ----              | ----              |
| <b>EP066: Polychlorinated Biphenyls (PCB)</b>                    |            |      |         |                  |                   |                   |                   |                   |                   |
| Total Polychlorinated biphenyls                                  | ----       | 0.1  | mg/kg   | <0.1             | ----              | ----              | <0.1              | ----              | ----              |
| <b>EP074A: Monocyclic Aromatic Hydrocarbons</b>                  |            |      |         |                  |                   |                   |                   |                   |                   |
| Styrene                                                          | 100-42-5   | 0.5  | mg/kg   | <0.5             | ----              | ----              | <0.5              | ----              | ----              |
| Isopropylbenzene                                                 | 98-82-8    | 0.5  | mg/kg   | <0.5             | ----              | ----              | <0.5              | ----              | ----              |
| n-Propylbenzene                                                  | 103-65-1   | 0.5  | mg/kg   | <0.5             | ----              | ----              | <0.5              | ----              | ----              |
| 1,3,5-Trimethylbenzene                                           | 108-67-8   | 0.5  | mg/kg   | <0.5             | ----              | ----              | <0.5              | ----              | ----              |
| sec-Butylbenzene                                                 | 135-98-8   | 0.5  | mg/kg   | <0.5             | ----              | ----              | <0.5              | ----              | ----              |
| 1,2,4-Trimethylbenzene                                           | 95-63-6    | 0.5  | mg/kg   | <0.5             | ----              | ----              | <0.5              | ----              | ----              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                          |            |     |       | Client sample ID | BH301 / 0.15E     | BH301 / 0.15E     | BH301 / 0.15E     | BH303 / 0.2E      | BH303 / 0.2E      |
|-------------------------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                 |            |     |       |                  | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 15-Jul-2019 00:00 | 15-Jul-2019 00:00 |
| Compound                                                    | CAS Number | LOR | Unit  |                  | ES1924021-001     | ES1924021-002     | ES1924021-003     | ES1924021-004     | ES1924021-006     |
|                                                             |            |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP074A: Monocyclic Aromatic Hydrocarbons - Continued</b> |            |     |       |                  |                   |                   |                   |                   |                   |
| tert-Butylbenzene                                           | 98-06-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| p-Isopropyltoluene                                          | 99-87-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| n-Butylbenzene                                              | 104-51-8   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| <b>EP074B: Oxygenated Compounds</b>                         |            |     |       |                  |                   |                   |                   |                   |                   |
| Vinyl Acetate                                               | 108-05-4   | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| 2-Butanone (MEK)                                            | 78-93-3    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| 4-Methyl-2-pentanone (MIBK)                                 | 108-10-1   | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| 2-Hexanone (MBK)                                            | 591-78-6   | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| <b>EP074C: Sulfonated Compounds</b>                         |            |     |       |                  |                   |                   |                   |                   |                   |
| Carbon disulfide                                            | 75-15-0    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| <b>EP074D: Fumigants</b>                                    |            |     |       |                  |                   |                   |                   |                   |                   |
| 2,2-Dichloropropane                                         | 594-20-7   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2-Dichloropropane                                         | 78-87-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| cis-1,3-Dichloropropylene                                   | 10061-01-5 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| trans-1,3-Dichloropropylene                                 | 10061-02-6 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2-Dibromoethane (EDB)                                     | 106-93-4   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| <b>EP074E: Halogenated Aliphatic Compounds</b>              |            |     |       |                  |                   |                   |                   |                   |                   |
| Dichlorodifluoromethane                                     | 75-71-8    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Chloromethane                                               | 74-87-3    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Vinyl chloride                                              | 75-01-4    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Bromomethane                                                | 74-83-9    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Chloroethane                                                | 75-00-3    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Trichlorofluoromethane                                      | 75-69-4    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| 1,1-Dichloroethene                                          | 75-35-4    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Iodomethane                                                 | 74-88-4    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| trans-1,2-Dichloroethene                                    | 156-60-5   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,1-Dichloroethane                                          | 75-34-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| cis-1,2-Dichloroethene                                      | 156-59-2   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,1,1-Trichloroethane                                       | 71-55-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,1-Dichloropropylene                                       | 563-58-6   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Carbon Tetrachloride                                        | 56-23-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2-Dichloroethane                                          | 107-06-2   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Trichloroethene                                             | 79-01-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Dibromomethane                                              | 74-95-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |



## Analytical Results

Sub-Matrix: SOIL  
 (Matrix: SOIL)

Client sample ID

|                                                            |                   |     |       | BH301 / 0.15E     | BH301 / 0.15E     | BH301 / 0.15E     | BH303 / 0.2E      | BH303 / 0.2E      |
|------------------------------------------------------------|-------------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                |                   |     |       | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 15-Jul-2019 00:00 | 15-Jul-2019 00:00 |
| Compound                                                   | CAS Number        | LOR | Unit  | ES1924021-001     | ES1924021-002     | ES1924021-003     | ES1924021-004     | ES1924021-006     |
|                                                            |                   |     |       | Result            | Result            | Result            | Result            | Result            |
| <b>EP074E: Halogenated Aliphatic Compounds - Continued</b> |                   |     |       |                   |                   |                   |                   |                   |
| 1.1.2-Trichloroethane                                      | 79-00-5           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.3-Dichloropropane                                        | 142-28-9          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Tetrachloroethene                                          | 127-18-4          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.1.1.2-Tetrachloroethane                                  | 630-20-6          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| trans-1.4-Dichloro-2-butene                                | 110-57-6          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| cis-1.4-Dichloro-2-butene                                  | 1476-11-5         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.1.2.2-Tetrachloroethane                                  | 79-34-5           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.2.3-Trichloropropane                                     | 96-18-4           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Pentachloroethane                                          | 76-01-7           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.2-Dibromo-3-chloropropane                                | 96-12-8           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| <b>EP074F: Halogenated Aromatic Compounds</b>              |                   |     |       |                   |                   |                   |                   |                   |
| Chlorobenzene                                              | 108-90-7          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Bromobenzene                                               | 108-86-1          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 2-Chlorotoluene                                            | 95-49-8           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 4-Chlorotoluene                                            | 106-43-4          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.2.3-Trichlorobenzene                                     | 87-61-6           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| <b>EP074G: Trihalomethanes</b>                             |                   |     |       |                   |                   |                   |                   |                   |
| Chloroform                                                 | 67-66-3           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Bromodichloromethane                                       | 75-27-4           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Dibromochloromethane                                       | 124-48-1          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Bromoform                                                  | 75-25-2           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| <b>EP075(SIM)B: Polynuclear Aromatic Hydrocarbons</b>      |                   |     |       |                   |                   |                   |                   |                   |
| Naphthalene                                                | 91-20-3           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Acenaphthylene                                             | 208-96-8          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Acenaphthene                                               | 83-32-9           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Fluorene                                                   | 86-73-7           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Phenanthrene                                               | 85-01-8           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Anthracene                                                 | 120-12-7          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Fluoranthene                                               | 206-44-0          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Pyrene                                                     | 129-00-0          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Benz(a)anthracene                                          | 56-55-3           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Chrysene                                                   | 218-01-9          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Benzo(b+j)fluoranthene                                     | 205-99-2 205-82-3 | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Benzo(k)fluoranthene                                       | 207-08-9          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                         |            |     |       | Client sample ID  | BH301 / 0.15E     | BH301 / 0.15E     | BH301 / 0.15E     | BH303 / 0.2E      | BH303 / 0.2E      |
|------------------------------------------------------------|------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                |            |     |       | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 15-Jul-2019 00:00 | 15-Jul-2019 00:00 |
| Compound                                                   | CAS Number | LOR | Unit  | ES1924021-001     | ES1924021-002     | ES1924021-003     | ES1924021-004     | ES1924021-006     |                   |
|                                                            |            |     |       | Result            | Result            | Result            | Result            | Result            |                   |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued |            |     |       |                   |                   |                   |                   |                   |                   |
| Benzo(a)pyrene                                             | 50-32-8    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| Indeno(1.2.3.cd)pyrene                                     | 193-39-5   | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| Dibenz(a.h)anthracene                                      | 53-70-3    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| Benzo(g.h.i)perylene                                       | 191-24-2   | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| ^ Sum of polycyclic aromatic hydrocarbons                  | ----       | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| ^ Benzo(a)pyrene TEQ (zero)                                | ----       | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| ^ Benzo(a)pyrene TEQ (half LOR)                            | ----       | 0.5 | mg/kg | 0.6               | ----              | ----              | 0.6               | ----              |                   |
| ^ Benzo(a)pyrene TEQ (LOR)                                 | ----       | 0.5 | mg/kg | 1.2               | ----              | ----              | 1.2               | ----              |                   |
| EP075A: Phenolic Compounds                                 |            |     |       |                   |                   |                   |                   |                   |                   |
| Phenol                                                     | 108-95-2   | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| 2-Chlorophenol                                             | 95-57-8    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| 2-Methylphenol                                             | 95-48-7    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| 3- & 4-Methylphenol                                        | 1319-77-3  | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| 2-Nitrophenol                                              | 88-75-5    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| 2.4-Dimethylphenol                                         | 105-67-9   | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| 2.4-Dichlorophenol                                         | 120-83-2   | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| 2.6-Dichlorophenol                                         | 87-65-0    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| 4-Chloro-3-methylphenol                                    | 59-50-7    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| 2.4.6-Trichlorophenol                                      | 88-06-2    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| 2.4.5-Trichlorophenol                                      | 95-95-4    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| Pentachlorophenol                                          | 87-86-5    | 1   | mg/kg | <1                | ----              | ----              | <1                | ----              |                   |
| EP075B: Polynuclear Aromatic Hydrocarbons                  |            |     |       |                   |                   |                   |                   |                   |                   |
| 2-Methylnaphthalene                                        | 91-57-6    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| N-2-Fluorenyl Acetamide                                    | 53-96-3    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| 7.12-Dimethylbenz(a)anthracene                             | 57-97-6    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| 3-Methylcholanthrene                                       | 56-49-5    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| EP075C: Phthalate Esters                                   |            |     |       |                   |                   |                   |                   |                   |                   |
| Dimethyl phthalate                                         | 131-11-3   | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| Diethyl phthalate                                          | 84-66-2    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| Di-n-butyl phthalate                                       | 84-74-2    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| Butyl benzyl phthalate                                     | 85-68-7    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| bis(2-ethylhexyl) phthalate                                | 117-81-7   | 5.0 | mg/kg | <5.0              | ----              | ----              | <5.0              | ----              |                   |
| Di-n-octylphthalate                                        | 117-84-0   | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |                   |
| EP075D: Nitrosamines                                       |            |     |       |                   |                   |                   |                   |                   |                   |

| Sub-Matrix: SOIL<br>(Matrix: SOIL) |                  |     |       | Client sample ID  | BH301 / 0.15E     | BH301 / 0.15E     | BH301 / 0.15E     | BH303 / 0.2E      | BH303 / 0.2E |
|------------------------------------|------------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------|
| Client sampling date / time        |                  |     |       | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 15-Jul-2019 00:00 | 15-Jul-2019 00:00 |              |
| Compound                           | CAS Number       | LOR | Unit  | ES1924021-001     | ES1924021-002     | ES1924021-003     | ES1924021-004     | ES1924021-006     |              |
|                                    |                  |     |       | Result            | Result            | Result            | Result            | Result            |              |
| EP075D: Nitrosamines - Continued   |                  |     |       |                   |                   |                   |                   |                   |              |
| N-Nitrosomethylethylamine          | 10595-95-6       | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| N-Nitrosodiethylamine              | 55-18-5          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| N-Nitrosopyrrolidine               | 930-55-2         | 1.0 | mg/kg | <1.0              | ----              | ----              | <1.0              | ----              |              |
| N-Nitrosomorpholine                | 59-89-2          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| N-Nitrosodi-n-propylamine          | 621-64-7         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| N-Nitrosopiperidine                | 100-75-4         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| N-Nitrosodibutylamine              | 924-16-3         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| N-Nitrosodiphenyl & Diphenylamine  | 86-30-6 122-39-4 | 1.0 | mg/kg | <1.0              | ----              | ----              | <1.0              | ----              |              |
| Methapyrilene                      | 91-80-5          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| EP075E: Nitroaromatics and Ketones |                  |     |       |                   |                   |                   |                   |                   |              |
| 2-Picoline                         | 109-06-8         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Acetophenone                       | 98-86-2          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Nitrobenzene                       | 98-95-3          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Isophorone                         | 78-59-1          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| 2,6-Dinitrotoluene                 | 606-20-2         | 1.0 | mg/kg | <1.0              | ----              | ----              | <1.0              | ----              |              |
| 2,4-Dinitrotoluene                 | 121-14-2         | 1.0 | mg/kg | <1.0              | ----              | ----              | <1.0              | ----              |              |
| 1-Naphthylamine                    | 134-32-7         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| 4-Nitroquinoline-N-oxide           | 56-57-5          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| 5-Nitro-o-toluidine                | 99-55-8          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Azobenzene                         | 103-33-3         | 1   | mg/kg | <1                | ----              | ----              | <1                | ----              |              |
| 1,3,5-Trinitrobenzene              | 99-35-4          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Phenacetin                         | 62-44-2          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| 4-Aminobiphenyl                    | 92-67-1          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Pentachloronitrobenzene            | 82-68-8          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Pronamide                          | 23950-58-5       | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Dimethylaminoazobenzene            | 60-11-7          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Chlorobenzilate                    | 510-15-6         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| EP075F: Haloethers                 |                  |     |       |                   |                   |                   |                   |                   |              |
| Bis(2-chloroethyl) ether           | 111-44-4         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Bis(2-chloroethoxy) methane        | 111-91-1         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| 4-Chlorophenyl phenyl ether        | 7005-72-3        | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| 4-Bromophenyl phenyl ether         | 101-55-3         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| EP075G: Chlorinated Hydrocarbons   |                  |     |       |                   |                   |                   |                   |                   |              |



## Analytical Results

Sub-Matrix: SOIL  
 (Matrix: SOIL)

Client sample ID

|                                                     |            |     |       | BH301 / 0.15E     | BH301 / 0.15E     | BH301 / 0.15E     | BH303 / 0.2E      | BH303 / 0.2E      |
|-----------------------------------------------------|------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                         |            |     |       | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 15-Jul-2019 00:00 | 15-Jul-2019 00:00 |
| Compound                                            | CAS Number | LOR | Unit  | ES1924021-001     | ES1924021-002     | ES1924021-003     | ES1924021-004     | ES1924021-006     |
|                                                     |            |     |       | Result            | Result            | Result            | Result            | Result            |
| <b>EP075G: Chlorinated Hydrocarbons - Continued</b> |            |     |       |                   |                   |                   |                   |                   |
| 1,3-Dichlorobenzene                                 | 541-73-1   | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,4-Dichlorobenzene                                 | 106-46-7   | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2-Dichlorobenzene                                 | 95-50-1    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Hexachloroethane                                    | 67-72-1    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2,4-Trichlorobenzene                              | 120-82-1   | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Hexachloropropylene                                 | 1888-71-7  | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Hexachlorobutadiene                                 | 87-68-3    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Hexachlorocyclopentadiene                           | 77-47-4    | 2.5 | mg/kg | <2.5              | ----              | ----              | <2.5              | ----              |
| Pentachlorobenzene                                  | 608-93-5   | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Hexachlorobenzene (HCB)                             | 118-74-1   | 1.0 | mg/kg | <1.0              | ----              | ----              | <1.0              | ----              |
| <b>EP075H: Anilines and Benzidines</b>              |            |     |       |                   |                   |                   |                   |                   |
| Aniline                                             | 62-53-3    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 4-Chloroaniline                                     | 106-47-8   | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 2-Nitroaniline                                      | 88-74-4    | 1.0 | mg/kg | <1.0              | ----              | ----              | <1.0              | ----              |
| 3-Nitroaniline                                      | 99-09-2    | 1.0 | mg/kg | <1.0              | ----              | ----              | <1.0              | ----              |
| Dibenzofuran                                        | 132-64-9   | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 4-Nitroaniline                                      | 100-01-6   | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Carbazole                                           | 86-74-8    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 3,3'-Dichlorobenzidine                              | 91-94-1    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| <b>EP075I: Organochlorine Pesticides</b>            |            |     |       |                   |                   |                   |                   |                   |
| alpha-BHC                                           | 319-84-6   | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| beta-BHC                                            | 319-85-7   | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| gamma-BHC                                           | 58-89-9    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| delta-BHC                                           | 319-86-8   | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Heptachlor                                          | 76-44-8    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Aldrin                                              | 309-00-2   | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Heptachlor epoxide                                  | 1024-57-3  | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| alpha-Endosulfan                                    | 959-98-8   | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 4,4'-DDE                                            | 72-55-9    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Dieldrin                                            | 60-57-1    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Endrin                                              | 72-20-8    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| beta-Endosulfan                                     | 33213-65-9 | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 4,4'-DDD                                            | 72-54-8    | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Endosulfan sulfate                                  | 1031-07-8  | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                                     |                   |     |       | Client sample ID | BH301 / 0.15E     | BH301 / 0.15E     | BH301 / 0.15E     | BH303 / 0.2E      | BH303 / 0.2E      |
|------------------------------------------------------------------------|-------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                            |                   |     |       |                  | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 15-Jul-2019 00:00 | 15-Jul-2019 00:00 |
| Compound                                                               | CAS Number        | LOR | Unit  |                  | ES1924021-001     | ES1924021-002     | ES1924021-003     | ES1924021-004     | ES1924021-006     |
|                                                                        |                   |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP075I: Organochlorine Pesticides - Continued</b>                   |                   |     |       |                  |                   |                   |                   |                   |                   |
| 4,4'-DDT                                                               | 50-29-3           | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | <1.0              | ----              |
| <b>EP075J: Organophosphorus Pesticides</b>                             |                   |     |       |                  |                   |                   |                   |                   |                   |
| Dichlorvos                                                             | 62-73-7           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Dimethoate                                                             | 60-51-5           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Diazinon                                                               | 333-41-5          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Chlorpyrifos-methyl                                                    | 5598-13-0         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Malathion                                                              | 121-75-5          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Fenthion                                                               | 55-38-9           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Chlorpyrifos                                                           | 2921-88-2         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Pirimphos-ethyl                                                        | 23505-41-1        | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Chlorfenvinphos                                                        | 470-90-6          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Prothiofos                                                             | 34643-46-4        | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Ethion                                                                 | 563-12-2          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| <b>EP080/071: Total Petroleum Hydrocarbons</b>                         |                   |     |       |                  |                   |                   |                   |                   |                   |
| C6 - C9 Fraction                                                       | ----              | 10  | mg/kg |                  | <10               | ----              | ----              | <10               | ----              |
| C10 - C14 Fraction                                                     | ----              | 50  | mg/kg |                  | <50               | ----              | ----              | <50               | ----              |
| C15 - C28 Fraction                                                     | ----              | 100 | mg/kg |                  | <100              | ----              | ----              | <100              | ----              |
| C29 - C36 Fraction                                                     | ----              | 100 | mg/kg |                  | <100              | ----              | ----              | <100              | ----              |
| ^ C10 - C36 Fraction (sum)                                             | ----              | 50  | mg/kg |                  | <50               | ----              | ----              | <50               | ----              |
| <b>EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions</b> |                   |     |       |                  |                   |                   |                   |                   |                   |
| C6 - C10 Fraction                                                      | C6_C10            | 10  | mg/kg |                  | <10               | ----              | ----              | <10               | ----              |
| ^ C6 - C10 Fraction minus BTEX (F1)                                    | C6_C10-BTEX       | 10  | mg/kg |                  | <10               | ----              | ----              | <10               | ----              |
| >C10 - C16 Fraction                                                    | ----              | 50  | mg/kg |                  | <50               | ----              | ----              | <50               | ----              |
| >C16 - C34 Fraction                                                    | ----              | 100 | mg/kg |                  | <100              | ----              | ----              | <100              | ----              |
| >C34 - C40 Fraction                                                    | ----              | 100 | mg/kg |                  | <100              | ----              | ----              | <100              | ----              |
| ^ >C10 - C40 Fraction (sum)                                            | ----              | 50  | mg/kg |                  | <50               | ----              | ----              | <50               | ----              |
| ^ >C10 - C16 Fraction minus Naphthalene (F2)                           | ----              | 50  | mg/kg |                  | <50               | ----              | ----              | <50               | ----              |
| <b>EP080: BTEXN</b>                                                    |                   |     |       |                  |                   |                   |                   |                   |                   |
| Benzene                                                                | 71-43-2           | 0.2 | mg/kg |                  | <0.2              | ----              | ----              | <0.2              | ----              |
| Toluene                                                                | 108-88-3          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Ethylbenzene                                                           | 100-41-4          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| meta- & para-Xylene                                                    | 108-38-3 106-42-3 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |

| Sub-Matrix: SOIL<br>(Matrix: SOIL)      |            |        |       | Client sample ID  | BH301 / 0.15E     | BH301 / 0.15E     | BH301 / 0.15E     | BH303 / 0.2E      | BH303 / 0.2E |
|-----------------------------------------|------------|--------|-------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------|
| Client sampling date / time             |            |        |       | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 15-Jul-2019 00:00 | 15-Jul-2019 00:00 |              |
| Compound                                | CAS Number | LOR    | Unit  | ES1924021-001     | ES1924021-002     | ES1924021-003     | ES1924021-004     | ES1924021-006     |              |
|                                         |            |        |       | Result            | Result            | Result            | Result            | Result            |              |
| EP080: BTEXN - Continued                |            |        |       |                   |                   |                   |                   |                   |              |
| ortho-Xylene                            | 95-47-6    | 0.5    | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| ^ Sum of BTEX                           | ----       | 0.2    | mg/kg | <0.2              | ----              | ----              | <0.2              | ----              |              |
| ^ Total Xylenes                         | ----       | 0.5    | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |              |
| Naphthalene                             | 91-20-3    | 1      | mg/kg | <1                | ----              | ----              | <1                | ----              |              |
| EP231A: Perfluoroalkyl Sulfonic Acids   |            |        |       |                   |                   |                   |                   |                   |              |
| Perfluorobutane sulfonic acid (PFBS)    | 375-73-5   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluoropentane sulfonic acid (PFPeS)  | 2706-91-4  | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluorohexane sulfonic acid (PFHxS)   | 355-46-4   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluoroheptane sulfonic acid (PFHpS)  | 375-92-8   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluorooctane sulfonic acid (PFOS)    | 1763-23-1  | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluorodecane sulfonic acid (PFDS)    | 335-77-3   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| EP231B: Perfluoroalkyl Carboxylic Acids |            |        |       |                   |                   |                   |                   |                   |              |
| Perfluorobutanoic acid (PFBA)           | 375-22-4   | 0.001  | mg/kg | ----              | <0.001            | ----              | ----              | ----              |              |
| Perfluoropentanoic acid (PFPeA)         | 2706-90-3  | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluorohexanoic acid (PFHxA)          | 307-24-4   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluoroheptanoic acid (PFHpA)         | 375-85-9   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluorooctanoic acid (PFOA)           | 335-67-1   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluorononanoic acid (PFNA)           | 375-95-1   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluorodecanoic acid (PFDA)           | 335-76-2   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluoroundecanoic acid (PFUnDA)       | 2058-94-8  | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluorododecanoic acid (PFDoDA)       | 307-55-1   | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluorotridecanoic acid (PFTrDA)      | 72629-94-8 | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----              | ----              |              |
| Perfluorotetradecanoic acid (PFTeDA)    | 376-06-7   | 0.0005 | mg/kg | ----              | <0.0005           | ----              | ----              | ----              |              |
| EP231C: Perfluoroalkyl Sulfonamides     |            |        |       |                   |                   |                   |                   |                   |              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                        |                    |        |       | Client sample ID | BH301 / 0.15E     | BH301 / 0.15E     | BH301 / 0.15E     | BH303 / 0.2E      | BH303 / 0.2E      |
|-----------------------------------------------------------|--------------------|--------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                               |                    |        |       |                  | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 15-Jul-2019 00:00 | 15-Jul-2019 00:00 |
| Compound                                                  | CAS Number         | LOR    | Unit  |                  | ES1924021-001     | ES1924021-002     | ES1924021-003     | ES1924021-004     | ES1924021-006     |
|                                                           |                    |        |       |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP231C: Perfluoroalkyl Sulfonamides - Continued</b>    |                    |        |       |                  |                   |                   |                   |                   |                   |
| Perfluorooctane sulfonamide (FOSA)                        | 754-91-6           | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | ----              |
| N-Methyl perfluorooctane sulfonamide (MeFOSA)             | 31506-32-8         | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | ----              |
| N-Ethyl perfluorooctane sulfonamide (EtFOSA)              | 4151-50-2          | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | ----              |
| N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)      | 24448-09-7         | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | ----              |
| N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)       | 1691-99-2          | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | ----              |
| N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA) | 2355-31-9          | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | ----              |
| N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)  | 2991-50-6          | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | ----              |
| <b>EP231D: (n:2) Fluorotelomer Sulfonic Acids</b>         |                    |        |       |                  |                   |                   |                   |                   |                   |
| 4:2 Fluorotelomer sulfonic acid (4:2 FTS)                 | 757124-72-4        | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | ----              |
| 6:2 Fluorotelomer sulfonic acid (6:2 FTS)                 | 27619-97-2         | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | ----              |
| 8:2 Fluorotelomer sulfonic acid (8:2 FTS)                 | 39108-34-4         | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | ----              |
| 10:2 Fluorotelomer sulfonic acid (10:2 FTS)               | 120226-60-0        | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | ----              |
| <b>EP231P: PFAS Sums</b>                                  |                    |        |       |                  |                   |                   |                   |                   |                   |
| Sum of PFAS                                               | ----               | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | ----              |
| Sum of PFHxS and PFOS                                     | 355-46-4/1763-23-1 | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | ----              |
| Sum of PFAS (WA DER List)                                 | ----               | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | ----              |
| <b>EP066S: PCB Surrogate</b>                              |                    |        |       |                  |                   |                   |                   |                   |                   |
| Decachlorobiphenyl                                        | 2051-24-3          | 0.1    | %     |                  | 94.6              | ----              | ----              | 90.5              | ----              |
| <b>EP074S: VOC Surrogates</b>                             |                    |        |       |                  |                   |                   |                   |                   |                   |
| 1,2-Dichloroethane-D4                                     | 17060-07-0         | 0.5    | %     |                  | 95.2              | ----              | ----              | 102               | ----              |
| Toluene-D8                                                | 2037-26-5          | 0.5    | %     |                  | 102               | ----              | ----              | 109               | ----              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                 |            |        |      | Client sample ID | BH301 / 0.15E     | BH301 / 0.15E     | BH301 / 0.15E     | BH303 / 0.2E      | BH303 / 0.2E      |
|----------------------------------------------------|------------|--------|------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                        |            |        |      |                  | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 24-Jul-2019 00:00 | 15-Jul-2019 00:00 | 15-Jul-2019 00:00 |
| Compound                                           | CAS Number | LOR    | Unit |                  | ES1924021-001     | ES1924021-002     | ES1924021-003     | ES1924021-004     | ES1924021-006     |
|                                                    |            |        |      |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP074S: VOC Surrogates - Continued</b>          |            |        |      |                  |                   |                   |                   |                   |                   |
| 4-Bromofluorobenzene                               | 460-00-4   | 0.5    | %    |                  | 88.7              | ----              | ----              | 90.9              | ----              |
| <b>EP075(SIM)S: Phenolic Compound Surrogates</b>   |            |        |      |                  |                   |                   |                   |                   |                   |
| Phenol-d6                                          | 13127-88-3 | 0.5    | %    |                  | 81.9              | ----              | ----              | 79.9              | ----              |
| 2-Chlorophenol-D4                                  | 93951-73-6 | 0.5    | %    |                  | 86.6              | ----              | ----              | 86.3              | ----              |
| 2,4,6-Tribromophenol                               | 118-79-6   | 0.5    | %    |                  | 65.0              | ----              | ----              | 66.7              | ----              |
| <b>EP075(SIM)T: PAH Surrogates</b>                 |            |        |      |                  |                   |                   |                   |                   |                   |
| 2-Fluorobiphenyl                                   | 321-60-8   | 0.5    | %    |                  | 93.4              | ----              | ----              | 91.6              | ----              |
| Anthracene-d10                                     | 1719-06-8  | 0.5    | %    |                  | 93.9              | ----              | ----              | 91.5              | ----              |
| 4-Terphenyl-d14                                    | 1718-51-0  | 0.5    | %    |                  | 95.7              | ----              | ----              | 95.0              | ----              |
| <b>EP075S: Acid Extractable Surrogates</b>         |            |        |      |                  |                   |                   |                   |                   |                   |
| 2-Fluorophenol                                     | 367-12-4   | 0.5    | %    |                  | 95.6              | ----              | ----              | 96.2              | ----              |
| Phenol-d6                                          | 13127-88-3 | 0.5    | %    |                  | 90.7              | ----              | ----              | 98.2              | ----              |
| 2-Chlorophenol-D4                                  | 93951-73-6 | 0.5    | %    |                  | 95.0              | ----              | ----              | 106               | ----              |
| 2,4,6-Tribromophenol                               | 118-79-6   | 0.5    | %    |                  | 73.3              | ----              | ----              | 81.8              | ----              |
| <b>EP075T: Base/Neutral Extractable Surrogates</b> |            |        |      |                  |                   |                   |                   |                   |                   |
| Nitrobenzene-D5                                    | 4165-60-0  | 0.5    | %    |                  | 82.9              | ----              | ----              | 90.8              | ----              |
| 1,2-Dichlorobenzene-D4                             | 2199-69-1  | 0.5    | %    |                  | 95.6              | ----              | ----              | 99.7              | ----              |
| 2-Fluorobiphenyl                                   | 321-60-8   | 0.5    | %    |                  | 124               | ----              | ----              | 125               | ----              |
| Anthracene-d10                                     | 1719-06-8  | 0.5    | %    |                  | 96.1              | ----              | ----              | 93.6              | ----              |
| 4-Terphenyl-d14                                    | 1718-51-0  | 0.5    | %    |                  | 122               | ----              | ----              | 120               | ----              |
| <b>EP080S: TPH(V)/BTEX Surrogates</b>              |            |        |      |                  |                   |                   |                   |                   |                   |
| 1,2-Dichloroethane-D4                              | 17060-07-0 | 0.2    | %    |                  | 93.7              | ----              | ----              | 100               | ----              |
| Toluene-D8                                         | 2037-26-5  | 0.2    | %    |                  | 80.9              | ----              | ----              | 86.4              | ----              |
| 4-Bromofluorobenzene                               | 460-00-4   | 0.2    | %    |                  | 84.3              | ----              | ----              | 87.3              | ----              |
| <b>EP231S: PFAS Surrogate</b>                      |            |        |      |                  |                   |                   |                   |                   |                   |
| 13C4-PFOS                                          | ----       | 0.0002 | %    |                  | ----              | 77.5              | ----              | ----              | ----              |
| 13C8-PFOA                                          | ----       | 0.0002 | %    |                  | ----              | 78.5              | ----              | ----              | ----              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                   |      |       |             | Client sample ID  |                   |                   |                   |                   |
|------------------------------------------------------|------|-------|-------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                          |      |       |             | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH305 / 0.4E      |
| Compound                                             |      |       |             | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 20-Jul-2019 00:00 |
| CAS Number                                           | LOR  | Unit  |             | ES1924021-007     | ES1924021-008     | ES1924021-009     | ES1924021-010     | ES1924021-011     |
|                                                      |      |       |             | Result            | Result            | Result            | Result            | Result            |
| <b>EA029-A: pH Measurements</b>                      |      |       |             |                   |                   |                   |                   |                   |
| pH KCl (23A)                                         | ---- | 0.1   | pH Unit     | ----              | ----              | ----              | 6.1               | ----              |
| pH OX (23B)                                          | ---- | 0.1   | pH Unit     | ----              | ----              | ----              | 7.1               | ----              |
| <b>EA029-B: Acidity Trail</b>                        |      |       |             |                   |                   |                   |                   |                   |
| Titrateable Actual Acidity (23F)                     | ---- | 2     | mole H+ / t | ----              | ----              | ----              | 2                 | ----              |
| Titrateable Peroxide Acidity (23G)                   | ---- | 2     | mole H+ / t | ----              | ----              | ----              | <2                | ----              |
| Titrateable Sulfidic Acidity (23H)                   | ---- | 2     | mole H+ / t | ----              | ----              | ----              | <2                | ----              |
| sulfidic - Titrateable Actual Acidity (s-23F)        | ---- | 0.020 | % pyrite S  | ----              | ----              | ----              | <0.020            | ----              |
| sulfidic - Titrateable Peroxide Acidity (s-23G)      | ---- | 0.020 | % pyrite S  | ----              | ----              | ----              | <0.020            | ----              |
| sulfidic - Titrateable Sulfidic Acidity (s-23H)      | ---- | 0.020 | % pyrite S  | ----              | ----              | ----              | <0.020            | ----              |
| <b>EA029-C: Sulfur Trail</b>                         |      |       |             |                   |                   |                   |                   |                   |
| KCl Extractable Sulfur (23Ce)                        | ---- | 0.020 | % S         | ----              | ----              | ----              | 0.021             | ----              |
| Peroxide Sulfur (23De)                               | ---- | 0.020 | % S         | ----              | ----              | ----              | 0.028             | ----              |
| Peroxide Oxidisable Sulfur (23E)                     | ---- | 0.020 | % S         | ----              | ----              | ----              | <0.020            | ----              |
| acidity - Peroxide Oxidisable Sulfur (a-23E)         | ---- | 10    | mole H+ / t | ----              | ----              | ----              | <10               | ----              |
| <b>EA029-D: Calcium Values</b>                       |      |       |             |                   |                   |                   |                   |                   |
| KCl Extractable Calcium (23Vh)                       | ---- | 0.020 | % Ca        | ----              | ----              | ----              | 0.200             | ----              |
| Peroxide Calcium (23Wh)                              | ---- | 0.020 | % Ca        | ----              | ----              | ----              | 0.224             | ----              |
| Acid Reacted Calcium (23X)                           | ---- | 0.020 | % Ca        | ----              | ----              | ----              | 0.024             | ----              |
| acidity - Acid Reacted Calcium (a-23X)               | ---- | 10    | mole H+ / t | ----              | ----              | ----              | 12                | ----              |
| sulfidic - Acid Reacted Calcium (s-23X)              | ---- | 0.020 | % S         | ----              | ----              | ----              | <0.020            | ----              |
| <b>EA029-E: Magnesium Values</b>                     |      |       |             |                   |                   |                   |                   |                   |
| KCl Extractable Magnesium (23Sm)                     | ---- | 0.020 | % Mg        | ----              | ----              | ----              | 0.188             | ----              |
| Peroxide Magnesium (23Tm)                            | ---- | 0.020 | % Mg        | ----              | ----              | ----              | 0.207             | ----              |
| Acid Reacted Magnesium (23U)                         | ---- | 0.020 | % Mg        | ----              | ----              | ----              | <0.020            | ----              |
| Acidity - Acid Reacted Magnesium (a-23U)             | ---- | 10    | mole H+ / t | ----              | ----              | ----              | 16                | ----              |
| sulfidic - Acid Reacted Magnesium (s-23U)            | ---- | 0.020 | % S         | ----              | ----              | ----              | 0.026             | ----              |
| <b>EA029-F: Excess Acid Neutralising Capacity</b>    |      |       |             |                   |                   |                   |                   |                   |
| Excess Acid Neutralising Capacity (23Q)              | ---- | 0.020 | % CaCO3     | ----              | ----              | ----              | 0.354             | ----              |
| acidity - Excess Acid Neutralising Capacity (a-23Q)  | ---- | 10    | mole H+ / t | ----              | ----              | ----              | 71                | ----              |
| sulfidic - Excess Acid Neutralising Capacity (s-23Q) | ---- | 0.020 | % S         | ----              | ----              | ----              | 0.113             | ----              |

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                        |            |      |             | Client sample ID  | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH305 / 0.4E |
|-----------------------------------------------------------|------------|------|-------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------|
| Client sampling date / time                               |            |      |             | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 20-Jul-2019 00:00 |              |
| Compound                                                  | CAS Number | LOR  | Unit        | ES1924021-007     | ES1924021-008     | ES1924021-009     | ES1924021-010     | ES1924021-011     |              |
|                                                           |            |      |             | Result            | Result            | Result            | Result            | Result            |              |
| EA029-F: Excess Acid Neutralising Capacity - Continued    |            |      |             |                   |                   |                   |                   |                   |              |
| EA029-H: Acid Base Accounting                             |            |      |             |                   |                   |                   |                   |                   |              |
| ANC Fineness Factor                                       | ----       | 0.5  | -           | ----              | ----              | ----              | 1.5               | ----              |              |
| Net Acidity (sulfur units)                                | ----       | 0.02 | % S         | ----              | ----              | ----              | <0.02             | ----              |              |
| Net Acidity (acidity units)                               | ----       | 10   | mole H+ / t | ----              | ----              | ----              | <10               | ----              |              |
| Liming Rate                                               | ----       | 1    | kg CaCO3/t  | ----              | ----              | ----              | <1                | ----              |              |
| Net Acidity excluding ANC (sulfur units)                  | ----       | 0.02 | % S         | ----              | ----              | ----              | <0.02             | ----              |              |
| Net Acidity excluding ANC (acidity units)                 | ----       | 10   | mole H+ / t | ----              | ----              | ----              | <10               | ----              |              |
| Liming Rate excluding ANC                                 | ----       | 1    | kg CaCO3/t  | ----              | ----              | ----              | <1                | ----              |              |
| EA037: Ass Field Screening Analysis                       |            |      |             |                   |                   |                   |                   |                   |              |
| ø pH (F)                                                  | ----       | 0.1  | pH Unit     | ----              | ----              | ----              | 7.5               | ----              |              |
| ø pH (Fox)                                                | ----       | 0.1  | pH Unit     | ----              | ----              | ----              | 5.2               | ----              |              |
| ø Reaction Rate                                           | ----       | 1    | -           | ----              | ----              | ----              | 2                 | ----              |              |
| EA055: Moisture Content (Dried @ 105-110°C)               |            |      |             |                   |                   |                   |                   |                   |              |
| Moisture Content                                          | ----       | 0.1  | %           | ----              | 15.1              | ----              | ----              | ----              |              |
| Moisture Content                                          | ----       | 1.0  | %           | 16.7              | ----              | ----              | ----              | 13.5              |              |
| EA200: AS 4964 - 2004 Identification of Asbestos in Soils |            |      |             |                   |                   |                   |                   |                   |              |
| Asbestos Detected                                         | 1332-21-4  | 0.1  | g/kg        | ----              | ----              | No                | ----              | ----              |              |
| Asbestos (Trace)                                          | 1332-21-4  | 5    | Fibres      | ----              | ----              | No                | ----              | ----              |              |
| Asbestos Type                                             | 1332-21-4  | -    | --          | ----              | ----              | -                 | ----              | ----              |              |
| Sample weight (dry)                                       | ----       | 0.01 | g           | ----              | ----              | 17.0              | ----              | ----              |              |
| APPROVED IDENTIFIER:                                      | ----       | -    | --          | ----              | ----              | A. SMYLIE         | ----              | ----              |              |
| Synthetic Mineral Fibre                                   | ----       | 0.1  | g/kg        | ----              | ----              | No                | ----              | ----              |              |
| Organic Fibre                                             | ----       | 0.1  | g/kg        | ----              | ----              | No                | ----              | ----              |              |
| EG005(ED093)T: Total Metals by ICP-AES                    |            |      |             |                   |                   |                   |                   |                   |              |
| Arsenic                                                   | 7440-38-2  | 5    | mg/kg       | 12                | ----              | ----              | ----              | 6                 |              |
| Cadmium                                                   | 7440-43-9  | 1    | mg/kg       | <1                | ----              | ----              | ----              | <1                |              |
| Chromium                                                  | 7440-47-3  | 2    | mg/kg       | 14                | ----              | ----              | ----              | 10                |              |
| Copper                                                    | 7440-50-8  | 5    | mg/kg       | 22                | ----              | ----              | ----              | 12                |              |
| Lead                                                      | 7439-92-1  | 5    | mg/kg       | 17                | ----              | ----              | ----              | 43                |              |
| Nickel                                                    | 7440-02-0  | 2    | mg/kg       | 10                | ----              | ----              | ----              | 24                |              |
| Zinc                                                      | 7440-66-6  | 5    | mg/kg       | 43                | ----              | ----              | ----              | 49                |              |
| EG035T: Total Recoverable Mercury by FIMS                 |            |      |             |                   |                   |                   |                   |                   |              |
| Mercury                                                   | 7439-97-6  | 0.1  | mg/kg       | <0.1              | ----              | ----              | ----              | <0.1              |              |
| EN33: TCLP Leach                                          |            |      |             |                   |                   |                   |                   |                   |              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)              |            |     |         | Client sample ID | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH305 / 0.4E      |
|-------------------------------------------------|------------|-----|---------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                     |            |     |         |                  | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 20-Jul-2019 00:00 |
| Compound                                        | CAS Number | LOR | Unit    |                  | ES1924021-007     | ES1924021-008     | ES1924021-009     | ES1924021-010     | ES1924021-011     |
|                                                 |            |     |         | Result           | Result            | Result            | Result            | Result            | Result            |
| <b>EN33: TCLP Leach - Continued</b>             |            |     |         |                  |                   |                   |                   |                   |                   |
| Initial pH                                      | ----       | 0.1 | pH Unit | ----             | ----              | ----              | ----              | ----              | 8.4               |
| After HCl pH                                    | ----       | 0.1 | pH Unit | ----             | ----              | ----              | ----              | ----              | 1.3               |
| Extraction Fluid Number                         | ----       | 1   | -       | ----             | ----              | ----              | ----              | ----              | 1                 |
| Final pH                                        | ----       | 0.1 | pH Unit | ----             | ----              | ----              | ----              | ----              | 5.0               |
| <b>EP066: Polychlorinated Biphenyls (PCB)</b>   |            |     |         |                  |                   |                   |                   |                   |                   |
| Total Polychlorinated biphenyls                 | ----       | 0.1 | mg/kg   | <0.1             | ----              | ----              | ----              | ----              | <0.1              |
| <b>EP074A: Monocyclic Aromatic Hydrocarbons</b> |            |     |         |                  |                   |                   |                   |                   |                   |
| Styrene                                         | 100-42-5   | 0.5 | mg/kg   | <0.5             | ----              | ----              | ----              | ----              | <0.5              |
| Isopropylbenzene                                | 98-82-8    | 0.5 | mg/kg   | <0.5             | ----              | ----              | ----              | ----              | <0.5              |
| n-Propylbenzene                                 | 103-65-1   | 0.5 | mg/kg   | <0.5             | ----              | ----              | ----              | ----              | <0.5              |
| 1,3,5-Trimethylbenzene                          | 108-67-8   | 0.5 | mg/kg   | <0.5             | ----              | ----              | ----              | ----              | <0.5              |
| sec-Butylbenzene                                | 135-98-8   | 0.5 | mg/kg   | <0.5             | ----              | ----              | ----              | ----              | <0.5              |
| 1,2,4-Trimethylbenzene                          | 95-63-6    | 0.5 | mg/kg   | <0.5             | ----              | ----              | ----              | ----              | <0.5              |
| tert-Butylbenzene                               | 98-06-6    | 0.5 | mg/kg   | <0.5             | ----              | ----              | ----              | ----              | <0.5              |
| p-Isopropyltoluene                              | 99-87-6    | 0.5 | mg/kg   | <0.5             | ----              | ----              | ----              | ----              | <0.5              |
| n-Butylbenzene                                  | 104-51-8   | 0.5 | mg/kg   | <0.5             | ----              | ----              | ----              | ----              | <0.5              |
| <b>EP074B: Oxygenated Compounds</b>             |            |     |         |                  |                   |                   |                   |                   |                   |
| Vinyl Acetate                                   | 108-05-4   | 5   | mg/kg   | <5               | ----              | ----              | ----              | ----              | <5                |
| 2-Butanone (MEK)                                | 78-93-3    | 5   | mg/kg   | <5               | ----              | ----              | ----              | ----              | <5                |
| 4-Methyl-2-pentanone (MIBK)                     | 108-10-1   | 5   | mg/kg   | <5               | ----              | ----              | ----              | ----              | <5                |
| 2-Hexanone (MBK)                                | 591-78-6   | 5   | mg/kg   | <5               | ----              | ----              | ----              | ----              | <5                |
| <b>EP074C: Sulfonated Compounds</b>             |            |     |         |                  |                   |                   |                   |                   |                   |
| Carbon disulfide                                | 75-15-0    | 0.5 | mg/kg   | <0.5             | ----              | ----              | ----              | ----              | <0.5              |
| <b>EP074D: Fumigants</b>                        |            |     |         |                  |                   |                   |                   |                   |                   |
| 2,2-Dichloropropane                             | 594-20-7   | 0.5 | mg/kg   | <0.5             | ----              | ----              | ----              | ----              | <0.5              |
| 1,2-Dichloropropane                             | 78-87-5    | 0.5 | mg/kg   | <0.5             | ----              | ----              | ----              | ----              | <0.5              |
| cis-1,3-Dichloropropylene                       | 10061-01-5 | 0.5 | mg/kg   | <0.5             | ----              | ----              | ----              | ----              | <0.5              |
| trans-1,3-Dichloropropylene                     | 10061-02-6 | 0.5 | mg/kg   | <0.5             | ----              | ----              | ----              | ----              | <0.5              |
| 1,2-Dibromoethane (EDB)                         | 106-93-4   | 0.5 | mg/kg   | <0.5             | ----              | ----              | ----              | ----              | <0.5              |
| <b>EP074E: Halogenated Aliphatic Compounds</b>  |            |     |         |                  |                   |                   |                   |                   |                   |
| Dichlorodifluoromethane                         | 75-71-8    | 5   | mg/kg   | <5               | ----              | ----              | ----              | ----              | <5                |
| Chloromethane                                   | 74-87-3    | 5   | mg/kg   | <5               | ----              | ----              | ----              | ----              | <5                |
| Vinyl chloride                                  | 75-01-4    | 5   | mg/kg   | <5               | ----              | ----              | ----              | ----              | <5                |
| Bromomethane                                    | 74-83-9    | 5   | mg/kg   | <5               | ----              | ----              | ----              | ----              | <5                |



## Analytical Results

Sub-Matrix: SOIL  
 (Matrix: SOIL)

Client sample ID

|                                                            |            |     |       | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH305 / 0.4E      |
|------------------------------------------------------------|------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                |            |     |       | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 20-Jul-2019 00:00 |
| Compound                                                   | CAS Number | LOR | Unit  | ES1924021-007     | ES1924021-008     | ES1924021-009     | ES1924021-010     | ES1924021-011     |
|                                                            |            |     |       | Result            | Result            | Result            | Result            | Result            |
| <b>EP074E: Halogenated Aliphatic Compounds - Continued</b> |            |     |       |                   |                   |                   |                   |                   |
| Chloroethane                                               | 75-00-3    | 5   | mg/kg | <5                | ----              | ----              | ----              | <5                |
| Trichlorofluoromethane                                     | 75-69-4    | 5   | mg/kg | <5                | ----              | ----              | ----              | <5                |
| 1,1-Dichloroethene                                         | 75-35-4    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Iodomethane                                                | 74-88-4    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| trans-1,2-Dichloroethene                                   | 156-60-5   | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| 1,1-Dichloroethane                                         | 75-34-3    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| cis-1,2-Dichloroethene                                     | 156-59-2   | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| 1,1,1-Trichloroethane                                      | 71-55-6    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| 1,1-Dichloropropylene                                      | 563-58-6   | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Carbon Tetrachloride                                       | 56-23-5    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| 1,2-Dichloroethane                                         | 107-06-2   | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Trichloroethene                                            | 79-01-6    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Dibromomethane                                             | 74-95-3    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| 1,1,2-Trichloroethane                                      | 79-00-5    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| 1,3-Dichloropropane                                        | 142-28-9   | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Tetrachloroethene                                          | 127-18-4   | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| 1,1,1,2-Tetrachloroethane                                  | 630-20-6   | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| trans-1,4-Dichloro-2-butene                                | 110-57-6   | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| cis-1,4-Dichloro-2-butene                                  | 1476-11-5  | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| 1,1,2,2-Tetrachloroethane                                  | 79-34-5    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| 1,2,3-Trichloropropane                                     | 96-18-4    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Pentachloroethane                                          | 76-01-7    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| 1,2-Dibromo-3-chloropropane                                | 96-12-8    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| <b>EP074F: Halogenated Aromatic Compounds</b>              |            |     |       |                   |                   |                   |                   |                   |
| Chlorobenzene                                              | 108-90-7   | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Bromobenzene                                               | 108-86-1   | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| 2-Chlorotoluene                                            | 95-49-8    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| 4-Chlorotoluene                                            | 106-43-4   | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| 1,2,3-Trichlorobenzene                                     | 87-61-6    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| <b>EP074G: Trihalomethanes</b>                             |            |     |       |                   |                   |                   |                   |                   |
| Chloroform                                                 | 67-66-3    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Bromodichloromethane                                       | 75-27-4    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Dibromochloromethane                                       | 124-48-1   | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Bromoform                                                  | 75-25-2    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |



## Analytical Results

Sub-Matrix: SOIL  
 (Matrix: SOIL)

Client sample ID

| Client sampling date / time |  |  |  | BH304 / 0.7E  | BH304 / 0.7E  | BH304 / 0.7E  | BH304 / 0.7E  | BH305 / 0.4E  |
|-----------------------------|--|--|--|---------------|---------------|---------------|---------------|---------------|
| Compound                    |  |  |  | CAS Number    | LOR           | Unit          | Result        | Result        |
|                             |  |  |  | ES1924021-007 | ES1924021-008 | ES1924021-009 | ES1924021-010 | ES1924021-011 |
|                             |  |  |  | Result        | Result        | Result        | Result        | Result        |

### EP075(SIM)B: Polynuclear Aromatic Hydrocarbons

|                                           |                   |     |       |      |      |      |      |      |
|-------------------------------------------|-------------------|-----|-------|------|------|------|------|------|
| Naphthalene                               | 91-20-3           | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | <0.5 |
| Acenaphthylene                            | 208-96-8          | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | <0.5 |
| Acenaphthene                              | 83-32-9           | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | 0.7  |
| Fluorene                                  | 86-73-7           | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | 0.7  |
| Phenanthrene                              | 85-01-8           | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | 10.1 |
| Anthracene                                | 120-12-7          | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | 3.8  |
| Fluoranthene                              | 206-44-0          | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | 15.2 |
| Pyrene                                    | 129-00-0          | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | 16.5 |
| Benz(a)anthracene                         | 56-55-3           | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | 14.4 |
| Chrysene                                  | 218-01-9          | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | 13.0 |
| Benzo(b+j)fluoranthene                    | 205-99-2 205-82-3 | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | 18.3 |
| Benzo(k)fluoranthene                      | 207-08-9          | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | 6.7  |
| Benzo(a)pyrene                            | 50-32-8           | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | 17.5 |
| Indeno(1.2.3.cd)pyrene                    | 193-39-5          | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | 8.0  |
| Dibenz(a,h)anthracene                     | 53-70-3           | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | 2.7  |
| Benzo(g,h,i)perylene                      | 191-24-2          | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | 10.2 |
| ^ Sum of polycyclic aromatic hydrocarbons | ----              | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | 138  |
| ^ Benzo(a)pyrene TEQ (zero)               | ----              | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | 25.2 |
| ^ Benzo(a)pyrene TEQ (half LOR)           | ----              | 0.5 | mg/kg | 0.6  | ---- | ---- | ---- | 25.2 |
| ^ Benzo(a)pyrene TEQ (LOR)                | ----              | 0.5 | mg/kg | 1.2  | ---- | ---- | ---- | 25.2 |

### EP075A: Phenolic Compounds

|                         |           |     |       |      |      |      |      |      |
|-------------------------|-----------|-----|-------|------|------|------|------|------|
| Phenol                  | 108-95-2  | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | <0.5 |
| 2-Chlorophenol          | 95-57-8   | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | <0.5 |
| 2-Methylphenol          | 95-48-7   | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | <0.5 |
| 3- & 4-Methylphenol     | 1319-77-3 | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | <0.5 |
| 2-Nitrophenol           | 88-75-5   | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | <0.5 |
| 2,4-Dimethylphenol      | 105-67-9  | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | <0.5 |
| 2,4-Dichlorophenol      | 120-83-2  | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | <0.5 |
| 2,6-Dichlorophenol      | 87-65-0   | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | <0.5 |
| 4-Chloro-3-methylphenol | 59-50-7   | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | <0.5 |
| 2,4,6-Trichlorophenol   | 88-06-2   | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | <0.5 |
| 2,4,5-Trichlorophenol   | 95-95-4   | 0.5 | mg/kg | <0.5 | ---- | ---- | ---- | <0.5 |
| Pentachlorophenol       | 87-86-5   | 1   | mg/kg | <1   | ---- | ---- | ---- | <1   |

### EP075B: Polynuclear Aromatic Hydrocarbons



## Analytical Results

Sub-Matrix: SOIL  
 (Matrix: SOIL)

Client sample ID

|                                                              |                  |     |       | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH305 / 0.4E      |
|--------------------------------------------------------------|------------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                  |                  |     |       | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 20-Jul-2019 00:00 |
| Compound                                                     | CAS Number       | LOR | Unit  | ES1924021-007     | ES1924021-008     | ES1924021-009     | ES1924021-010     | ES1924021-011     |
|                                                              |                  |     |       | Result            | Result            | Result            | Result            | Result            |
| <b>EP075B: Polynuclear Aromatic Hydrocarbons - Continued</b> |                  |     |       |                   |                   |                   |                   |                   |
| 2-Methylnaphthalene                                          | 91-57-6          | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| N-2-Fluorenyl Acetamide                                      | 53-96-3          | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| 7,12-Dimethylbenz(a)anthracene                               | 57-97-6          | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| 3-Methylcholanthrene                                         | 56-49-5          | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| <b>EP075C: Phthalate Esters</b>                              |                  |     |       |                   |                   |                   |                   |                   |
| Dimethyl phthalate                                           | 131-11-3         | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Diethyl phthalate                                            | 84-66-2          | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Di-n-butyl phthalate                                         | 84-74-2          | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Butyl benzyl phthalate                                       | 85-68-7          | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| bis(2-ethylhexyl) phthalate                                  | 117-81-7         | 5.0 | mg/kg | <5.0              | ----              | ----              | ----              | <5.0              |
| Di-n-octylphthalate                                          | 117-84-0         | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| <b>EP075D: Nitrosamines</b>                                  |                  |     |       |                   |                   |                   |                   |                   |
| N-Nitrosomethylethylamine                                    | 10595-95-6       | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| N-Nitrosodiethylamine                                        | 55-18-5          | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| N-Nitrosopyrrolidine                                         | 930-55-2         | 1.0 | mg/kg | <1.0              | ----              | ----              | ----              | <1.0              |
| N-Nitrosomorpholine                                          | 59-89-2          | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| N-Nitrosodi-n-propylamine                                    | 621-64-7         | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| N-Nitrosopiperidine                                          | 100-75-4         | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| N-Nitrosodibutylamine                                        | 924-16-3         | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| N-Nitrosodiphenyl & Diphenylamine                            | 86-30-6 122-39-4 | 1.0 | mg/kg | <1.0              | ----              | ----              | ----              | <1.0              |
| Methapyrilene                                                | 91-80-5          | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| <b>EP075E: Nitroaromatics and Ketones</b>                    |                  |     |       |                   |                   |                   |                   |                   |
| 2-Picoline                                                   | 109-06-8         | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Acetophenone                                                 | 98-86-2          | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Nitrobenzene                                                 | 98-95-3          | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Isophorone                                                   | 78-59-1          | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| 2,6-Dinitrotoluene                                           | 606-20-2         | 1.0 | mg/kg | <1.0              | ----              | ----              | ----              | <1.0              |
| 2,4-Dinitrotoluene                                           | 121-14-2         | 1.0 | mg/kg | <1.0              | ----              | ----              | ----              | <1.0              |
| 1-Naphthylamine                                              | 134-32-7         | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| 4-Nitroquinoline-N-oxide                                     | 56-57-5          | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| 5-Nitro-o-toluidine                                          | 99-55-8          | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Azobenzene                                                   | 103-33-3         | 1   | mg/kg | <1                | ----              | ----              | ----              | <1                |
| 1,3,5-Trinitrobenzene                                        | 99-35-4          | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                    |            |     |       | Client sample ID | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH305 / 0.4E      |
|-------------------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                           |            |     |       |                  | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 20-Jul-2019 00:00 |
| Compound                                              | CAS Number | LOR | Unit  |                  | ES1924021-007     | ES1924021-008     | ES1924021-009     | ES1924021-010     | ES1924021-011     |
|                                                       |            |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP075E: Nitroaromatics and Ketones - Continued</b> |            |     |       |                  |                   |                   |                   |                   |                   |
| Phenacetin                                            | 62-44-2    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <0.5              |
| 4-Aminobiphenyl                                       | 92-67-1    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <0.5              |
| Pentachloronitrobenzene                               | 82-68-8    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <0.5              |
| Pronamide                                             | 23950-58-5 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <0.5              |
| Dimethylaminoazobenzene                               | 60-11-7    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <0.5              |
| Chlorobenzilate                                       | 510-15-6   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <0.5              |
| <b>EP075F: Haloethers</b>                             |            |     |       |                  |                   |                   |                   |                   |                   |
| Bis(2-chloroethyl) ether                              | 111-44-4   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <0.5              |
| Bis(2-chloroethoxy) methane                           | 111-91-1   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <0.5              |
| 4-Chlorophenyl phenyl ether                           | 7005-72-3  | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <0.5              |
| 4-Bromophenyl phenyl ether                            | 101-55-3   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <0.5              |
| <b>EP075G: Chlorinated Hydrocarbons</b>               |            |     |       |                  |                   |                   |                   |                   |                   |
| 1,3-Dichlorobenzene                                   | 541-73-1   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <0.5              |
| 1,4-Dichlorobenzene                                   | 106-46-7   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <0.5              |
| 1,2-Dichlorobenzene                                   | 95-50-1    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <0.5              |
| Hexachloroethane                                      | 67-72-1    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <0.5              |
| 1,2,4-Trichlorobenzene                                | 120-82-1   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <0.5              |
| Hexachloropropylene                                   | 1888-71-7  | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <0.5              |
| Hexachlorobutadiene                                   | 87-68-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <0.5              |
| Hexachlorocyclopentadiene                             | 77-47-4    | 2.5 | mg/kg |                  | <2.5              | ----              | ----              | ----              | <2.5              |
| Pentachlorobenzene                                    | 608-93-5   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <0.5              |
| Hexachlorobenzene (HCB)                               | 118-74-1   | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | ----              | <1.0              |
| <b>EP075H: Anilines and Benzidines</b>                |            |     |       |                  |                   |                   |                   |                   |                   |
| Aniline                                               | 62-53-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <0.5              |
| 4-Chloroaniline                                       | 106-47-8   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <0.5              |
| 2-Nitroaniline                                        | 88-74-4    | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | ----              | <1.0              |
| 3-Nitroaniline                                        | 99-09-2    | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | ----              | <1.0              |
| Dibenzofuran                                          | 132-64-9   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <b>0.6</b>        |
| 4-Nitroaniline                                        | 100-01-6   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <0.5              |
| Carbazole                                             | 86-74-8    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <b>1.5</b>        |
| 3,3'-Dichlorobenzidine                                | 91-94-1    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <0.5              |
| <b>EP075I: Organochlorine Pesticides</b>              |            |     |       |                  |                   |                   |                   |                   |                   |
| alpha-BHC                                             | 319-84-6   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <0.5              |
| beta-BHC                                              | 319-85-7   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----              | <0.5              |



## Analytical Results

Sub-Matrix: SOIL  
 (Matrix: SOIL)

Client sample ID

|                                                                        |            |     |       | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH305 / 0.4E      |
|------------------------------------------------------------------------|------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                            |            |     |       | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 20-Jul-2019 00:00 |
| Compound                                                               | CAS Number | LOR | Unit  | ES1924021-007     | ES1924021-008     | ES1924021-009     | ES1924021-010     | ES1924021-011     |
|                                                                        |            |     |       | Result            | Result            | Result            | Result            | Result            |
| <b>EP075I: Organochlorine Pesticides - Continued</b>                   |            |     |       |                   |                   |                   |                   |                   |
| gamma-BHC                                                              | 58-89-9    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| delta-BHC                                                              | 319-86-8   | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Heptachlor                                                             | 76-44-8    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Aldrin                                                                 | 309-00-2   | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Heptachlor epoxide                                                     | 1024-57-3  | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| alpha-Endosulfan                                                       | 959-98-8   | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| 4,4'-DDE                                                               | 72-55-9    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Dieldrin                                                               | 60-57-1    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Endrin                                                                 | 72-20-8    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| beta-Endosulfan                                                        | 33213-65-9 | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| 4,4'-DDD                                                               | 72-54-8    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Endosulfan sulfate                                                     | 1031-07-8  | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| 4,4'-DDT                                                               | 50-29-3    | 1.0 | mg/kg | <1.0              | ----              | ----              | ----              | <1.0              |
| <b>EP075J: Organophosphorus Pesticides</b>                             |            |     |       |                   |                   |                   |                   |                   |
| Dichlorvos                                                             | 62-73-7    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Dimethoate                                                             | 60-51-5    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Diazinon                                                               | 333-41-5   | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Chlorpyrifos-methyl                                                    | 5598-13-0  | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Malathion                                                              | 121-75-5   | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Fenthion                                                               | 55-38-9    | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Chlorpyrifos                                                           | 2921-88-2  | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Pirimphos-ethyl                                                        | 23505-41-1 | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Chlorfenvinphos                                                        | 470-90-6   | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Prothiofos                                                             | 34643-46-4 | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| Ethion                                                                 | 563-12-2   | 0.5 | mg/kg | <0.5              | ----              | ----              | ----              | <0.5              |
| <b>EP080/071: Total Petroleum Hydrocarbons</b>                         |            |     |       |                   |                   |                   |                   |                   |
| C6 - C9 Fraction                                                       | ----       | 10  | mg/kg | <10               | ----              | ----              | ----              | <10               |
| C10 - C14 Fraction                                                     | ----       | 50  | mg/kg | <50               | ----              | ----              | ----              | <50               |
| C15 - C28 Fraction                                                     | ----       | 100 | mg/kg | <100              | ----              | ----              | ----              | <b>460</b>        |
| C29 - C36 Fraction                                                     | ----       | 100 | mg/kg | <100              | ----              | ----              | ----              | <b>480</b>        |
| ^ C10 - C36 Fraction (sum)                                             | ----       | 50  | mg/kg | <50               | ----              | ----              | ----              | <b>940</b>        |
| <b>EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions</b> |            |     |       |                   |                   |                   |                   |                   |
| C6 - C10 Fraction                                                      | C6_C10     | 10  | mg/kg | <10               | ----              | ----              | ----              | <10               |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                                                 |                   |        |       | Client sample ID | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH305 / 0.4E      |
|------------------------------------------------------------------------------------|-------------------|--------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                                        |                   |        |       |                  | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 20-Jul-2019 00:00 |
| Compound                                                                           | CAS Number        | LOR    | Unit  |                  | ES1924021-007     | ES1924021-008     | ES1924021-009     | ES1924021-010     | ES1924021-011     |
|                                                                                    |                   |        |       | Result           | Result            | Result            | Result            | Result            | Result            |
| <b>EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued</b> |                   |        |       |                  |                   |                   |                   |                   |                   |
| ^ C6 - C10 Fraction minus BTEX (F1)                                                | C6_C10-BTEX       | 10     | mg/kg | <10              | ----              | ----              | ----              | ----              | <10               |
| >C10 - C16 Fraction                                                                | ----              | 50     | mg/kg | <50              | ----              | ----              | ----              | ----              | <50               |
| >C16 - C34 Fraction                                                                | ----              | 100    | mg/kg | <100             | ----              | ----              | ----              | ----              | 830               |
| >C34 - C40 Fraction                                                                | ----              | 100    | mg/kg | <100             | ----              | ----              | ----              | ----              | 240               |
| ^ >C10 - C40 Fraction (sum)                                                        | ----              | 50     | mg/kg | <50              | ----              | ----              | ----              | ----              | 1070              |
| ^ >C10 - C16 Fraction minus Naphthalene (F2)                                       | ----              | 50     | mg/kg | <50              | ----              | ----              | ----              | ----              | <50               |
| <b>EP080: BTEXN</b>                                                                |                   |        |       |                  |                   |                   |                   |                   |                   |
| Benzene                                                                            | 71-43-2           | 0.2    | mg/kg | <0.2             | ----              | ----              | ----              | ----              | <0.2              |
| Toluene                                                                            | 108-88-3          | 0.5    | mg/kg | <0.5             | ----              | ----              | ----              | ----              | <0.5              |
| Ethylbenzene                                                                       | 100-41-4          | 0.5    | mg/kg | <0.5             | ----              | ----              | ----              | ----              | <0.5              |
| meta- & para-Xylene                                                                | 108-38-3 106-42-3 | 0.5    | mg/kg | <0.5             | ----              | ----              | ----              | ----              | <0.5              |
| ortho-Xylene                                                                       | 95-47-6           | 0.5    | mg/kg | <0.5             | ----              | ----              | ----              | ----              | <0.5              |
| ^ Sum of BTEX                                                                      | ----              | 0.2    | mg/kg | <0.2             | ----              | ----              | ----              | ----              | <0.2              |
| ^ Total Xylenes                                                                    | ----              | 0.5    | mg/kg | <0.5             | ----              | ----              | ----              | ----              | <0.5              |
| Naphthalene                                                                        | 91-20-3           | 1      | mg/kg | <1               | ----              | ----              | ----              | ----              | <1                |
| <b>EP231A: Perfluoroalkyl Sulfonic Acids</b>                                       |                   |        |       |                  |                   |                   |                   |                   |                   |
| Perfluorobutane sulfonic acid (PFBS)                                               | 375-73-5          | 0.0002 | mg/kg | ----             | <0.0002           | ----              | ----              | ----              | ----              |
| Perfluoropentane sulfonic acid (PFPeS)                                             | 2706-91-4         | 0.0002 | mg/kg | ----             | <0.0002           | ----              | ----              | ----              | ----              |
| Perfluorohexane sulfonic acid (PFHxS)                                              | 355-46-4          | 0.0002 | mg/kg | ----             | <0.0002           | ----              | ----              | ----              | ----              |
| Perfluoroheptane sulfonic acid (PFHpS)                                             | 375-92-8          | 0.0002 | mg/kg | ----             | <0.0002           | ----              | ----              | ----              | ----              |
| Perfluorooctane sulfonic acid (PFOS)                                               | 1763-23-1         | 0.0002 | mg/kg | ----             | <0.0002           | ----              | ----              | ----              | ----              |
| Perfluorodecane sulfonic acid (PFDS)                                               | 335-77-3          | 0.0002 | mg/kg | ----             | <0.0002           | ----              | ----              | ----              | ----              |
| <b>EP231B: Perfluoroalkyl Carboxylic Acids</b>                                     |                   |        |       |                  |                   |                   |                   |                   |                   |
| Perfluorobutanoic acid (PFBA)                                                      | 375-22-4          | 0.001  | mg/kg | ----             | <0.001            | ----              | ----              | ----              | ----              |
| Perfluoropentanoic acid (PFPeA)                                                    | 2706-90-3         | 0.0002 | mg/kg | ----             | <0.0002           | ----              | ----              | ----              | ----              |
| Perfluorohexanoic acid (PFHxA)                                                     | 307-24-4          | 0.0002 | mg/kg | ----             | <0.0002           | ----              | ----              | ----              | ----              |
| Perfluoroheptanoic acid (PFHpA)                                                    | 375-85-9          | 0.0002 | mg/kg | ----             | <0.0002           | ----              | ----              | ----              | ----              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                         |             |        |       | Client sample ID | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH305 / 0.4E      |
|------------------------------------------------------------|-------------|--------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                |             |        |       |                  | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 20-Jul-2019 00:00 |
| Compound                                                   | CAS Number  | LOR    | Unit  |                  | ES1924021-007     | ES1924021-008     | ES1924021-009     | ES1924021-010     | ES1924021-011     |
|                                                            |             |        |       | Result           | Result            | Result            | Result            | Result            | Result            |
| <b>EP231B: Perfluoroalkyl Carboxylic Acids - Continued</b> |             |        |       |                  |                   |                   |                   |                   |                   |
| Perfluorooctanoic acid (PFOA)                              | 335-67-1    | 0.0002 | mg/kg | ----             | <0.0002           | ----              | ----              | ----              | ----              |
| Perfluorononanoic acid (PFNA)                              | 375-95-1    | 0.0002 | mg/kg | ----             | <0.0002           | ----              | ----              | ----              | ----              |
| Perfluorodecanoic acid (PFDA)                              | 335-76-2    | 0.0002 | mg/kg | ----             | <0.0002           | ----              | ----              | ----              | ----              |
| Perfluoroundecanoic acid (PFUnDA)                          | 2058-94-8   | 0.0002 | mg/kg | ----             | <0.0002           | ----              | ----              | ----              | ----              |
| Perfluorododecanoic acid (PFDoDA)                          | 307-55-1    | 0.0002 | mg/kg | ----             | <0.0002           | ----              | ----              | ----              | ----              |
| Perfluorotridecanoic acid (PFTrDA)                         | 72629-94-8  | 0.0002 | mg/kg | ----             | <0.0002           | ----              | ----              | ----              | ----              |
| Perfluorotetradecanoic acid (PFTeDA)                       | 376-06-7    | 0.0005 | mg/kg | ----             | <0.0005           | ----              | ----              | ----              | ----              |
| <b>EP231C: Perfluoroalkyl Sulfonamides</b>                 |             |        |       |                  |                   |                   |                   |                   |                   |
| Perfluorooctane sulfonamide (FOSA)                         | 754-91-6    | 0.0002 | mg/kg | ----             | <0.0002           | ----              | ----              | ----              | ----              |
| N-Methyl perfluorooctane sulfonamide (MeFOSA)              | 31506-32-8  | 0.0005 | mg/kg | ----             | <0.0005           | ----              | ----              | ----              | ----              |
| N-Ethyl perfluorooctane sulfonamide (EtFOSA)               | 4151-50-2   | 0.0005 | mg/kg | ----             | <0.0005           | ----              | ----              | ----              | ----              |
| N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)       | 24448-09-7  | 0.0005 | mg/kg | ----             | <0.0005           | ----              | ----              | ----              | ----              |
| N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)        | 1691-99-2   | 0.0005 | mg/kg | ----             | <0.0005           | ----              | ----              | ----              | ----              |
| N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)  | 2355-31-9   | 0.0002 | mg/kg | ----             | <0.0002           | ----              | ----              | ----              | ----              |
| N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)   | 2991-50-6   | 0.0002 | mg/kg | ----             | <0.0002           | ----              | ----              | ----              | ----              |
| <b>EP231D: (n:2) Fluorotelomer Sulfonic Acids</b>          |             |        |       |                  |                   |                   |                   |                   |                   |
| 4:2 Fluorotelomer sulfonic acid (4:2 FTS)                  | 757124-72-4 | 0.0005 | mg/kg | ----             | <0.0005           | ----              | ----              | ----              | ----              |
| 6:2 Fluorotelomer sulfonic acid (6:2 FTS)                  | 27619-97-2  | 0.0005 | mg/kg | ----             | <0.0005           | ----              | ----              | ----              | ----              |
| 8:2 Fluorotelomer sulfonic acid (8:2 FTS)                  | 39108-34-4  | 0.0005 | mg/kg | ----             | <0.0005           | ----              | ----              | ----              | ----              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                            |                    |        |       | Client sample ID | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH305 / 0.4E      |
|---------------------------------------------------------------|--------------------|--------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                   |                    |        |       |                  | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 20-Jul-2019 00:00 |
| Compound                                                      | CAS Number         | LOR    | Unit  |                  | ES1924021-007     | ES1924021-008     | ES1924021-009     | ES1924021-010     | ES1924021-011     |
|                                                               |                    |        |       |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued</b> |                    |        |       |                  |                   |                   |                   |                   |                   |
| 10:2 Fluorotelomer sulfonic acid<br>(10:2 FTS)                | 120226-60-0        | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----              | ----              |
| <b>EP231P: PFAS Sums</b>                                      |                    |        |       |                  |                   |                   |                   |                   |                   |
| Sum of PFAS                                                   | ----               | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | ----              |
| Sum of PFHxS and PFOS                                         | 355-46-4/1763-23-1 | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | ----              |
| Sum of PFAS (WA DER List)                                     | ----               | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | ----              |
| <b>EP066S: PCB Surrogate</b>                                  |                    |        |       |                  |                   |                   |                   |                   |                   |
| Decachlorobiphenyl                                            | 2051-24-3          | 0.1    | %     |                  | 94.5              | ----              | ----              | ----              | 71.5              |
| <b>EP074S: VOC Surrogates</b>                                 |                    |        |       |                  |                   |                   |                   |                   |                   |
| 1,2-Dichloroethane-D4                                         | 17060-07-0         | 0.5    | %     |                  | 98.6              | ----              | ----              | ----              | 105               |
| Toluene-D8                                                    | 2037-26-5          | 0.5    | %     |                  | 108               | ----              | ----              | ----              | 89.2              |
| 4-Bromofluorobenzene                                          | 460-00-4           | 0.5    | %     |                  | 93.5              | ----              | ----              | ----              | 89.0              |
| <b>EP075(SIM)S: Phenolic Compound Surrogates</b>              |                    |        |       |                  |                   |                   |                   |                   |                   |
| Phenol-d6                                                     | 13127-88-3         | 0.5    | %     |                  | 81.2              | ----              | ----              | ----              | 81.0              |
| 2-Chlorophenol-D4                                             | 93951-73-6         | 0.5    | %     |                  | 87.8              | ----              | ----              | ----              | 87.9              |
| 2,4,6-Tribromophenol                                          | 118-79-6           | 0.5    | %     |                  | 67.0              | ----              | ----              | ----              | 76.2              |
| <b>EP075(SIM)T: PAH Surrogates</b>                            |                    |        |       |                  |                   |                   |                   |                   |                   |
| 2-Fluorobiphenyl                                              | 321-60-8           | 0.5    | %     |                  | 94.2              | ----              | ----              | ----              | 95.6              |
| Anthracene-d10                                                | 1719-06-8          | 0.5    | %     |                  | 94.5              | ----              | ----              | ----              | 90.4              |
| 4-Terphenyl-d14                                               | 1718-51-0          | 0.5    | %     |                  | 96.8              | ----              | ----              | ----              | 101               |
| <b>EP075S: Acid Extractable Surrogates</b>                    |                    |        |       |                  |                   |                   |                   |                   |                   |
| 2-Fluorophenol                                                | 367-12-4           | 0.5    | %     |                  | 98.5              | ----              | ----              | ----              | 102               |
| Phenol-d6                                                     | 13127-88-3         | 0.5    | %     |                  | 90.2              | ----              | ----              | ----              | 95.7              |
| 2-Chlorophenol-D4                                             | 93951-73-6         | 0.5    | %     |                  | 101               | ----              | ----              | ----              | 103               |
| 2,4,6-Tribromophenol                                          | 118-79-6           | 0.5    | %     |                  | 53.2              | ----              | ----              | ----              | 99.1              |
| <b>EP075T: Base/Neutral Extractable Surrogates</b>            |                    |        |       |                  |                   |                   |                   |                   |                   |
| Nitrobenzene-D5                                               | 4165-60-0          | 0.5    | %     |                  | 97.2              | ----              | ----              | ----              | 88.7              |
| 1,2-Dichlorobenzene-D4                                        | 2199-69-1          | 0.5    | %     |                  | 98.6              | ----              | ----              | ----              | 102               |
| 2-Fluorobiphenyl                                              | 321-60-8           | 0.5    | %     |                  | 120               | ----              | ----              | ----              | 119               |
| Anthracene-d10                                                | 1719-06-8          | 0.5    | %     |                  | 95.1              | ----              | ----              | ----              | 87.4              |
| 4-Terphenyl-d14                                               | 1718-51-0          | 0.5    | %     |                  | 121               | ----              | ----              | ----              | 108               |
| <b>EP080S: TPH(V)/BTEX Surrogates</b>                         |                    |        |       |                  |                   |                   |                   |                   |                   |
| 1,2-Dichloroethane-D4                                         | 17060-07-0         | 0.2    | %     |                  | 97.4              | ----              | ----              | ----              | 106               |



## Analytical Results

Sub-Matrix: SOIL  
 (Matrix: SOIL)

Client sample ID

|                                                   |            |        |      | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH304 / 0.7E      | BH305 / 0.4E      |
|---------------------------------------------------|------------|--------|------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                       |            |        |      | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 11-Jul-2019 00:00 | 20-Jul-2019 00:00 |
| Compound                                          | CAS Number | LOR    | Unit | ES1924021-007     | ES1924021-008     | ES1924021-009     | ES1924021-010     | ES1924021-011     |
|                                                   |            |        |      | Result            | Result            | Result            | Result            | Result            |
| <b>EP080S: TPH(V)/BTEX Surrogates - Continued</b> |            |        |      |                   |                   |                   |                   |                   |
| Toluene-D8                                        | 2037-26-5  | 0.2    | %    | 85.2              | ----              | ----              | ----              | 94.0              |
| 4-Bromofluorobenzene                              | 460-00-4   | 0.2    | %    | 86.7              | ----              | ----              | ----              | 96.2              |
| <b>EP231S: PFAS Surrogate</b>                     |            |        |      |                   |                   |                   |                   |                   |
| 13C4-PFOS                                         | ----       | 0.0002 | %    | ----              | 86.5              | ----              | ----              | ----              |
| 13C8-PFOA                                         | ----       | 0.0002 | %    | ----              | 72.5              | ----              | ----              | ----              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                               |            |      |        | Client sample ID | BH305 / 0.4E      | BH305 / 0.4E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 0.5E      |
|------------------------------------------------------------------|------------|------|--------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                      |            |      |        |                  | 20-Jul-2019 00:00 | 20-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 |
| Compound                                                         | CAS Number | LOR  | Unit   |                  | ES1924021-012     | ES1924021-013     | ES1924021-014     | ES1924021-015     | ES1924021-016     |
|                                                                  |            |      |        | Result           | Result            | Result            | Result            | Result            | Result            |
| <b>EA055: Moisture Content (Dried @ 105-110°C)</b>               |            |      |        |                  |                   |                   |                   |                   |                   |
| Moisture Content                                                 | ----       | 0.1  | %      | 13.1             | ----              | ----              | ----              | 13.4              | ----              |
| Moisture Content                                                 | ----       | 1.0  | %      | ----             | ----              | 8.0               | ----              | ----              | ----              |
| <b>EA200: AS 4964 - 2004 Identification of Asbestos in Soils</b> |            |      |        |                  |                   |                   |                   |                   |                   |
| Asbestos Detected                                                | 1332-21-4  | 0.1  | g/kg   | ----             | No                | ----              | ----              | ----              | Yes               |
| Asbestos (Trace)                                                 | 1332-21-4  | 5    | Fibres | ----             | No                | ----              | ----              | ----              | No                |
| Asbestos Type                                                    | 1332-21-4  | -    | --     | ----             | -                 | ----              | ----              | ----              | Ch + Am + Cr      |
| Sample weight (dry)                                              | ----       | 0.01 | g      | ----             | 26.6              | ----              | ----              | ----              | 52.2              |
| APPROVED IDENTIFIER:                                             | ----       | -    | --     | ----             | A. SMYLLIE        | ----              | ----              | ----              | A. SMYLLIE        |
| Synthetic Mineral Fibre                                          | ----       | 0.1  | g/kg   | ----             | No                | ----              | ----              | ----              | No                |
| Organic Fibre                                                    | ----       | 0.1  | g/kg   | ----             | No                | ----              | ----              | ----              | No                |
| <b>EG005(ED093)T: Total Metals by ICP-AES</b>                    |            |      |        |                  |                   |                   |                   |                   |                   |
| Arsenic                                                          | 7440-38-2  | 5    | mg/kg  | ----             | ----              | <5                | ----              | ----              | ----              |
| Cadmium                                                          | 7440-43-9  | 1    | mg/kg  | ----             | ----              | <1                | ----              | ----              | ----              |
| Chromium                                                         | 7440-47-3  | 2    | mg/kg  | ----             | ----              | 75                | ----              | ----              | ----              |
| Copper                                                           | 7440-50-8  | 5    | mg/kg  | ----             | ----              | 48                | ----              | ----              | ----              |
| Lead                                                             | 7439-92-1  | 5    | mg/kg  | ----             | ----              | 205               | ----              | ----              | ----              |
| Nickel                                                           | 7440-02-0  | 2    | mg/kg  | ----             | ----              | 76                | ----              | ----              | ----              |
| Zinc                                                             | 7440-66-6  | 5    | mg/kg  | ----             | ----              | 217               | ----              | ----              | ----              |
| <b>EG035T: Total Recoverable Mercury by FIMS</b>                 |            |      |        |                  |                   |                   |                   |                   |                   |
| Mercury                                                          | 7439-97-6  | 0.1  | mg/kg  | ----             | ----              | 0.2               | ----              | ----              | ----              |
| <b>EP066: Polychlorinated Biphenyls (PCB)</b>                    |            |      |        |                  |                   |                   |                   |                   |                   |
| Total Polychlorinated biphenyls                                  | ----       | 0.1  | mg/kg  | ----             | ----              | <0.1              | ----              | ----              | ----              |
| <b>EP074A: Monocyclic Aromatic Hydrocarbons</b>                  |            |      |        |                  |                   |                   |                   |                   |                   |
| Styrene                                                          | 100-42-5   | 0.5  | mg/kg  | ----             | ----              | <0.5              | ----              | ----              | ----              |
| Isopropylbenzene                                                 | 98-82-8    | 0.5  | mg/kg  | ----             | ----              | <0.5              | ----              | ----              | ----              |
| n-Propylbenzene                                                  | 103-65-1   | 0.5  | mg/kg  | ----             | ----              | <0.5              | ----              | ----              | ----              |
| 1,3,5-Trimethylbenzene                                           | 108-67-8   | 0.5  | mg/kg  | ----             | ----              | <0.5              | ----              | ----              | ----              |
| sec-Butylbenzene                                                 | 135-98-8   | 0.5  | mg/kg  | ----             | ----              | <0.5              | ----              | ----              | ----              |
| 1,2,4-Trimethylbenzene                                           | 95-63-6    | 0.5  | mg/kg  | ----             | ----              | <0.5              | ----              | ----              | ----              |
| tert-Butylbenzene                                                | 98-06-6    | 0.5  | mg/kg  | ----             | ----              | <0.5              | ----              | ----              | ----              |
| p-Isopropyltoluene                                               | 99-87-6    | 0.5  | mg/kg  | ----             | ----              | <0.5              | ----              | ----              | ----              |
| n-Butylbenzene                                                   | 104-51-8   | 0.5  | mg/kg  | ----             | ----              | <0.5              | ----              | ----              | ----              |
| <b>EP074B: Oxygenated Compounds</b>                              |            |      |        |                  |                   |                   |                   |                   |                   |
| Vinyl Acetate                                                    | 108-05-4   | 5    | mg/kg  | ----             | ----              | <5                | ----              | ----              | ----              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)              |            |     |       | Client sample ID | BH305 / 0.4E      | BH305 / 0.4E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 0.5E      |
|-------------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                     |            |     |       |                  | 20-Jul-2019 00:00 | 20-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 |
| Compound                                        | CAS Number | LOR | Unit  |                  | ES1924021-012     | ES1924021-013     | ES1924021-014     | ES1924021-015     | ES1924021-016     |
|                                                 |            |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP074B: Oxygenated Compounds - Continued</b> |            |     |       |                  |                   |                   |                   |                   |                   |
| 2-Butanone (MEK)                                | 78-93-3    | 5   | mg/kg |                  | ----              | ----              | <5                | ----              | ----              |
| 4-Methyl-2-pentanone (MIBK)                     | 108-10-1   | 5   | mg/kg |                  | ----              | ----              | <5                | ----              | ----              |
| 2-Hexanone (MBK)                                | 591-78-6   | 5   | mg/kg |                  | ----              | ----              | <5                | ----              | ----              |
| <b>EP074C: Sulfonated Compounds</b>             |            |     |       |                  |                   |                   |                   |                   |                   |
| Carbon disulfide                                | 75-15-0    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| <b>EP074D: Fumigants</b>                        |            |     |       |                  |                   |                   |                   |                   |                   |
| 2,2-Dichloropropane                             | 594-20-7   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 1,2-Dichloropropane                             | 78-87-5    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| cis-1,3-Dichloropropylene                       | 10061-01-5 | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| trans-1,3-Dichloropropylene                     | 10061-02-6 | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 1,2-Dibromoethane (EDB)                         | 106-93-4   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| <b>EP074E: Halogenated Aliphatic Compounds</b>  |            |     |       |                  |                   |                   |                   |                   |                   |
| Dichlorodifluoromethane                         | 75-71-8    | 5   | mg/kg |                  | ----              | ----              | <5                | ----              | ----              |
| Chloromethane                                   | 74-87-3    | 5   | mg/kg |                  | ----              | ----              | <5                | ----              | ----              |
| Vinyl chloride                                  | 75-01-4    | 5   | mg/kg |                  | ----              | ----              | <5                | ----              | ----              |
| Bromomethane                                    | 74-83-9    | 5   | mg/kg |                  | ----              | ----              | <5                | ----              | ----              |
| Chloroethane                                    | 75-00-3    | 5   | mg/kg |                  | ----              | ----              | <5                | ----              | ----              |
| Trichlorofluoromethane                          | 75-69-4    | 5   | mg/kg |                  | ----              | ----              | <5                | ----              | ----              |
| 1,1-Dichloroethene                              | 75-35-4    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Iodomethane                                     | 74-88-4    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| trans-1,2-Dichloroethene                        | 156-60-5   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 1,1-Dichloroethane                              | 75-34-3    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| cis-1,2-Dichloroethene                          | 156-59-2   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 1,1,1-Trichloroethane                           | 71-55-6    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 1,1-Dichloropropylene                           | 563-58-6   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Carbon Tetrachloride                            | 56-23-5    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 1,2-Dichloroethane                              | 107-06-2   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Trichloroethene                                 | 79-01-6    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Dibromomethane                                  | 74-95-3    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 1,1,2-Trichloroethane                           | 79-00-5    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 1,3-Dichloropropane                             | 142-28-9   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Tetrachloroethene                               | 127-18-4   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 1,1,1,2-Tetrachloroethane                       | 630-20-6   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| trans-1,4-Dichloro-2-butene                     | 110-57-6   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |



## Analytical Results

Sub-Matrix: SOIL  
 (Matrix: SOIL)

Client sample ID

|                                                            |                   |     |       | BH305 / 0.4E      | BH305 / 0.4E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 0.5E      |
|------------------------------------------------------------|-------------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                |                   |     |       | 20-Jul-2019 00:00 | 20-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 |
| Compound                                                   | CAS Number        | LOR | Unit  | ES1924021-012     | ES1924021-013     | ES1924021-014     | ES1924021-015     | ES1924021-016     |
|                                                            |                   |     |       | Result            | Result            | Result            | Result            | Result            |
| <b>EP074E: Halogenated Aliphatic Compounds - Continued</b> |                   |     |       |                   |                   |                   |                   |                   |
| cis-1,4-Dichloro-2-butene                                  | 1476-11-5         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 1,1,2,2-Tetrachloroethane                                  | 79-34-5           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 1,2,3-Trichloropropane                                     | 96-18-4           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Pentachloroethane                                          | 76-01-7           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 1,2-Dibromo-3-chloropropane                                | 96-12-8           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| <b>EP074F: Halogenated Aromatic Compounds</b>              |                   |     |       |                   |                   |                   |                   |                   |
| Chlorobenzene                                              | 108-90-7          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Bromobenzene                                               | 108-86-1          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 2-Chlorotoluene                                            | 95-49-8           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 4-Chlorotoluene                                            | 106-43-4          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 1,2,3-Trichlorobenzene                                     | 87-61-6           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| <b>EP074G: Trihalomethanes</b>                             |                   |     |       |                   |                   |                   |                   |                   |
| Chloroform                                                 | 67-66-3           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Bromodichloromethane                                       | 75-27-4           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Dibromochloromethane                                       | 124-48-1          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Bromoform                                                  | 75-25-2           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| <b>EP075(SIM)B: Polynuclear Aromatic Hydrocarbons</b>      |                   |     |       |                   |                   |                   |                   |                   |
| Naphthalene                                                | 91-20-3           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Acenaphthylene                                             | 208-96-8          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Acenaphthene                                               | 83-32-9           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Fluorene                                                   | 86-73-7           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Phenanthrene                                               | 85-01-8           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Anthracene                                                 | 120-12-7          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Fluoranthene                                               | 206-44-0          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Pyrene                                                     | 129-00-0          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Benz(a)anthracene                                          | 56-55-3           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Chrysene                                                   | 218-01-9          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Benzo(b+j)fluoranthene                                     | 205-99-2 205-82-3 | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Benzo(k)fluoranthene                                       | 207-08-9          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Benzo(a)pyrene                                             | 50-32-8           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Indeno(1,2,3.cd)pyrene                                     | 193-39-5          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Dibenz(a,h)anthracene                                      | 53-70-3           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Benzo(g,h,i)perylene                                       | 191-24-2          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| ^ Sum of polycyclic aromatic hydrocarbons                  | ----              | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                                |            |     |       | Client sample ID | BH305 / 0.4E      | BH305 / 0.4E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 0.5E      |
|-------------------------------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                       |            |     |       |                  | 20-Jul-2019 00:00 | 20-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 |
| Compound                                                          | CAS Number | LOR | Unit  |                  | ES1924021-012     | ES1924021-013     | ES1924021-014     | ES1924021-015     | ES1924021-016     |
|                                                                   |            |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued</b> |            |     |       |                  |                   |                   |                   |                   |                   |
| ^ Benzo(a)pyrene TEQ (zero)                                       | ----       | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| ^ Benzo(a)pyrene TEQ (half LOR)                                   | ----       | 0.5 | mg/kg |                  | ----              | ----              | 0.6               | ----              | ----              |
| ^ Benzo(a)pyrene TEQ (LOR)                                        | ----       | 0.5 | mg/kg |                  | ----              | ----              | 1.2               | ----              | ----              |
| <b>EP075A: Phenolic Compounds</b>                                 |            |     |       |                  |                   |                   |                   |                   |                   |
| Phenol                                                            | 108-95-2   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 2-Chlorophenol                                                    | 95-57-8    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 2-Methylphenol                                                    | 95-48-7    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 3- & 4-Methylphenol                                               | 1319-77-3  | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 2-Nitrophenol                                                     | 88-75-5    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 2,4-Dimethylphenol                                                | 105-67-9   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 2,4-Dichlorophenol                                                | 120-83-2   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 2,6-Dichlorophenol                                                | 87-65-0    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 4-Chloro-3-methylphenol                                           | 59-50-7    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 2,4,6-Trichlorophenol                                             | 88-06-2    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 2,4,5-Trichlorophenol                                             | 95-95-4    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Pentachlorophenol                                                 | 87-86-5    | 1   | mg/kg |                  | ----              | ----              | <1                | ----              | ----              |
| <b>EP075B: Polynuclear Aromatic Hydrocarbons</b>                  |            |     |       |                  |                   |                   |                   |                   |                   |
| 2-Methylnaphthalene                                               | 91-57-6    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| N-2-Fluorenyl Acetamide                                           | 53-96-3    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 7,12-Dimethylbenz(a)anthracene                                    | 57-97-6    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 3-Methylcholanthrene                                              | 56-49-5    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| <b>EP075C: Phthalate Esters</b>                                   |            |     |       |                  |                   |                   |                   |                   |                   |
| Dimethyl phthalate                                                | 131-11-3   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Diethyl phthalate                                                 | 84-66-2    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Di-n-butyl phthalate                                              | 84-74-2    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Butyl benzyl phthalate                                            | 85-68-7    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| bis(2-ethylhexyl) phthalate                                       | 117-81-7   | 5.0 | mg/kg |                  | ----              | ----              | <5.0              | ----              | ----              |
| Di-n-octylphthalate                                               | 117-84-0   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| <b>EP075D: Nitrosamines</b>                                       |            |     |       |                  |                   |                   |                   |                   |                   |
| N-Nitrosomethylethylamine                                         | 10595-95-6 | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| N-Nitrosodiethylamine                                             | 55-18-5    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| N-Nitrosopyrrolidine                                              | 930-55-2   | 1.0 | mg/kg |                  | ----              | ----              | <1.0              | ----              | ----              |
| N-Nitrosomorpholine                                               | 59-89-2    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| N-Nitrosodi-n-propylamine                                         | 621-64-7   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |



## Analytical Results

Sub-Matrix: SOIL  
 (Matrix: SOIL)

Client sample ID

|                                           |                  |     |       | BH305 / 0.4E      | BH305 / 0.4E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 0.5E      |
|-------------------------------------------|------------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time               |                  |     |       | 20-Jul-2019 00:00 | 20-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 |
| Compound                                  | CAS Number       | LOR | Unit  | ES1924021-012     | ES1924021-013     | ES1924021-014     | ES1924021-015     | ES1924021-016     |
|                                           |                  |     |       | Result            | Result            | Result            | Result            | Result            |
| <b>EP075D: Nitrosamines - Continued</b>   |                  |     |       |                   |                   |                   |                   |                   |
| N-Nitrosopiperidine                       | 100-75-4         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| N-Nitrosodibutylamine                     | 924-16-3         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| N-Nitrosodiphenyl & Diphenylamine         | 86-30-6 122-39-4 | 1.0 | mg/kg | ----              | ----              | <1.0              | ----              | ----              |
| Methapyrilene                             | 91-80-5          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| <b>EP075E: Nitroaromatics and Ketones</b> |                  |     |       |                   |                   |                   |                   |                   |
| 2-Picoline                                | 109-06-8         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Acetophenone                              | 98-86-2          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Nitrobenzene                              | 98-95-3          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Isophorone                                | 78-59-1          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 2,6-Dinitrotoluene                        | 606-20-2         | 1.0 | mg/kg | ----              | ----              | <1.0              | ----              | ----              |
| 2,4-Dinitrotoluene                        | 121-14-2         | 1.0 | mg/kg | ----              | ----              | <1.0              | ----              | ----              |
| 1-Naphthylamine                           | 134-32-7         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 4-Nitroquinoline-N-oxide                  | 56-57-5          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 5-Nitro-o-toluidine                       | 99-55-8          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Azobenzene                                | 103-33-3         | 1   | mg/kg | ----              | ----              | <1                | ----              | ----              |
| 1,3,5-Trinitrobenzene                     | 99-35-4          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Phenacetin                                | 62-44-2          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 4-Aminobiphenyl                           | 92-67-1          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Pentachloronitrobenzene                   | 82-68-8          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Pronamide                                 | 23950-58-5       | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Dimethylaminoazobenzene                   | 60-11-7          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Chlorobenzilate                           | 510-15-6         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| <b>EP075F: Haloethers</b>                 |                  |     |       |                   |                   |                   |                   |                   |
| Bis(2-chloroethyl) ether                  | 111-44-4         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Bis(2-chloroethoxy) methane               | 111-91-1         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 4-Chlorophenyl phenyl ether               | 7005-72-3        | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 4-Bromophenyl phenyl ether                | 101-55-3         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| <b>EP075G: Chlorinated Hydrocarbons</b>   |                  |     |       |                   |                   |                   |                   |                   |
| 1,3-Dichlorobenzene                       | 541-73-1         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 1,4-Dichlorobenzene                       | 106-46-7         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 1,2-Dichlorobenzene                       | 95-50-1          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Hexachloroethane                          | 67-72-1          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 1,2,4-Trichlorobenzene                    | 120-82-1         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |



## Analytical Results

Sub-Matrix: SOIL  
 (Matrix: SOIL)

Client sample ID

|                                                     |            |     |       | BH305 / 0.4E      | BH305 / 0.4E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 0.5E      |
|-----------------------------------------------------|------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                         |            |     |       | 20-Jul-2019 00:00 | 20-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 |
| Compound                                            | CAS Number | LOR | Unit  | ES1924021-012     | ES1924021-013     | ES1924021-014     | ES1924021-015     | ES1924021-016     |
|                                                     |            |     |       | Result            | Result            | Result            | Result            | Result            |
| <b>EP075G: Chlorinated Hydrocarbons - Continued</b> |            |     |       |                   |                   |                   |                   |                   |
| Hexachloropropylene                                 | 1888-71-7  | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Hexachlorobutadiene                                 | 87-68-3    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Hexachlorocyclopentadiene                           | 77-47-4    | 2.5 | mg/kg | ----              | ----              | <2.5              | ----              | ----              |
| Pentachlorobenzene                                  | 608-93-5   | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Hexachlorobenzene (HCB)                             | 118-74-1   | 1.0 | mg/kg | ----              | ----              | <1.0              | ----              | ----              |
| <b>EP075H: Anilines and Benzidines</b>              |            |     |       |                   |                   |                   |                   |                   |
| Aniline                                             | 62-53-3    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 4-Chloroaniline                                     | 106-47-8   | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 2-Nitroaniline                                      | 88-74-4    | 1.0 | mg/kg | ----              | ----              | <1.0              | ----              | ----              |
| 3-Nitroaniline                                      | 99-09-2    | 1.0 | mg/kg | ----              | ----              | <1.0              | ----              | ----              |
| Dibenzofuran                                        | 132-64-9   | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 4-Nitroaniline                                      | 100-01-6   | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Carbazole                                           | 86-74-8    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 3,3'-Dichlorobenzidine                              | 91-94-1    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| <b>EP075I: Organochlorine Pesticides</b>            |            |     |       |                   |                   |                   |                   |                   |
| alpha-BHC                                           | 319-84-6   | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| beta-BHC                                            | 319-85-7   | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| gamma-BHC                                           | 58-89-9    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| delta-BHC                                           | 319-86-8   | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Heptachlor                                          | 76-44-8    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Aldrin                                              | 309-00-2   | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Heptachlor epoxide                                  | 1024-57-3  | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| alpha-Endosulfan                                    | 959-98-8   | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 4,4'-DDE                                            | 72-55-9    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Dieldrin                                            | 60-57-1    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Endrin                                              | 72-20-8    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| beta-Endosulfan                                     | 33213-65-9 | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 4,4'-DDD                                            | 72-54-8    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Endosulfan sulfate                                  | 1031-07-8  | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 4,4'-DDT                                            | 50-29-3    | 1.0 | mg/kg | ----              | ----              | <1.0              | ----              | ----              |
| <b>EP075J: Organophosphorus Pesticides</b>          |            |     |       |                   |                   |                   |                   |                   |
| Dichlorvos                                          | 62-73-7    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Dimethoate                                          | 60-51-5    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Diazinon                                            | 333-41-5   | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                              |                   |     |       | Client sample ID  | BH305 / 0.4E      | BH305 / 0.4E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 0.5E |
|-----------------------------------------------------------------|-------------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------|
| Client sampling date / time                                     |                   |     |       | 20-Jul-2019 00:00 | 20-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 |              |
| Compound                                                        | CAS Number        | LOR | Unit  | ES1924021-012     | ES1924021-013     | ES1924021-014     | ES1924021-015     | ES1924021-016     |              |
|                                                                 |                   |     |       | Result            | Result            | Result            | Result            | Result            |              |
| EP075J: Organophosphorus Pesticides - Continued                 |                   |     |       |                   |                   |                   |                   |                   |              |
| Chlorpyrifos-methyl                                             | 5598-13-0         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |              |
| Malathion                                                       | 121-75-5          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |              |
| Fenthion                                                        | 55-38-9           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |              |
| Chlorpyrifos                                                    | 2921-88-2         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |              |
| Pirimphos-ethyl                                                 | 23505-41-1        | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |              |
| Chlorfenvinphos                                                 | 470-90-6          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |              |
| Prothiofos                                                      | 34643-46-4        | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |              |
| Ethion                                                          | 563-12-2          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |              |
| EP080/071: Total Petroleum Hydrocarbons                         |                   |     |       |                   |                   |                   |                   |                   |              |
| C6 - C9 Fraction                                                | ----              | 10  | mg/kg | ----              | ----              | <10               | ----              | ----              |              |
| C10 - C14 Fraction                                              | ----              | 50  | mg/kg | ----              | ----              | <50               | ----              | ----              |              |
| C15 - C28 Fraction                                              | ----              | 100 | mg/kg | ----              | ----              | <100              | ----              | ----              |              |
| C29 - C36 Fraction                                              | ----              | 100 | mg/kg | ----              | ----              | <100              | ----              | ----              |              |
| ^ C10 - C36 Fraction (sum)                                      | ----              | 50  | mg/kg | ----              | ----              | <50               | ----              | ----              |              |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions |                   |     |       |                   |                   |                   |                   |                   |              |
| C6 - C10 Fraction                                               | C6_C10            | 10  | mg/kg | ----              | ----              | <10               | ----              | ----              |              |
| ^ C6 - C10 Fraction minus BTEX (F1)                             | C6_C10-BTEX       | 10  | mg/kg | ----              | ----              | <10               | ----              | ----              |              |
| >C10 - C16 Fraction                                             | ----              | 50  | mg/kg | ----              | ----              | <50               | ----              | ----              |              |
| >C16 - C34 Fraction                                             | ----              | 100 | mg/kg | ----              | ----              | <100              | ----              | ----              |              |
| >C34 - C40 Fraction                                             | ----              | 100 | mg/kg | ----              | ----              | <100              | ----              | ----              |              |
| ^ >C10 - C40 Fraction (sum)                                     | ----              | 50  | mg/kg | ----              | ----              | <50               | ----              | ----              |              |
| ^ >C10 - C16 Fraction minus Naphthalene (F2)                    | ----              | 50  | mg/kg | ----              | ----              | <50               | ----              | ----              |              |
| EP080: BTEXN                                                    |                   |     |       |                   |                   |                   |                   |                   |              |
| Benzene                                                         | 71-43-2           | 0.2 | mg/kg | ----              | ----              | <0.2              | ----              | ----              |              |
| Toluene                                                         | 108-88-3          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |              |
| Ethylbenzene                                                    | 100-41-4          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |              |
| meta- & para-Xylene                                             | 108-38-3 106-42-3 | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |              |
| ortho-Xylene                                                    | 95-47-6           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |              |
| ^ Sum of BTEX                                                   | ----              | 0.2 | mg/kg | ----              | ----              | <0.2              | ----              | ----              |              |
| ^ Total Xylenes                                                 | ----              | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |              |
| Naphthalene                                                     | 91-20-3           | 1   | mg/kg | ----              | ----              | <1                | ----              | ----              |              |
| EP231A: Perfluoroalkyl Sulfonic Acids                           |                   |     |       |                   |                   |                   |                   |                   |              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                       |            |        |       | Client sample ID | BH305 / 0.4E      | BH305 / 0.4E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 0.5E      |
|----------------------------------------------------------|------------|--------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                              |            |        |       |                  | 20-Jul-2019 00:00 | 20-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 |
| Compound                                                 | CAS Number | LOR    | Unit  |                  | ES1924021-012     | ES1924021-013     | ES1924021-014     | ES1924021-015     | ES1924021-016     |
|                                                          |            |        |       |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP231A: Perfluoroalkyl Sulfonic Acids - Continued</b> |            |        |       |                  |                   |                   |                   |                   |                   |
| Perfluorobutane sulfonic acid (PFBS)                     | 375-73-5   | 0.0002 | mg/kg |                  | <0.0002           | ----              | ----              | <0.0002           | ----              |
| Perfluoropentane sulfonic acid (PFPeS)                   | 2706-91-4  | 0.0002 | mg/kg |                  | <0.0002           | ----              | ----              | <0.0002           | ----              |
| Perfluorohexane sulfonic acid (PFHxS)                    | 355-46-4   | 0.0002 | mg/kg |                  | <0.0002           | ----              | ----              | <0.0002           | ----              |
| Perfluoroheptane sulfonic acid (PFHpS)                   | 375-92-8   | 0.0002 | mg/kg |                  | <0.0002           | ----              | ----              | <0.0002           | ----              |
| Perfluorooctane sulfonic acid (PFOS)                     | 1763-23-1  | 0.0002 | mg/kg |                  | <0.0002           | ----              | ----              | 0.0006            | ----              |
| Perfluorodecane sulfonic acid (PFDS)                     | 335-77-3   | 0.0002 | mg/kg |                  | <0.0002           | ----              | ----              | <0.0002           | ----              |
| <b>EP231B: Perfluoroalkyl Carboxylic Acids</b>           |            |        |       |                  |                   |                   |                   |                   |                   |
| Perfluorobutanoic acid (PFBA)                            | 375-22-4   | 0.001  | mg/kg |                  | <0.001            | ----              | ----              | <0.001            | ----              |
| Perfluoropentanoic acid (PFPeA)                          | 2706-90-3  | 0.0002 | mg/kg |                  | <0.0002           | ----              | ----              | <0.0002           | ----              |
| Perfluorohexanoic acid (PFHxA)                           | 307-24-4   | 0.0002 | mg/kg |                  | <0.0002           | ----              | ----              | <0.0002           | ----              |
| Perfluoroheptanoic acid (PFHpA)                          | 375-85-9   | 0.0002 | mg/kg |                  | <0.0002           | ----              | ----              | <0.0002           | ----              |
| Perfluorooctanoic acid (PFOA)                            | 335-67-1   | 0.0002 | mg/kg |                  | <0.0002           | ----              | ----              | 0.0004            | ----              |
| Perfluorononanoic acid (PFNA)                            | 375-95-1   | 0.0002 | mg/kg |                  | <0.0002           | ----              | ----              | <0.0002           | ----              |
| Perfluorodecanoic acid (PFDA)                            | 335-76-2   | 0.0002 | mg/kg |                  | <0.0002           | ----              | ----              | <0.0002           | ----              |
| Perfluoroundecanoic acid (PFUnDA)                        | 2058-94-8  | 0.0002 | mg/kg |                  | <0.0002           | ----              | ----              | <0.0002           | ----              |
| Perfluorododecanoic acid (PFDoDA)                        | 307-55-1   | 0.0002 | mg/kg |                  | <0.0002           | ----              | ----              | <0.0002           | ----              |
| Perfluorotridecanoic acid (PFTrDA)                       | 72629-94-8 | 0.0002 | mg/kg |                  | <0.0002           | ----              | ----              | <0.0002           | ----              |
| Perfluorotetradecanoic acid (PFTeDA)                     | 376-06-7   | 0.0005 | mg/kg |                  | <0.0005           | ----              | ----              | <0.0005           | ----              |
| <b>EP231C: Perfluoroalkyl Sulfonamides</b>               |            |        |       |                  |                   |                   |                   |                   |                   |
| Perfluorooctane sulfonamide (FOSA)                       | 754-91-6   | 0.0002 | mg/kg |                  | <0.0002           | ----              | ----              | <0.0002           | ----              |
| N-Methyl perfluorooctane sulfonamide (MeFOSA)            | 31506-32-8 | 0.0005 | mg/kg |                  | <0.0005           | ----              | ----              | <0.0005           | ----              |
| N-Ethyl perfluorooctane sulfonamide (EtFOSA)             | 4151-50-2  | 0.0005 | mg/kg |                  | <0.0005           | ----              | ----              | <0.0005           | ----              |

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                        |  |                    |        | Client sample ID  |               | BH305 / 0.4E      |               | BH305 / 0.4E      |               | BH306 / 0.5E      |  | BH306 / 0.5E      |  | BH306 / 0.5E      |  |
|-----------------------------------------------------------|--|--------------------|--------|-------------------|---------------|-------------------|---------------|-------------------|---------------|-------------------|--|-------------------|--|-------------------|--|
| Client sampling date / time                               |  |                    |        | 20-Jul-2019 00:00 |               | 20-Jul-2019 00:00 |               | 09-Jul-2019 00:00 |               | 09-Jul-2019 00:00 |  | 09-Jul-2019 00:00 |  | 09-Jul-2019 00:00 |  |
| Compound                                                  |  | CAS Number         | LOR    | Unit              | ES1924021-012 | ES1924021-013     | ES1924021-014 | ES1924021-015     | ES1924021-016 |                   |  |                   |  |                   |  |
|                                                           |  |                    |        |                   | Result        | Result            | Result        | Result            | Result        |                   |  |                   |  |                   |  |
| EP231C: Perfluoroalkyl Sulfonamides - Continued           |  |                    |        |                   |               |                   |               |                   |               |                   |  |                   |  |                   |  |
| N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)      |  | 24448-09-7         | 0.0005 | mg/kg             | <0.0005       | ----              | ----          | <0.0005           | ----          |                   |  |                   |  |                   |  |
| N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)       |  | 1691-99-2          | 0.0005 | mg/kg             | <0.0005       | ----              | ----          | <0.0005           | ----          |                   |  |                   |  |                   |  |
| N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA) |  | 2355-31-9          | 0.0002 | mg/kg             | <0.0002       | ----              | ----          | <0.0002           | ----          |                   |  |                   |  |                   |  |
| N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)  |  | 2991-50-6          | 0.0002 | mg/kg             | <0.0002       | ----              | ----          | <0.0002           | ----          |                   |  |                   |  |                   |  |
| EP231D: (n:2) Fluorotelomer Sulfonic Acids                |  |                    |        |                   |               |                   |               |                   |               |                   |  |                   |  |                   |  |
| 4:2 Fluorotelomer sulfonic acid (4:2 FTS)                 |  | 757124-72-4        | 0.0005 | mg/kg             | <0.0005       | ----              | ----          | <0.0005           | ----          |                   |  |                   |  |                   |  |
| 6:2 Fluorotelomer sulfonic acid (6:2 FTS)                 |  | 27619-97-2         | 0.0005 | mg/kg             | <0.0005       | ----              | ----          | <0.0005           | ----          |                   |  |                   |  |                   |  |
| 8:2 Fluorotelomer sulfonic acid (8:2 FTS)                 |  | 39108-34-4         | 0.0005 | mg/kg             | <0.0005       | ----              | ----          | <0.0005           | ----          |                   |  |                   |  |                   |  |
| 10:2 Fluorotelomer sulfonic acid (10:2 FTS)               |  | 120226-60-0        | 0.0005 | mg/kg             | <0.0005       | ----              | ----          | <0.0005           | ----          |                   |  |                   |  |                   |  |
| EP231P: PFAS Sums                                         |  |                    |        |                   |               |                   |               |                   |               |                   |  |                   |  |                   |  |
| Sum of PFAS                                               |  | ----               | 0.0002 | mg/kg             | <0.0002       | ----              | ----          | 0.0010            | ----          |                   |  |                   |  |                   |  |
| Sum of PFHxS and PFOS                                     |  | 355-46-4/1763-23-1 | 0.0002 | mg/kg             | <0.0002       | ----              | ----          | 0.0006            | ----          |                   |  |                   |  |                   |  |
| Sum of PFAS (WA DER List)                                 |  | ----               | 0.0002 | mg/kg             | <0.0002       | ----              | ----          | 0.0010            | ----          |                   |  |                   |  |                   |  |
| EP066S: PCB Surrogate                                     |  |                    |        |                   |               |                   |               |                   |               |                   |  |                   |  |                   |  |
| Decachlorobiphenyl                                        |  | 2051-24-3          | 0.1    | %                 | ----          | ----              | 82.8          | ----              | ----          |                   |  |                   |  |                   |  |
| EP074S: VOC Surrogates                                    |  |                    |        |                   |               |                   |               |                   |               |                   |  |                   |  |                   |  |
| 1,2-Dichloroethane-D4                                     |  | 17060-07-0         | 0.5    | %                 | ----          | ----              | 103           | ----              | ----          |                   |  |                   |  |                   |  |
| Toluene-D8                                                |  | 2037-26-5          | 0.5    | %                 | ----          | ----              | 113           | ----              | ----          |                   |  |                   |  |                   |  |
| 4-Bromofluorobenzene                                      |  | 460-00-4           | 0.5    | %                 | ----          | ----              | 98.2          | ----              | ----          |                   |  |                   |  |                   |  |
| EP075(SIM)S: Phenolic Compound Surrogates                 |  |                    |        |                   |               |                   |               |                   |               |                   |  |                   |  |                   |  |
| Phenol-d6                                                 |  | 13127-88-3         | 0.5    | %                 | ----          | ----              | 82.3          | ----              | ----          |                   |  |                   |  |                   |  |
| 2-Chlorophenol-D4                                         |  | 93951-73-6         | 0.5    | %                 | ----          | ----              | 88.0          | ----              | ----          |                   |  |                   |  |                   |  |
| 2,4,6-Tribromophenol                                      |  | 118-79-6           | 0.5    | %                 | ----          | ----              | 71.6          | ----              | ----          |                   |  |                   |  |                   |  |
| EP075(SIM)T: PAH Surrogates                               |  |                    |        |                   |               |                   |               |                   |               |                   |  |                   |  |                   |  |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                 |            |        |      | Client sample ID | BH305 / 0.4E      | BH305 / 0.4E      | BH306 / 0.5E      | BH306 / 0.5E      | BH306 / 0.5E      |
|----------------------------------------------------|------------|--------|------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                        |            |        |      |                  | 20-Jul-2019 00:00 | 20-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 |
| Compound                                           | CAS Number | LOR    | Unit |                  | ES1924021-012     | ES1924021-013     | ES1924021-014     | ES1924021-015     | ES1924021-016     |
|                                                    |            |        |      |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP075(SIM)T: PAH Surrogates - Continued</b>     |            |        |      |                  |                   |                   |                   |                   |                   |
| 2-Fluorobiphenyl                                   | 321-60-8   | 0.5    | %    |                  | ----              | ----              | 93.7              | ----              | ----              |
| Anthracene-d10                                     | 1719-06-8  | 0.5    | %    |                  | ----              | ----              | 92.8              | ----              | ----              |
| 4-Terphenyl-d14                                    | 1718-51-0  | 0.5    | %    |                  | ----              | ----              | 96.8              | ----              | ----              |
| <b>EP075S: Acid Extractable Surrogates</b>         |            |        |      |                  |                   |                   |                   |                   |                   |
| 2-Fluorophenol                                     | 367-12-4   | 0.5    | %    |                  | ----              | ----              | 100               | ----              | ----              |
| Phenol-d6                                          | 13127-88-3 | 0.5    | %    |                  | ----              | ----              | 97.4              | ----              | ----              |
| 2-Chlorophenol-D4                                  | 93951-73-6 | 0.5    | %    |                  | ----              | ----              | 102               | ----              | ----              |
| 2,4,6-Tribromophenol                               | 118-79-6   | 0.5    | %    |                  | ----              | ----              | 81.5              | ----              | ----              |
| <b>EP075T: Base/Neutral Extractable Surrogates</b> |            |        |      |                  |                   |                   |                   |                   |                   |
| Nitrobenzene-D5                                    | 4165-60-0  | 0.5    | %    |                  | ----              | ----              | 90.4              | ----              | ----              |
| 1,2-Dichlorobenzene-D4                             | 2199-69-1  | 0.5    | %    |                  | ----              | ----              | 96.9              | ----              | ----              |
| 2-Fluorobiphenyl                                   | 321-60-8   | 0.5    | %    |                  | ----              | ----              | 119               | ----              | ----              |
| Anthracene-d10                                     | 1719-06-8  | 0.5    | %    |                  | ----              | ----              | 95.1              | ----              | ----              |
| 4-Terphenyl-d14                                    | 1718-51-0  | 0.5    | %    |                  | ----              | ----              | 117               | ----              | ----              |
| <b>EP080S: TPH(V)/BTEX Surrogates</b>              |            |        |      |                  |                   |                   |                   |                   |                   |
| 1,2-Dichloroethane-D4                              | 17060-07-0 | 0.2    | %    |                  | ----              | ----              | 101               | ----              | ----              |
| Toluene-D8                                         | 2037-26-5  | 0.2    | %    |                  | ----              | ----              | 89.4              | ----              | ----              |
| 4-Bromofluorobenzene                               | 460-00-4   | 0.2    | %    |                  | ----              | ----              | 94.0              | ----              | ----              |
| <b>EP231S: PFAS Surrogate</b>                      |            |        |      |                  |                   |                   |                   |                   |                   |
| 13C4-PFOS                                          | ----       | 0.0002 | %    |                  | 98.0              | ----              | ----              | 93.5              | ----              |
| 13C8-PFOA                                          | ----       | 0.0002 | %    |                  | 106               | ----              | ----              | 88.5              | ----              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                   |      |       |             | Client sample ID  |                   |                   |                   |                   |
|------------------------------------------------------|------|-------|-------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                          |      |       |             | BH306 / 1.5E      | BH306 / 1.5E      | BH306 / 1.5E      | BH307 / 0.5E      | BH307 / 0.5E      |
| Compound                                             |      |       |             | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 |
| CAS Number                                           | LOR  | Unit  |             | ES1924021-017     | ES1924021-018     | ES1924021-019     | ES1924021-020     | ES1924021-021     |
|                                                      |      |       |             | Result            | Result            | Result            | Result            | Result            |
| <b>EA029-A: pH Measurements</b>                      |      |       |             |                   |                   |                   |                   |                   |
| pH KCl (23A)                                         | ---- | 0.1   | pH Unit     | ----              | ----              | 6.4               | ----              | ----              |
| pH OX (23B)                                          | ---- | 0.1   | pH Unit     | ----              | ----              | 6.9               | ----              | ----              |
| <b>EA029-B: Acidity Trail</b>                        |      |       |             |                   |                   |                   |                   |                   |
| Titrateable Actual Acidity (23F)                     | ---- | 2     | mole H+ / t | ----              | ----              | <2                | ----              | ----              |
| Titrateable Peroxide Acidity (23G)                   | ---- | 2     | mole H+ / t | ----              | ----              | <2                | ----              | ----              |
| Titrateable Sulfidic Acidity (23H)                   | ---- | 2     | mole H+ / t | ----              | ----              | <2                | ----              | ----              |
| sulfidic - Titrateable Actual Acidity (s-23F)        | ---- | 0.020 | % pyrite S  | ----              | ----              | <0.020            | ----              | ----              |
| sulfidic - Titrateable Peroxide Acidity (s-23G)      | ---- | 0.020 | % pyrite S  | ----              | ----              | <0.020            | ----              | ----              |
| sulfidic - Titrateable Sulfidic Acidity (s-23H)      | ---- | 0.020 | % pyrite S  | ----              | ----              | <0.020            | ----              | ----              |
| <b>EA029-C: Sulfur Trail</b>                         |      |       |             |                   |                   |                   |                   |                   |
| KCl Extractable Sulfur (23Ce)                        | ---- | 0.020 | % S         | ----              | ----              | <0.020            | ----              | ----              |
| Peroxide Sulfur (23De)                               | ---- | 0.020 | % S         | ----              | ----              | 0.024             | ----              | ----              |
| Peroxide Oxidisable Sulfur (23E)                     | ---- | 0.020 | % S         | ----              | ----              | 0.024             | ----              | ----              |
| acidity - Peroxide Oxidisable Sulfur (a-23E)         | ---- | 10    | mole H+ / t | ----              | ----              | 15                | ----              | ----              |
| <b>EA029-D: Calcium Values</b>                       |      |       |             |                   |                   |                   |                   |                   |
| KCl Extractable Calcium (23Vh)                       | ---- | 0.020 | % Ca        | ----              | ----              | 0.172             | ----              | ----              |
| Peroxide Calcium (23Wh)                              | ---- | 0.020 | % Ca        | ----              | ----              | 0.172             | ----              | ----              |
| Acid Reacted Calcium (23X)                           | ---- | 0.020 | % Ca        | ----              | ----              | <0.020            | ----              | ----              |
| acidity - Acid Reacted Calcium (a-23X)               | ---- | 10    | mole H+ / t | ----              | ----              | <10               | ----              | ----              |
| sulfidic - Acid Reacted Calcium (s-23X)              | ---- | 0.020 | % S         | ----              | ----              | <0.020            | ----              | ----              |
| <b>EA029-E: Magnesium Values</b>                     |      |       |             |                   |                   |                   |                   |                   |
| KCl Extractable Magnesium (23Sm)                     | ---- | 0.020 | % Mg        | ----              | ----              | 0.117             | ----              | ----              |
| Peroxide Magnesium (23Tm)                            | ---- | 0.020 | % Mg        | ----              | ----              | 0.128             | ----              | ----              |
| Acid Reacted Magnesium (23U)                         | ---- | 0.020 | % Mg        | ----              | ----              | <0.020            | ----              | ----              |
| Acidity - Acid Reacted Magnesium (a-23U)             | ---- | 10    | mole H+ / t | ----              | ----              | <10               | ----              | ----              |
| sulfidic - Acid Reacted Magnesium (s-23U)            | ---- | 0.020 | % S         | ----              | ----              | <0.020            | ----              | ----              |
| <b>EA029-F: Excess Acid Neutralising Capacity</b>    |      |       |             |                   |                   |                   |                   |                   |
| Excess Acid Neutralising Capacity (23Q)              | ---- | 0.020 | % CaCO3     | ----              | ----              | 0.228             | ----              | ----              |
| acidity - Excess Acid Neutralising Capacity (a-23Q)  | ---- | 10    | mole H+ / t | ----              | ----              | 46                | ----              | ----              |
| sulfidic - Excess Acid Neutralising Capacity (s-23Q) | ---- | 0.020 | % S         | ----              | ----              | 0.073             | ----              | ----              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                            |           |      |             | Client sample ID |               |               |               |               |
|---------------------------------------------------------------|-----------|------|-------------|------------------|---------------|---------------|---------------|---------------|
| Client sampling date / time                                   |           |      |             | BH306 / 1.5E     | BH306 / 1.5E  | BH306 / 1.5E  | BH307 / 0.5E  | BH307 / 0.5E  |
| Compound                                                      |           |      |             | ES1924021-017    | ES1924021-018 | ES1924021-019 | ES1924021-020 | ES1924021-021 |
| CAS Number LOR Unit                                           |           |      |             | Result           | Result        | Result        | Result        | Result        |
| <b>EA029-F: Excess Acid Neutralising Capacity - Continued</b> |           |      |             |                  |               |               |               |               |
| <b>EA029-H: Acid Base Accounting</b>                          |           |      |             |                  |               |               |               |               |
| ANC Fineness Factor                                           | ----      | 0.5  | -           | ----             | ----          | 1.5           | ----          | ----          |
| Net Acidity (sulfur units)                                    | ----      | 0.02 | % S         | ----             | ----          | 0.02          | ----          | ----          |
| Net Acidity (acidity units)                                   | ----      | 10   | mole H+ / t | ----             | ----          | 15            | ----          | ----          |
| Liming Rate                                                   | ----      | 1    | kg CaCO3/t  | ----             | ----          | 1             | ----          | ----          |
| Net Acidity excluding ANC (sulfur units)                      | ----      | 0.02 | % S         | ----             | ----          | 0.02          | ----          | ----          |
| Net Acidity excluding ANC (acidity units)                     | ----      | 10   | mole H+ / t | ----             | ----          | 15            | ----          | ----          |
| Liming Rate excluding ANC                                     | ----      | 1    | kg CaCO3/t  | ----             | ----          | 1             | ----          | ----          |
| <b>EA037: Ass Field Screening Analysis</b>                    |           |      |             |                  |               |               |               |               |
| ø pH (F)                                                      | ----      | 0.1  | pH Unit     | ----             | ----          | 8.2           | ----          | ----          |
| ø pH (Fox)                                                    | ----      | 0.1  | pH Unit     | ----             | ----          | 5.3           | ----          | ----          |
| ø Reaction Rate                                               | ----      | 1    | -           | ----             | ----          | 2             | ----          | ----          |
| <b>EA055: Moisture Content (Dried @ 105-110°C)</b>            |           |      |             |                  |               |               |               |               |
| Moisture Content                                              | ----      | 0.1  | %           | ----             | 15.2          | ----          | ----          | 16.3          |
| Moisture Content                                              | ----      | 1.0  | %           | 14.6             | ----          | ----          | 16.3          | ----          |
| <b>EG005(ED093)T: Total Metals by ICP-AES</b>                 |           |      |             |                  |               |               |               |               |
| Arsenic                                                       | 7440-38-2 | 5    | mg/kg       | 5                | ----          | ----          | 15            | ----          |
| Cadmium                                                       | 7440-43-9 | 1    | mg/kg       | <1               | ----          | ----          | <1            | ----          |
| Chromium                                                      | 7440-47-3 | 2    | mg/kg       | 5                | ----          | ----          | 14            | ----          |
| Copper                                                        | 7440-50-8 | 5    | mg/kg       | 57               | ----          | ----          | 18            | ----          |
| Lead                                                          | 7439-92-1 | 5    | mg/kg       | 17               | ----          | ----          | 12            | ----          |
| Nickel                                                        | 7440-02-0 | 2    | mg/kg       | 7                | ----          | ----          | 6             | ----          |
| Zinc                                                          | 7440-66-6 | 5    | mg/kg       | 52               | ----          | ----          | 28            | ----          |
| <b>EG035T: Total Recoverable Mercury by FIMS</b>              |           |      |             |                  |               |               |               |               |
| Mercury                                                       | 7439-97-6 | 0.1  | mg/kg       | <0.1             | ----          | ----          | <0.1          | ----          |
| <b>EN33: TCLP Leach</b>                                       |           |      |             |                  |               |               |               |               |
| Initial pH                                                    | ----      | 0.1  | pH Unit     | ----             | ----          | ----          | 7.1           | ----          |
| After HCl pH                                                  | ----      | 0.1  | pH Unit     | ----             | ----          | ----          | 1.3           | ----          |
| Extraction Fluid Number                                       | ----      | 1    | -           | ----             | ----          | ----          | 1             | ----          |
| Final pH                                                      | ----      | 0.1  | pH Unit     | ----             | ----          | ----          | 5.0           | ----          |
| <b>EP066: Polychlorinated Biphenyls (PCB)</b>                 |           |      |             |                  |               |               |               |               |
| Total Polychlorinated biphenyls                               | ----      | 0.1  | mg/kg       | <0.1             | ----          | ----          | <0.1          | ----          |
| <b>EP074A: Monocyclic Aromatic Hydrocarbons</b>               |           |      |             |                  |               |               |               |               |
| Styrene                                                       | 100-42-5  | 0.5  | mg/kg       | <0.5             | ----          | ----          | <0.5          | ----          |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                          |            |     |       | Client sample ID | BH306 / 1.5E      | BH306 / 1.5E      | BH306 / 1.5E      | BH307 / 0.5E      | BH307 / 0.5E      |
|-------------------------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                 |            |     |       |                  | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 |
| Compound                                                    | CAS Number | LOR | Unit  |                  | ES1924021-017     | ES1924021-018     | ES1924021-019     | ES1924021-020     | ES1924021-021     |
|                                                             |            |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP074A: Monocyclic Aromatic Hydrocarbons - Continued</b> |            |     |       |                  |                   |                   |                   |                   |                   |
| Isopropylbenzene                                            | 98-82-8    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| n-Propylbenzene                                             | 103-65-1   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,3,5-Trimethylbenzene                                      | 108-67-8   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| sec-Butylbenzene                                            | 135-98-8   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2,4-Trimethylbenzene                                      | 95-63-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| tert-Butylbenzene                                           | 98-06-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| p-Isopropyltoluene                                          | 99-87-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| n-Butylbenzene                                              | 104-51-8   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| <b>EP074B: Oxygenated Compounds</b>                         |            |     |       |                  |                   |                   |                   |                   |                   |
| Vinyl Acetate                                               | 108-05-4   | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| 2-Butanone (MEK)                                            | 78-93-3    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| 4-Methyl-2-pentanone (MIBK)                                 | 108-10-1   | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| 2-Hexanone (MBK)                                            | 591-78-6   | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| <b>EP074C: Sulfonated Compounds</b>                         |            |     |       |                  |                   |                   |                   |                   |                   |
| Carbon disulfide                                            | 75-15-0    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| <b>EP074D: Fumigants</b>                                    |            |     |       |                  |                   |                   |                   |                   |                   |
| 2,2-Dichloropropane                                         | 594-20-7   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2-Dichloropropane                                         | 78-87-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| cis-1,3-Dichloropropylene                                   | 10061-01-5 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| trans-1,3-Dichloropropylene                                 | 10061-02-6 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2-Dibromoethane (EDB)                                     | 106-93-4   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| <b>EP074E: Halogenated Aliphatic Compounds</b>              |            |     |       |                  |                   |                   |                   |                   |                   |
| Dichlorodifluoromethane                                     | 75-71-8    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Chloromethane                                               | 74-87-3    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Vinyl chloride                                              | 75-01-4    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Bromomethane                                                | 74-83-9    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Chloroethane                                                | 75-00-3    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| Trichlorofluoromethane                                      | 75-69-4    | 5   | mg/kg |                  | <5                | ----              | ----              | <5                | ----              |
| 1,1-Dichloroethene                                          | 75-35-4    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Iodomethane                                                 | 74-88-4    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| trans-1,2-Dichloroethene                                    | 156-60-5   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,1-Dichloroethane                                          | 75-34-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| cis-1,2-Dichloroethene                                      | 156-59-2   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,1,1-Trichloroethane                                       | 71-55-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                         |            |     |       | Client sample ID | BH306 / 1.5E      | BH306 / 1.5E      | BH306 / 1.5E      | BH307 / 0.5E      | BH307 / 0.5E      |
|------------------------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                |            |     |       |                  | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 |
| Compound                                                   | CAS Number | LOR | Unit  |                  | ES1924021-017     | ES1924021-018     | ES1924021-019     | ES1924021-020     | ES1924021-021     |
|                                                            |            |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP074E: Halogenated Aliphatic Compounds - Continued</b> |            |     |       |                  |                   |                   |                   |                   |                   |
| 1.1-Dichloropropylene                                      | 563-58-6   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Carbon Tetrachloride                                       | 56-23-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.2-Dichloroethane                                         | 107-06-2   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Trichloroethene                                            | 79-01-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Dibromomethane                                             | 74-95-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.1.2-Trichloroethane                                      | 79-00-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.3-Dichloropropane                                        | 142-28-9   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Tetrachloroethene                                          | 127-18-4   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.1.1.2-Tetrachloroethane                                  | 630-20-6   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| trans-1.4-Dichloro-2-butene                                | 110-57-6   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| cis-1.4-Dichloro-2-butene                                  | 1476-11-5  | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.1.2.2-Tetrachloroethane                                  | 79-34-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.2.3-Trichloropropane                                     | 96-18-4    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Pentachloroethane                                          | 76-01-7    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.2-Dibromo-3-chloropropane                                | 96-12-8    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| <b>EP074F: Halogenated Aromatic Compounds</b>              |            |     |       |                  |                   |                   |                   |                   |                   |
| Chlorobenzene                                              | 108-90-7   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Bromobenzene                                               | 108-86-1   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 2-Chlorotoluene                                            | 95-49-8    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4-Chlorotoluene                                            | 106-43-4   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1.2.3-Trichlorobenzene                                     | 87-61-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| <b>EP074G: Trihalomethanes</b>                             |            |     |       |                  |                   |                   |                   |                   |                   |
| Chloroform                                                 | 67-66-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Bromodichloromethane                                       | 75-27-4    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Dibromochloromethane                                       | 124-48-1   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Bromoform                                                  | 75-25-2    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| <b>EP075(SIM)B: Polynuclear Aromatic Hydrocarbons</b>      |            |     |       |                  |                   |                   |                   |                   |                   |
| Naphthalene                                                | 91-20-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Acenaphthylene                                             | 208-96-8   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Acenaphthene                                               | 83-32-9    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Fluorene                                                   | 86-73-7    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Phenanthrene                                               | 85-01-8    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Anthracene                                                 | 120-12-7   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Fluoranthene                                               | 206-44-0   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |



## Analytical Results

Sub-Matrix: SOIL  
 (Matrix: SOIL)

Client sample ID

|                                                                   |                   |     |       | BH306 / 1.5E      | BH306 / 1.5E      | BH306 / 1.5E      | BH307 / 0.5E      | BH307 / 0.5E      |
|-------------------------------------------------------------------|-------------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                       |                   |     |       | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 |
| Compound                                                          | CAS Number        | LOR | Unit  | ES1924021-017     | ES1924021-018     | ES1924021-019     | ES1924021-020     | ES1924021-021     |
|                                                                   |                   |     |       | Result            | Result            | Result            | Result            | Result            |
| <b>EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued</b> |                   |     |       |                   |                   |                   |                   |                   |
| Pyrene                                                            | 129-00-0          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Benz(a)anthracene                                                 | 56-55-3           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Chrysene                                                          | 218-01-9          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Benzo(b+j)fluoranthene                                            | 205-99-2 205-82-3 | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Benzo(k)fluoranthene                                              | 207-08-9          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Benzo(a)pyrene                                                    | 50-32-8           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Indeno(1.2.3.cd)pyrene                                            | 193-39-5          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Dibenz(a,h)anthracene                                             | 53-70-3           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Benzo(g,h,i)perylene                                              | 191-24-2          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| ^ Sum of polycyclic aromatic hydrocarbons                         | ----              | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| ^ Benzo(a)pyrene TEQ (zero)                                       | ----              | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| ^ Benzo(a)pyrene TEQ (half LOR)                                   | ----              | 0.5 | mg/kg | 0.6               | ----              | ----              | 0.6               | ----              |
| ^ Benzo(a)pyrene TEQ (LOR)                                        | ----              | 0.5 | mg/kg | 1.2               | ----              | ----              | 1.2               | ----              |
| <b>EP075A: Phenolic Compounds</b>                                 |                   |     |       |                   |                   |                   |                   |                   |
| Phenol                                                            | 108-95-2          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 2-Chlorophenol                                                    | 95-57-8           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 2-Methylphenol                                                    | 95-48-7           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 3- & 4-Methylphenol                                               | 1319-77-3         | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 2-Nitrophenol                                                     | 88-75-5           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 2,4-Dimethylphenol                                                | 105-67-9          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 2,4-Dichlorophenol                                                | 120-83-2          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 2,6-Dichlorophenol                                                | 87-65-0           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 4-Chloro-3-methylphenol                                           | 59-50-7           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 2,4,6-Trichlorophenol                                             | 88-06-2           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 2,4,5-Trichlorophenol                                             | 95-95-4           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Pentachlorophenol                                                 | 87-86-5           | 1   | mg/kg | <1                | ----              | ----              | <1                | ----              |
| <b>EP075B: Polynuclear Aromatic Hydrocarbons</b>                  |                   |     |       |                   |                   |                   |                   |                   |
| 2-Methylnaphthalene                                               | 91-57-6           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| N-2-Fluorenyl Acetamide                                           | 53-96-3           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 7,12-Dimethylbenz(a)anthracene                                    | 57-97-6           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| 3-Methylcholanthrene                                              | 56-49-5           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| <b>EP075C: Phthalate Esters</b>                                   |                   |     |       |                   |                   |                   |                   |                   |
| Dimethyl phthalate                                                | 131-11-3          | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |
| Diethyl phthalate                                                 | 84-66-2           | 0.5 | mg/kg | <0.5              | ----              | ----              | <0.5              | ----              |

| Sub-Matrix: SOIL<br>(Matrix: SOIL)   |                  |     |       | Client sample ID | BH306 / 1.5E      |               | BH306 / 1.5E      |               | BH306 / 1.5E      |               | BH307 / 0.5E      |               | BH307 / 0.5E      |  |
|--------------------------------------|------------------|-----|-------|------------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|-------------------|--|
| Client sampling date / time          |                  |     |       |                  | 09-Jul-2019 00:00 |               | 09-Jul-2019 00:00 |               | 09-Jul-2019 00:00 |               | 18-Jul-2019 00:00 |               | 18-Jul-2019 00:00 |  |
| Compound                             | CAS Number       | LOR | Unit  | ES1924021-017    |                   | ES1924021-018 |                   | ES1924021-019 |                   | ES1924021-020 |                   | ES1924021-021 |                   |  |
|                                      |                  |     |       | Result           |                   | Result        |                   | Result        |                   | Result        |                   | Result        |                   |  |
| EP075C: Phthalate Esters - Continued |                  |     |       |                  |                   |               |                   |               |                   |               |                   |               |                   |  |
| Di-n-butyl phthalate                 | 84-74-2          | 0.5 | mg/kg | <0.5             |                   | ----          |                   | ----          |                   | <0.5          |                   | ----          |                   |  |
| Butyl benzyl phthalate               | 85-68-7          | 0.5 | mg/kg | <0.5             |                   | ----          |                   | ----          |                   | <0.5          |                   | ----          |                   |  |
| bis(2-ethylhexyl) phthalate          | 117-81-7         | 5.0 | mg/kg | <5.0             |                   | ----          |                   | ----          |                   | <5.0          |                   | ----          |                   |  |
| Di-n-octylphthalate                  | 117-84-0         | 0.5 | mg/kg | <0.5             |                   | ----          |                   | ----          |                   | <0.5          |                   | ----          |                   |  |
| EP075D: Nitrosamines                 |                  |     |       |                  |                   |               |                   |               |                   |               |                   |               |                   |  |
| N-Nitrosomethylethylamine            | 10595-95-6       | 0.5 | mg/kg | <0.5             |                   | ----          |                   | ----          |                   | <0.5          |                   | ----          |                   |  |
| N-Nitrosodiethylamine                | 55-18-5          | 0.5 | mg/kg | <0.5             |                   | ----          |                   | ----          |                   | <0.5          |                   | ----          |                   |  |
| N-Nitrosopyrrolidine                 | 930-55-2         | 1.0 | mg/kg | <1.0             |                   | ----          |                   | ----          |                   | <1.0          |                   | ----          |                   |  |
| N-Nitrosomorpholine                  | 59-89-2          | 0.5 | mg/kg | <0.5             |                   | ----          |                   | ----          |                   | <0.5          |                   | ----          |                   |  |
| N-Nitrosodi-n-propylamine            | 621-64-7         | 0.5 | mg/kg | <0.5             |                   | ----          |                   | ----          |                   | <0.5          |                   | ----          |                   |  |
| N-Nitrosopiperidine                  | 100-75-4         | 0.5 | mg/kg | <0.5             |                   | ----          |                   | ----          |                   | <0.5          |                   | ----          |                   |  |
| N-Nitrosodibutylamine                | 924-16-3         | 0.5 | mg/kg | <0.5             |                   | ----          |                   | ----          |                   | <0.5          |                   | ----          |                   |  |
| N-Nitrosodiphenyl & Diphenylamine    | 86-30-6 122-39-4 | 1.0 | mg/kg | <1.0             |                   | ----          |                   | ----          |                   | <1.0          |                   | ----          |                   |  |
| Methapyrilene                        | 91-80-5          | 0.5 | mg/kg | <0.5             |                   | ----          |                   | ----          |                   | <0.5          |                   | ----          |                   |  |
| EP075E: Nitroaromatics and Ketones   |                  |     |       |                  |                   |               |                   |               |                   |               |                   |               |                   |  |
| 2-Picoline                           | 109-06-8         | 0.5 | mg/kg | <0.5             |                   | ----          |                   | ----          |                   | <0.5          |                   | ----          |                   |  |
| Acetophenone                         | 98-86-2          | 0.5 | mg/kg | <0.5             |                   | ----          |                   | ----          |                   | <0.5          |                   | ----          |                   |  |
| Nitrobenzene                         | 98-95-3          | 0.5 | mg/kg | <0.5             |                   | ----          |                   | ----          |                   | <0.5          |                   | ----          |                   |  |
| Isophorone                           | 78-59-1          | 0.5 | mg/kg | <0.5             |                   | ----          |                   | ----          |                   | <0.5          |                   | ----          |                   |  |
| 2,6-Dinitrotoluene                   | 606-20-2         | 1.0 | mg/kg | <1.0             |                   | ----          |                   | ----          |                   | <1.0          |                   | ----          |                   |  |
| 2,4-Dinitrotoluene                   | 121-14-2         | 1.0 | mg/kg | <1.0             |                   | ----          |                   | ----          |                   | <1.0          |                   | ----          |                   |  |
| 1-Naphthylamine                      | 134-32-7         | 0.5 | mg/kg | <0.5             |                   | ----          |                   | ----          |                   | <0.5          |                   | ----          |                   |  |
| 4-Nitroquinoline-N-oxide             | 56-57-5          | 0.5 | mg/kg | <0.5             |                   | ----          |                   | ----          |                   | <0.5          |                   | ----          |                   |  |
| 5-Nitro-o-toluidine                  | 99-55-8          | 0.5 | mg/kg | <0.5             |                   | ----          |                   | ----          |                   | <0.5          |                   | ----          |                   |  |
| Azobenzene                           | 103-33-3         | 1   | mg/kg | <1               |                   | ----          |                   | ----          |                   | <1            |                   | ----          |                   |  |
| 1,3,5-Trinitrobenzene                | 99-35-4          | 0.5 | mg/kg | <0.5             |                   | ----          |                   | ----          |                   | <0.5          |                   | ----          |                   |  |
| Phenacetin                           | 62-44-2          | 0.5 | mg/kg | <0.5             |                   | ----          |                   | ----          |                   | <0.5          |                   | ----          |                   |  |
| 4-Aminobiphenyl                      | 92-67-1          | 0.5 | mg/kg | <0.5             |                   | ----          |                   | ----          |                   | <0.5          |                   | ----          |                   |  |
| Pentachloronitrobenzene              | 82-68-8          | 0.5 | mg/kg | <0.5             |                   | ----          |                   | ----          |                   | <0.5          |                   | ----          |                   |  |
| Pronamide                            | 23950-58-5       | 0.5 | mg/kg | <0.5             |                   | ----          |                   | ----          |                   | <0.5          |                   | ----          |                   |  |
| Dimethylaminoazobenzene              | 60-11-7          | 0.5 | mg/kg | <0.5             |                   | ----          |                   | ----          |                   | <0.5          |                   | ----          |                   |  |
| Chlorobenzilate                      | 510-15-6         | 0.5 | mg/kg | <0.5             |                   | ----          |                   | ----          |                   | <0.5          |                   | ----          |                   |  |
| EP075F: Haloethers                   |                  |     |       |                  |                   |               |                   |               |                   |               |                   |               |                   |  |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)       |            |     |       | Client sample ID | BH306 / 1.5E      | BH306 / 1.5E      | BH306 / 1.5E      | BH307 / 0.5E      | BH307 / 0.5E      |
|------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time              |            |     |       |                  | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 |
| Compound                                 | CAS Number | LOR | Unit  |                  | ES1924021-017     | ES1924021-018     | ES1924021-019     | ES1924021-020     | ES1924021-021     |
|                                          |            |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP075F: Haloethers - Continued</b>    |            |     |       |                  |                   |                   |                   |                   |                   |
| Bis(2-chloroethyl) ether                 | 111-44-4   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Bis(2-chloroethoxy) methane              | 111-91-1   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4-Chlorophenyl phenyl ether              | 7005-72-3  | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4-Bromophenyl phenyl ether               | 101-55-3   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| <b>EP075G: Chlorinated Hydrocarbons</b>  |            |     |       |                  |                   |                   |                   |                   |                   |
| 1,3-Dichlorobenzene                      | 541-73-1   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,4-Dichlorobenzene                      | 106-46-7   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2-Dichlorobenzene                      | 95-50-1    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Hexachloroethane                         | 67-72-1    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 1,2,4-Trichlorobenzene                   | 120-82-1   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Hexachloropropylene                      | 1888-71-7  | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Hexachlorobutadiene                      | 87-68-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Hexachlorocyclopentadiene                | 77-47-4    | 2.5 | mg/kg |                  | <2.5              | ----              | ----              | <2.5              | ----              |
| Pentachlorobenzene                       | 608-93-5   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Hexachlorobenzene (HCB)                  | 118-74-1   | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | <1.0              | ----              |
| <b>EP075H: Anilines and Benzidines</b>   |            |     |       |                  |                   |                   |                   |                   |                   |
| Aniline                                  | 62-53-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4-Chloroaniline                          | 106-47-8   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 2-Nitroaniline                           | 88-74-4    | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | <1.0              | ----              |
| 3-Nitroaniline                           | 99-09-2    | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | <1.0              | ----              |
| Dibenzofuran                             | 132-64-9   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4-Nitroaniline                           | 100-01-6   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Carbazole                                | 86-74-8    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 3,3'-Dichlorobenzidine                   | 91-94-1    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| <b>EP075I: Organochlorine Pesticides</b> |            |     |       |                  |                   |                   |                   |                   |                   |
| alpha-BHC                                | 319-84-6   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| beta-BHC                                 | 319-85-7   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| gamma-BHC                                | 58-89-9    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| delta-BHC                                | 319-86-8   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Heptachlor                               | 76-44-8    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Aldrin                                   | 309-00-2   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Heptachlor epoxide                       | 1024-57-3  | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| alpha-Endosulfan                         | 959-98-8   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4,4'-DDE                                 | 72-55-9    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                                     |             |     |       | Client sample ID | BH306 / 1.5E      | BH306 / 1.5E      | BH306 / 1.5E      | BH307 / 0.5E      | BH307 / 0.5E      |
|------------------------------------------------------------------------|-------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                            |             |     |       |                  | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 |
| Compound                                                               | CAS Number  | LOR | Unit  |                  | ES1924021-017     | ES1924021-018     | ES1924021-019     | ES1924021-020     | ES1924021-021     |
|                                                                        |             |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP075I: Organochlorine Pesticides - Continued</b>                   |             |     |       |                  |                   |                   |                   |                   |                   |
| Dieldrin                                                               | 60-57-1     | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Endrin                                                                 | 72-20-8     | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| beta-Endosulfan                                                        | 33213-65-9  | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4,4`-DDD                                                               | 72-54-8     | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Endosulfan sulfate                                                     | 1031-07-8   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| 4,4`-DDT                                                               | 50-29-3     | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | <1.0              | ----              |
| <b>EP075J: Organophosphorus Pesticides</b>                             |             |     |       |                  |                   |                   |                   |                   |                   |
| Dichlorvos                                                             | 62-73-7     | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Dimethoate                                                             | 60-51-5     | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Diazinon                                                               | 333-41-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Chlorpyrifos-methyl                                                    | 5598-13-0   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Malathion                                                              | 121-75-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Fenthion                                                               | 55-38-9     | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Chlorpyrifos                                                           | 2921-88-2   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Pirimphos-ethyl                                                        | 23505-41-1  | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Chlorfenvinphos                                                        | 470-90-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Prothiofos                                                             | 34643-46-4  | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Ethion                                                                 | 563-12-2    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| <b>EP080/071: Total Petroleum Hydrocarbons</b>                         |             |     |       |                  |                   |                   |                   |                   |                   |
| C6 - C9 Fraction                                                       | ----        | 10  | mg/kg |                  | <10               | ----              | ----              | <10               | ----              |
| C10 - C14 Fraction                                                     | ----        | 50  | mg/kg |                  | <50               | ----              | ----              | <50               | ----              |
| C15 - C28 Fraction                                                     | ----        | 100 | mg/kg |                  | <100              | ----              | ----              | <100              | ----              |
| C29 - C36 Fraction                                                     | ----        | 100 | mg/kg |                  | <100              | ----              | ----              | <100              | ----              |
| ^ C10 - C36 Fraction (sum)                                             | ----        | 50  | mg/kg |                  | <50               | ----              | ----              | <50               | ----              |
| <b>EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions</b> |             |     |       |                  |                   |                   |                   |                   |                   |
| C6 - C10 Fraction                                                      | C6_C10      | 10  | mg/kg |                  | <10               | ----              | ----              | <10               | ----              |
| ^ C6 - C10 Fraction minus BTEX (F1)                                    | C6_C10-BTEX | 10  | mg/kg |                  | <10               | ----              | ----              | <10               | ----              |
| >C10 - C16 Fraction                                                    | ----        | 50  | mg/kg |                  | <50               | ----              | ----              | <50               | ----              |
| >C16 - C34 Fraction                                                    | ----        | 100 | mg/kg |                  | <100              | ----              | ----              | <100              | ----              |
| >C34 - C40 Fraction                                                    | ----        | 100 | mg/kg |                  | <100              | ----              | ----              | <100              | ----              |
| ^ >C10 - C40 Fraction (sum)                                            | ----        | 50  | mg/kg |                  | <50               | ----              | ----              | <50               | ----              |
| ^ >C10 - C16 Fraction minus Naphthalene (F2)                           | ----        | 50  | mg/kg |                  | <50               | ----              | ----              | <50               | ----              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)             |                   |        |       | Client sample ID | BH306 / 1.5E      | BH306 / 1.5E      | BH306 / 1.5E      | BH307 / 0.5E      | BH307 / 0.5E      |
|------------------------------------------------|-------------------|--------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                    |                   |        |       |                  | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 |
| Compound                                       | CAS Number        | LOR    | Unit  |                  | ES1924021-017     | ES1924021-018     | ES1924021-019     | ES1924021-020     | ES1924021-021     |
|                                                |                   |        |       |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP080: BTEXN</b>                            |                   |        |       |                  |                   |                   |                   |                   |                   |
| Benzene                                        | 71-43-2           | 0.2    | mg/kg |                  | <0.2              | ----              | ----              | <0.2              | ----              |
| Toluene                                        | 108-88-3          | 0.5    | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Ethylbenzene                                   | 100-41-4          | 0.5    | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| meta- & para-Xylene                            | 108-38-3 106-42-3 | 0.5    | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| ortho-Xylene                                   | 95-47-6           | 0.5    | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| ^ Sum of BTEX                                  | ----              | 0.2    | mg/kg |                  | <0.2              | ----              | ----              | <0.2              | ----              |
| ^ Total Xylenes                                | ----              | 0.5    | mg/kg |                  | <0.5              | ----              | ----              | <0.5              | ----              |
| Naphthalene                                    | 91-20-3           | 1      | mg/kg |                  | <1                | ----              | ----              | <1                | ----              |
| <b>EP231A: Perfluoroalkyl Sulfonic Acids</b>   |                   |        |       |                  |                   |                   |                   |                   |                   |
| Perfluorobutane sulfonic acid (PFBS)           | 375-73-5          | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluoropentane sulfonic acid (PFPeS)         | 2706-91-4         | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluorohexane sulfonic acid (PFHxS)          | 355-46-4          | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluoroheptane sulfonic acid (PFHpS)         | 375-92-8          | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluorooctane sulfonic acid (PFOS)           | 1763-23-1         | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluorodecane sulfonic acid (PFDS)           | 335-77-3          | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| <b>EP231B: Perfluoroalkyl Carboxylic Acids</b> |                   |        |       |                  |                   |                   |                   |                   |                   |
| Perfluorobutanoic acid (PFBA)                  | 375-22-4          | 0.001  | mg/kg |                  | ----              | <0.001            | ----              | ----              | <0.001            |
| Perfluoropentanoic acid (PFPeA)                | 2706-90-3         | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluorohexanoic acid (PFHxA)                 | 307-24-4          | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluoroheptanoic acid (PFHpA)                | 375-85-9          | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluorooctanoic acid (PFOA)                  | 335-67-1          | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluorononanoic acid (PFNA)                  | 375-95-1          | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluorodecanoic acid (PFDA)                  | 335-76-2          | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluoroundecanoic acid (PFUnDA)              | 2058-94-8         | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluorododecanoic acid (PFDoDA)              | 307-55-1          | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |
| Perfluorotridecanoic acid (PFTTrDA)            | 72629-94-8        | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----              | <0.0002           |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                         |                    |        |       | Client sample ID | BH306 / 1.5E      | BH306 / 1.5E      | BH306 / 1.5E      | BH307 / 0.5E      | BH307 / 0.5E      |
|------------------------------------------------------------|--------------------|--------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                |                    |        |       |                  | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 |
| Compound                                                   | CAS Number         | LOR    | Unit  |                  | ES1924021-017     | ES1924021-018     | ES1924021-019     | ES1924021-020     | ES1924021-021     |
|                                                            |                    |        |       | Result           | Result            | Result            | Result            | Result            | Result            |
| <b>EP231B: Perfluoroalkyl Carboxylic Acids - Continued</b> |                    |        |       |                  |                   |                   |                   |                   |                   |
| Perfluorotetradecanoic acid (PFTeDA)                       | 376-06-7           | 0.0005 | mg/kg | ----             | <0.0005           | ----              | ----              | ----              | <0.0005           |
| <b>EP231C: Perfluoroalkyl Sulfonamides</b>                 |                    |        |       |                  |                   |                   |                   |                   |                   |
| Perfluorooctane sulfonamide (FOSA)                         | 754-91-6           | 0.0002 | mg/kg | ----             | <0.0002           | ----              | ----              | ----              | <0.0002           |
| N-Methyl perfluorooctane sulfonamide (MeFOSA)              | 31506-32-8         | 0.0005 | mg/kg | ----             | <0.0005           | ----              | ----              | ----              | <0.0005           |
| N-Ethyl perfluorooctane sulfonamide (EtFOSA)               | 4151-50-2          | 0.0005 | mg/kg | ----             | <0.0005           | ----              | ----              | ----              | <0.0005           |
| N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)       | 24448-09-7         | 0.0005 | mg/kg | ----             | <0.0005           | ----              | ----              | ----              | <0.0005           |
| N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)        | 1691-99-2          | 0.0005 | mg/kg | ----             | <0.0005           | ----              | ----              | ----              | <0.0005           |
| N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)  | 2355-31-9          | 0.0002 | mg/kg | ----             | <0.0002           | ----              | ----              | ----              | <0.0002           |
| N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)   | 2991-50-6          | 0.0002 | mg/kg | ----             | <0.0002           | ----              | ----              | ----              | <0.0002           |
| <b>EP231D: (n:2) Fluorotelomer Sulfonic Acids</b>          |                    |        |       |                  |                   |                   |                   |                   |                   |
| 4:2 Fluorotelomer sulfonic acid (4:2 FTS)                  | 757124-72-4        | 0.0005 | mg/kg | ----             | <0.0005           | ----              | ----              | ----              | <0.0005           |
| 6:2 Fluorotelomer sulfonic acid (6:2 FTS)                  | 27619-97-2         | 0.0005 | mg/kg | ----             | <0.0005           | ----              | ----              | ----              | <0.0005           |
| 8:2 Fluorotelomer sulfonic acid (8:2 FTS)                  | 39108-34-4         | 0.0005 | mg/kg | ----             | <0.0005           | ----              | ----              | ----              | <0.0005           |
| 10:2 Fluorotelomer sulfonic acid (10:2 FTS)                | 120226-60-0        | 0.0005 | mg/kg | ----             | <0.0005           | ----              | ----              | ----              | <0.0005           |
| <b>EP231P: PFAS Sums</b>                                   |                    |        |       |                  |                   |                   |                   |                   |                   |
| Sum of PFAS                                                | ----               | 0.0002 | mg/kg | ----             | <0.0002           | ----              | ----              | ----              | <0.0002           |
| Sum of PFHxS and PFOS                                      | 355-46-4/1763-23-1 | 0.0002 | mg/kg | ----             | <0.0002           | ----              | ----              | ----              | <0.0002           |
| Sum of PFAS (WA DER List)                                  | ----               | 0.0002 | mg/kg | ----             | <0.0002           | ----              | ----              | ----              | <0.0002           |
| <b>EP066S: PCB Surrogate</b>                               |                    |        |       |                  |                   |                   |                   |                   |                   |
| Decachlorobiphenyl                                         | 2051-24-3          | 0.1    | %     | 84.3             | ----              | ----              | ----              | 100               | ----              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                 |            |        |      | Client sample ID | BH306 / 1.5E      | BH306 / 1.5E      | BH306 / 1.5E      | BH307 / 0.5E      | BH307 / 0.5E      |
|----------------------------------------------------|------------|--------|------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                        |            |        |      |                  | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 09-Jul-2019 00:00 | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 |
| Compound                                           | CAS Number | LOR    | Unit |                  | ES1924021-017     | ES1924021-018     | ES1924021-019     | ES1924021-020     | ES1924021-021     |
|                                                    |            |        |      |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP074S: VOC Surrogates</b>                      |            |        |      |                  |                   |                   |                   |                   |                   |
| 1,2-Dichloroethane-D4                              | 17060-07-0 | 0.5    | %    |                  | 90.6              | ----              | ----              | 97.7              | ----              |
| Toluene-D8                                         | 2037-26-5  | 0.5    | %    |                  | 95.1              | ----              | ----              | 104               | ----              |
| 4-Bromofluorobenzene                               | 460-00-4   | 0.5    | %    |                  | 85.5              | ----              | ----              | 86.9              | ----              |
| <b>EP075(SIM)S: Phenolic Compound Surrogates</b>   |            |        |      |                  |                   |                   |                   |                   |                   |
| Phenol-d6                                          | 13127-88-3 | 0.5    | %    |                  | 85.7              | ----              | ----              | 81.2              | ----              |
| 2-Chlorophenol-D4                                  | 93951-73-6 | 0.5    | %    |                  | 91.8              | ----              | ----              | 88.9              | ----              |
| 2,4,6-Tribromophenol                               | 118-79-6   | 0.5    | %    |                  | 72.6              | ----              | ----              | 67.8              | ----              |
| <b>EP075(SIM)T: PAH Surrogates</b>                 |            |        |      |                  |                   |                   |                   |                   |                   |
| 2-Fluorobiphenyl                                   | 321-60-8   | 0.5    | %    |                  | 97.9              | ----              | ----              | 94.6              | ----              |
| Anthracene-d10                                     | 1719-06-8  | 0.5    | %    |                  | 101               | ----              | ----              | 99.0              | ----              |
| 4-Terphenyl-d14                                    | 1718-51-0  | 0.5    | %    |                  | 102               | ----              | ----              | 99.7              | ----              |
| <b>EP075S: Acid Extractable Surrogates</b>         |            |        |      |                  |                   |                   |                   |                   |                   |
| 2-Fluorophenol                                     | 367-12-4   | 0.5    | %    |                  | 101               | ----              | ----              | 104               | ----              |
| Phenol-d6                                          | 13127-88-3 | 0.5    | %    |                  | 89.5              | ----              | ----              | 102               | ----              |
| 2-Chlorophenol-D4                                  | 93951-73-6 | 0.5    | %    |                  | 95.2              | ----              | ----              | 109               | ----              |
| 2,4,6-Tribromophenol                               | 118-79-6   | 0.5    | %    |                  | 66.1              | ----              | ----              | 67.2              | ----              |
| <b>EP075T: Base/Neutral Extractable Surrogates</b> |            |        |      |                  |                   |                   |                   |                   |                   |
| Nitrobenzene-D5                                    | 4165-60-0  | 0.5    | %    |                  | 84.8              | ----              | ----              | 84.2              | ----              |
| 1,2-Dichlorobenzene-D4                             | 2199-69-1  | 0.5    | %    |                  | 94.6              | ----              | ----              | 108               | ----              |
| 2-Fluorobiphenyl                                   | 321-60-8   | 0.5    | %    |                  | 118               | ----              | ----              | 125               | ----              |
| Anthracene-d10                                     | 1719-06-8  | 0.5    | %    |                  | 94.2              | ----              | ----              | 96.7              | ----              |
| 4-Terphenyl-d14                                    | 1718-51-0  | 0.5    | %    |                  | 114               | ----              | ----              | 121               | ----              |
| <b>EP080S: TPH(V)/BTEX Surrogates</b>              |            |        |      |                  |                   |                   |                   |                   |                   |
| 1,2-Dichloroethane-D4                              | 17060-07-0 | 0.2    | %    |                  | 89.1              | ----              | ----              | 96.2              | ----              |
| Toluene-D8                                         | 2037-26-5  | 0.2    | %    |                  | 75.0              | ----              | ----              | 82.5              | ----              |
| 4-Bromofluorobenzene                               | 460-00-4   | 0.2    | %    |                  | 80.4              | ----              | ----              | 83.9              | ----              |
| <b>EP231S: PFAS Surrogate</b>                      |            |        |      |                  |                   |                   |                   |                   |                   |
| 13C4-PFOS                                          | ----       | 0.0002 | %    |                  | ----              | 76.5              | ----              | ----              | 84.0              |
| 13C8-PFOA                                          | ----       | 0.0002 | %    |                  | ----              | 80.0              | ----              | ----              | 78.0              |



## Analytical Results

Sub-Matrix: SOIL  
 (Matrix: SOIL)

Client sample ID

|                                                 |            |       |             | BH307 / 0.5E      | BH307 / 0.5E      | BH309 / 0.4E      | BH309 / 0.4E      | BH403 / 0.2E      |
|-------------------------------------------------|------------|-------|-------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                     |            |       |             | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 23-Jul-2019 00:00 | 23-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                                        | CAS Number | LOR   | Unit        | ES1924021-022     | ES1924021-023     | ES1924021-024     | ES1924021-025     | ES1924021-026     |
|                                                 |            |       |             | Result            | Result            | Result            | Result            | Result            |
| <b>EA029-A: pH Measurements</b>                 |            |       |             |                   |                   |                   |                   |                   |
| pH KCl (23A)                                    | ----       | 0.1   | pH Unit     | ----              | 4.4               | ----              | 4.3               | ----              |
| pH OX (23B)                                     | ----       | 0.1   | pH Unit     | ----              | 5.0               | ----              | 4.9               | ----              |
| <b>EA029-B: Acidity Trail</b>                   |            |       |             |                   |                   |                   |                   |                   |
| Titrateable Actual Acidity (23F)                | ----       | 2     | mole H+ / t | ----              | 59                | ----              | 68                | ----              |
| Titrateable Peroxide Acidity (23G)              | ----       | 2     | mole H+ / t | ----              | 69                | ----              | 81                | ----              |
| Titrateable Sulfidic Acidity (23H)              | ----       | 2     | mole H+ / t | ----              | 10                | ----              | 13                | ----              |
| sulfidic - Titrateable Actual Acidity (s-23F)   | ----       | 0.020 | % pyrite S  | ----              | 0.095             | ----              | 0.109             | ----              |
| sulfidic - Titrateable Peroxide Acidity (s-23G) | ----       | 0.020 | % pyrite S  | ----              | 0.111             | ----              | 0.130             | ----              |
| sulfidic - Titrateable Sulfidic Acidity (s-23H) | ----       | 0.020 | % pyrite S  | ----              | <0.020            | ----              | 0.021             | ----              |
| <b>EA029-C: Sulfur Trail</b>                    |            |       |             |                   |                   |                   |                   |                   |
| KCl Extractable Sulfur (23Ce)                   | ----       | 0.020 | % S         | ----              | 0.028             | ----              | 0.053             | ----              |
| Peroxide Sulfur (23De)                          | ----       | 0.020 | % S         | ----              | 0.039             | ----              | 0.064             | ----              |
| Peroxide Oxidisable Sulfur (23E)                | ----       | 0.020 | % S         | ----              | <0.020            | ----              | <0.020            | ----              |
| acidity - Peroxide Oxidisable Sulfur (a-23E)    | ----       | 10    | mole H+ / t | ----              | <10               | ----              | <10               | ----              |
| <b>EA029-D: Calcium Values</b>                  |            |       |             |                   |                   |                   |                   |                   |
| KCl Extractable Calcium (23Vh)                  | ----       | 0.020 | % Ca        | ----              | 0.152             | ----              | 0.073             | ----              |
| Peroxide Calcium (23Wh)                         | ----       | 0.020 | % Ca        | ----              | 0.154             | ----              | 0.076             | ----              |
| Acid Reacted Calcium (23X)                      | ----       | 0.020 | % Ca        | ----              | <0.020            | ----              | <0.020            | ----              |
| acidity - Acid Reacted Calcium (a-23X)          | ----       | 10    | mole H+ / t | ----              | <10               | ----              | <10               | ----              |
| sulfidic - Acid Reacted Calcium (s-23X)         | ----       | 0.020 | % S         | ----              | <0.020            | ----              | <0.020            | ----              |
| <b>EA029-E: Magnesium Values</b>                |            |       |             |                   |                   |                   |                   |                   |
| KCl Extractable Magnesium (23Sm)                | ----       | 0.020 | % Mg        | ----              | 0.123             | ----              | 0.141             | ----              |
| Peroxide Magnesium (23Tm)                       | ----       | 0.020 | % Mg        | ----              | 0.125             | ----              | 0.151             | ----              |
| Acid Reacted Magnesium (23U)                    | ----       | 0.020 | % Mg        | ----              | <0.020            | ----              | <0.020            | ----              |
| Acidity - Acid Reacted Magnesium (a-23U)        | ----       | 10    | mole H+ / t | ----              | <10               | ----              | <10               | ----              |
| sulfidic - Acid Reacted Magnesium (s-23U)       | ----       | 0.020 | % S         | ----              | <0.020            | ----              | <0.020            | ----              |
| <b>EA029-G: Retained Acidity</b>                |            |       |             |                   |                   |                   |                   |                   |
| HCl Extractable Sulfur (20Be)                   | ----       | 0.020 | % S         | ----              | 0.045             | ----              | 0.066             | ----              |
| Net Acid Soluble Sulfur (20Je)                  | ----       | 0.020 | % S         | ----              | <0.020            | ----              | <0.020            | ----              |
| acidity - Net Acid Soluble Sulfur (a-20J)       | ----       | 10    | mole H+ / t | ----              | <10               | ----              | <10               | ----              |
| sulfidic - Net Acid Soluble Sulfur (s-20J)      | ----       | 0.020 | % pyrite S  | ----              | <0.020            | ----              | <0.020            | ----              |

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                        |            |      |             | Client sample ID  | BH307 / 0.5E      | BH307 / 0.5E      | BH309 / 0.4E      | BH309 / 0.4E      | BH403 / 0.2E |
|-----------------------------------------------------------|------------|------|-------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------|
| Client sampling date / time                               |            |      |             | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 23-Jul-2019 00:00 | 23-Jul-2019 00:00 | 10-Jul-2019 00:00 |              |
| Compound                                                  | CAS Number | LOR  | Unit        | ES1924021-022     | ES1924021-023     | ES1924021-024     | ES1924021-025     | ES1924021-026     |              |
|                                                           |            |      |             | Result            | Result            | Result            | Result            | Result            |              |
| EA029-H: Acid Base Accounting                             |            |      |             |                   |                   |                   |                   |                   |              |
| ANC Fineness Factor                                       | ----       | 0.5  | -           | ----              | 1.5               | ----              | 1.5               | ----              |              |
| Net Acidity (sulfur units)                                | ----       | 0.02 | % S         | ----              | 0.12              | ----              | 0.13              | ----              |              |
| Net Acidity (acidity units)                               | ----       | 10   | mole H+ / t | ----              | 74                | ----              | 81                | ----              |              |
| Liming Rate                                               | ----       | 1    | kg CaCO3/t  | ----              | 6                 | ----              | 6                 | ----              |              |
| Net Acidity excluding ANC (sulfur units)                  | ----       | 0.02 | % S         | ----              | 0.12              | ----              | 0.13              | ----              |              |
| Net Acidity excluding ANC (acidity units)                 | ----       | 10   | mole H+ / t | ----              | 74                | ----              | 81                | ----              |              |
| Liming Rate excluding ANC                                 | ----       | 1    | kg CaCO3/t  | ----              | 6                 | ----              | 6                 | ----              |              |
| EA037: Ass Field Screening Analysis                       |            |      |             |                   |                   |                   |                   |                   |              |
| ø pH (F)                                                  | ----       | 0.1  | pH Unit     | ----              | 5.6               | ----              | 5.5               | ----              |              |
| ø pH (Fox)                                                | ----       | 0.1  | pH Unit     | ----              | 4.3               | ----              | 4.2               | ----              |              |
| ø Reaction Rate                                           | ----       | 1    | -           | ----              | 2                 | ----              | 2                 | ----              |              |
| EA055: Moisture Content (Dried @ 105-110°C)               |            |      |             |                   |                   |                   |                   |                   |              |
| Moisture Content                                          | ----       | 1.0  | %           | ----              | ----              | 19.4              | ----              | 14.1              |              |
| EA200: AS 4964 - 2004 Identification of Asbestos in Soils |            |      |             |                   |                   |                   |                   |                   |              |
| Asbestos Detected                                         | 1332-21-4  | 0.1  | g/kg        | No                | ----              | ----              | ----              | ----              |              |
| Asbestos (Trace)                                          | 1332-21-4  | 5    | Fibres      | No                | ----              | ----              | ----              | ----              |              |
| Asbestos Type                                             | 1332-21-4  | -    | --          | -                 | ----              | ----              | ----              | ----              |              |
| Sample weight (dry)                                       | ----       | 0.01 | g           | 43.1              | ----              | ----              | ----              | ----              |              |
| APPROVED IDENTIFIER:                                      | ----       | -    | --          | A. SMYLIE         | ----              | ----              | ----              | ----              |              |
| Synthetic Mineral Fibre                                   | ----       | 0.1  | g/kg        | No                | ----              | ----              | ----              | ----              |              |
| Organic Fibre                                             | ----       | 0.1  | g/kg        | No                | ----              | ----              | ----              | ----              |              |
| EG005(ED093)T: Total Metals by ICP-AES                    |            |      |             |                   |                   |                   |                   |                   |              |
| Arsenic                                                   | 7440-38-2  | 5    | mg/kg       | ----              | ----              | 12                | ----              | 8                 |              |
| Cadmium                                                   | 7440-43-9  | 1    | mg/kg       | ----              | ----              | <1                | ----              | <1                |              |
| Chromium                                                  | 7440-47-3  | 2    | mg/kg       | ----              | ----              | 18                | ----              | 5                 |              |
| Copper                                                    | 7440-50-8  | 5    | mg/kg       | ----              | ----              | 26                | ----              | 29                |              |
| Lead                                                      | 7439-92-1  | 5    | mg/kg       | ----              | ----              | 15                | ----              | 23                |              |
| Nickel                                                    | 7440-02-0  | 2    | mg/kg       | ----              | ----              | 9                 | ----              | 10                |              |
| Zinc                                                      | 7440-66-6  | 5    | mg/kg       | ----              | ----              | 36                | ----              | 47                |              |
| EG035T: Total Recoverable Mercury by FIMS                 |            |      |             |                   |                   |                   |                   |                   |              |
| Mercury                                                   | 7439-97-6  | 0.1  | mg/kg       | ----              | ----              | <0.1              | ----              | <0.1              |              |
| EP066: Polychlorinated Biphenyls (PCB)                    |            |      |             |                   |                   |                   |                   |                   |              |
| Total Polychlorinated biphenyls                           | ----       | 0.1  | mg/kg       | ----              | ----              | <0.1              | ----              | <0.1              |              |
| EP074A: Monocyclic Aromatic Hydrocarbons                  |            |      |             |                   |                   |                   |                   |                   |              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                          |            |     |       | Client sample ID |               |               |               |               |
|-------------------------------------------------------------|------------|-----|-------|------------------|---------------|---------------|---------------|---------------|
| Client sampling date / time                                 |            |     |       | BH307 / 0.5E     | BH307 / 0.5E  | BH309 / 0.4E  | BH309 / 0.4E  | BH403 / 0.2E  |
| Compound                                                    |            |     |       | ES1924021-022    | ES1924021-023 | ES1924021-024 | ES1924021-025 | ES1924021-026 |
| CAS Number LOR Unit                                         |            |     |       | Result           | Result        | Result        | Result        | Result        |
| <b>EP074A: Monocyclic Aromatic Hydrocarbons - Continued</b> |            |     |       |                  |               |               |               |               |
| Styrene                                                     | 100-42-5   | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| Isopropylbenzene                                            | 98-82-8    | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| n-Propylbenzene                                             | 103-65-1   | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| 1,3,5-Trimethylbenzene                                      | 108-67-8   | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| sec-Butylbenzene                                            | 135-98-8   | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| 1,2,4-Trimethylbenzene                                      | 95-63-6    | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| tert-Butylbenzene                                           | 98-06-6    | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| p-Isopropyltoluene                                          | 99-87-6    | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| n-Butylbenzene                                              | 104-51-8   | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| <b>EP074B: Oxygenated Compounds</b>                         |            |     |       |                  |               |               |               |               |
| Vinyl Acetate                                               | 108-05-4   | 5   | mg/kg | ----             | ----          | <5            | ----          | <5            |
| 2-Butanone (MEK)                                            | 78-93-3    | 5   | mg/kg | ----             | ----          | <5            | ----          | <5            |
| 4-Methyl-2-pentanone (MIBK)                                 | 108-10-1   | 5   | mg/kg | ----             | ----          | <5            | ----          | <5            |
| 2-Hexanone (MBK)                                            | 591-78-6   | 5   | mg/kg | ----             | ----          | <5            | ----          | <5            |
| <b>EP074C: Sulfonated Compounds</b>                         |            |     |       |                  |               |               |               |               |
| Carbon disulfide                                            | 75-15-0    | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| <b>EP074D: Fumigants</b>                                    |            |     |       |                  |               |               |               |               |
| 2,2-Dichloropropane                                         | 594-20-7   | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| 1,2-Dichloropropane                                         | 78-87-5    | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| cis-1,3-Dichloropropylene                                   | 10061-01-5 | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| trans-1,3-Dichloropropylene                                 | 10061-02-6 | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| 1,2-Dibromoethane (EDB)                                     | 106-93-4   | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| <b>EP074E: Halogenated Aliphatic Compounds</b>              |            |     |       |                  |               |               |               |               |
| Dichlorodifluoromethane                                     | 75-71-8    | 5   | mg/kg | ----             | ----          | <5            | ----          | <5            |
| Chloromethane                                               | 74-87-3    | 5   | mg/kg | ----             | ----          | <5            | ----          | <5            |
| Vinyl chloride                                              | 75-01-4    | 5   | mg/kg | ----             | ----          | <5            | ----          | <5            |
| Bromomethane                                                | 74-83-9    | 5   | mg/kg | ----             | ----          | <5            | ----          | <5            |
| Chloroethane                                                | 75-00-3    | 5   | mg/kg | ----             | ----          | <5            | ----          | <5            |
| Trichlorofluoromethane                                      | 75-69-4    | 5   | mg/kg | ----             | ----          | <5            | ----          | <5            |
| 1,1-Dichloroethene                                          | 75-35-4    | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| Iodomethane                                                 | 74-88-4    | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| trans-1,2-Dichloroethene                                    | 156-60-5   | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| 1,1-Dichloroethane                                          | 75-34-3    | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| cis-1,2-Dichloroethene                                      | 156-59-2   | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |



## Analytical Results

Sub-Matrix: SOIL  
 (Matrix: SOIL)

Client sample ID

|                                                            |            |     |       | BH307 / 0.5E      | BH307 / 0.5E      | BH309 / 0.4E      | BH309 / 0.4E      | BH403 / 0.2E      |
|------------------------------------------------------------|------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                |            |     |       | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 23-Jul-2019 00:00 | 23-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                                                   | CAS Number | LOR | Unit  | ES1924021-022     | ES1924021-023     | ES1924021-024     | ES1924021-025     | ES1924021-026     |
|                                                            |            |     |       | Result            | Result            | Result            | Result            | Result            |
| <b>EP074E: Halogenated Aliphatic Compounds - Continued</b> |            |     |       |                   |                   |                   |                   |                   |
| 1.1.1-Trichloroethane                                      | 71-55-6    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 1.1-Dichloropropylene                                      | 563-58-6   | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Carbon Tetrachloride                                       | 56-23-5    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 1.2-Dichloroethane                                         | 107-06-2   | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Trichloroethene                                            | 79-01-6    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Dibromomethane                                             | 74-95-3    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 1.1.2-Trichloroethane                                      | 79-00-5    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 1.3-Dichloropropane                                        | 142-28-9   | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Tetrachloroethene                                          | 127-18-4   | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 1.1.1.2-Tetrachloroethane                                  | 630-20-6   | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| trans-1.4-Dichloro-2-butene                                | 110-57-6   | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| cis-1.4-Dichloro-2-butene                                  | 1476-11-5  | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 1.1.2.2-Tetrachloroethane                                  | 79-34-5    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 1.2.3-Trichloropropane                                     | 96-18-4    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Pentachloroethane                                          | 76-01-7    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 1.2-Dibromo-3-chloropropane                                | 96-12-8    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| <b>EP074F: Halogenated Aromatic Compounds</b>              |            |     |       |                   |                   |                   |                   |                   |
| Chlorobenzene                                              | 108-90-7   | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Bromobenzene                                               | 108-86-1   | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 2-Chlorotoluene                                            | 95-49-8    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 4-Chlorotoluene                                            | 106-43-4   | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 1.2.3-Trichlorobenzene                                     | 87-61-6    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| <b>EP074G: Trihalomethanes</b>                             |            |     |       |                   |                   |                   |                   |                   |
| Chloroform                                                 | 67-66-3    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Bromodichloromethane                                       | 75-27-4    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Dibromochloromethane                                       | 124-48-1   | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Bromoform                                                  | 75-25-2    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| <b>EP075(SIM)B: Polynuclear Aromatic Hydrocarbons</b>      |            |     |       |                   |                   |                   |                   |                   |
| Naphthalene                                                | 91-20-3    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Acenaphthylene                                             | 208-96-8   | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Acenaphthene                                               | 83-32-9    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Fluorene                                                   | 86-73-7    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Phenanthrene                                               | 85-01-8    | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Anthracene                                                 | 120-12-7   | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |



## Analytical Results

Sub-Matrix: SOIL  
 (Matrix: SOIL)

Client sample ID

|                                                                   |                   |     |       | BH307 / 0.5E      | BH307 / 0.5E      | BH309 / 0.4E      | BH309 / 0.4E      | BH403 / 0.2E      |
|-------------------------------------------------------------------|-------------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                       |                   |     |       | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 23-Jul-2019 00:00 | 23-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                                                          | CAS Number        | LOR | Unit  | ES1924021-022     | ES1924021-023     | ES1924021-024     | ES1924021-025     | ES1924021-026     |
|                                                                   |                   |     |       | Result            | Result            | Result            | Result            | Result            |
| <b>EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued</b> |                   |     |       |                   |                   |                   |                   |                   |
| Fluoranthene                                                      | 206-44-0          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Pyrene                                                            | 129-00-0          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Benz(a)anthracene                                                 | 56-55-3           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Chrysene                                                          | 218-01-9          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Benzo(b+j)fluoranthene                                            | 205-99-2 205-82-3 | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Benzo(k)fluoranthene                                              | 207-08-9          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Benzo(a)pyrene                                                    | 50-32-8           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Indeno(1.2.3.cd)pyrene                                            | 193-39-5          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Dibenz(a,h)anthracene                                             | 53-70-3           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Benzo(g,h,i)perylene                                              | 191-24-2          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| ^ Sum of polycyclic aromatic hydrocarbons                         | ----              | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| ^ Benzo(a)pyrene TEQ (zero)                                       | ----              | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| ^ Benzo(a)pyrene TEQ (half LOR)                                   | ----              | 0.5 | mg/kg | ----              | ----              | 0.6               | ----              | 0.6               |
| ^ Benzo(a)pyrene TEQ (LOR)                                        | ----              | 0.5 | mg/kg | ----              | ----              | 1.2               | ----              | 1.2               |
| <b>EP075A: Phenolic Compounds</b>                                 |                   |     |       |                   |                   |                   |                   |                   |
| Phenol                                                            | 108-95-2          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 2-Chlorophenol                                                    | 95-57-8           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 2-Methylphenol                                                    | 95-48-7           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 3- & 4-Methylphenol                                               | 1319-77-3         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 2-Nitrophenol                                                     | 88-75-5           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 2,4-Dimethylphenol                                                | 105-67-9          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 2,4-Dichlorophenol                                                | 120-83-2          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 2,6-Dichlorophenol                                                | 87-65-0           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 4-Chloro-3-methylphenol                                           | 59-50-7           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 2,4,6-Trichlorophenol                                             | 88-06-2           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 2,4,5-Trichlorophenol                                             | 95-95-4           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Pentachlorophenol                                                 | 87-86-5           | 1   | mg/kg | ----              | ----              | <1                | ----              | <1                |
| <b>EP075B: Polynuclear Aromatic Hydrocarbons</b>                  |                   |     |       |                   |                   |                   |                   |                   |
| 2-Methylnaphthalene                                               | 91-57-6           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| N-2-Fluorenyl Acetamide                                           | 53-96-3           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 7,12-Dimethylbenz(a)anthracene                                    | 57-97-6           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 3-Methylcholanthrene                                              | 56-49-5           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| <b>EP075C: Phthalate Esters</b>                                   |                   |     |       |                   |                   |                   |                   |                   |
| Dimethyl phthalate                                                | 131-11-3          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |



## Analytical Results

Sub-Matrix: SOIL  
 (Matrix: SOIL)

Client sample ID

|                                             |                  |     |       | BH307 / 0.5E      | BH307 / 0.5E      | BH309 / 0.4E      | BH309 / 0.4E      | BH403 / 0.2E      |
|---------------------------------------------|------------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                 |                  |     |       | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 23-Jul-2019 00:00 | 23-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                                    | CAS Number       | LOR | Unit  | ES1924021-022     | ES1924021-023     | ES1924021-024     | ES1924021-025     | ES1924021-026     |
|                                             |                  |     |       | Result            | Result            | Result            | Result            | Result            |
| <b>EP075C: Phthalate Esters - Continued</b> |                  |     |       |                   |                   |                   |                   |                   |
| Diethyl phthalate                           | 84-66-2          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Di-n-butyl phthalate                        | 84-74-2          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Butyl benzyl phthalate                      | 85-68-7          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| bis(2-ethylhexyl) phthalate                 | 117-81-7         | 5.0 | mg/kg | ----              | ----              | <5.0              | ----              | <5.0              |
| Di-n-octylphthalate                         | 117-84-0         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| <b>EP075D: Nitrosamines</b>                 |                  |     |       |                   |                   |                   |                   |                   |
| N-Nitrosomethylethylamine                   | 10595-95-6       | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| N-Nitrosodiethylamine                       | 55-18-5          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| N-Nitrosopyrrolidine                        | 930-55-2         | 1.0 | mg/kg | ----              | ----              | <1.0              | ----              | <1.0              |
| N-Nitrosomorpholine                         | 59-89-2          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| N-Nitrosodi-n-propylamine                   | 621-64-7         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| N-Nitrosopiperidine                         | 100-75-4         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| N-Nitrosodibutylamine                       | 924-16-3         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| N-Nitrosodiphenyl & Diphenylamine           | 86-30-6 122-39-4 | 1.0 | mg/kg | ----              | ----              | <1.0              | ----              | <1.0              |
| Methapyrilene                               | 91-80-5          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| <b>EP075E: Nitroaromatics and Ketones</b>   |                  |     |       |                   |                   |                   |                   |                   |
| 2-Picoline                                  | 109-06-8         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Acetophenone                                | 98-86-2          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Nitrobenzene                                | 98-95-3          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Isophorone                                  | 78-59-1          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 2,6-Dinitrotoluene                          | 606-20-2         | 1.0 | mg/kg | ----              | ----              | <1.0              | ----              | <1.0              |
| 2,4-Dinitrotoluene                          | 121-14-2         | 1.0 | mg/kg | ----              | ----              | <1.0              | ----              | <1.0              |
| 1-Naphthylamine                             | 134-32-7         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 4-Nitroquinoline-N-oxide                    | 56-57-5          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 5-Nitro-o-toluidine                         | 99-55-8          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Azobenzene                                  | 103-33-3         | 1   | mg/kg | ----              | ----              | <1                | ----              | <1                |
| 1,3,5-Trinitrobenzene                       | 99-35-4          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Phenacetin                                  | 62-44-2          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| 4-Aminobiphenyl                             | 92-67-1          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Pentachloronitrobenzene                     | 82-68-8          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Pronamide                                   | 23950-58-5       | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Dimethylaminoazobenzene                     | 60-11-7          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |
| Chlorobenzilate                             | 510-15-6         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | <0.5              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)       |            |     |       | Client sample ID | BH307 / 0.5E      | BH307 / 0.5E      | BH309 / 0.4E      | BH309 / 0.4E      | BH403 / 0.2E      |
|------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time              |            |     |       |                  | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 23-Jul-2019 00:00 | 23-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                                 | CAS Number | LOR | Unit  |                  | ES1924021-022     | ES1924021-023     | ES1924021-024     | ES1924021-025     | ES1924021-026     |
|                                          |            |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP075F: Haloethers</b>                |            |     |       |                  |                   |                   |                   |                   |                   |
| Bis(2-chloroethyl) ether                 | 111-44-4   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| Bis(2-chloroethoxy) methane              | 111-91-1   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| 4-Chlorophenyl phenyl ether              | 7005-72-3  | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| 4-Bromophenyl phenyl ether               | 101-55-3   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| <b>EP075G: Chlorinated Hydrocarbons</b>  |            |     |       |                  |                   |                   |                   |                   |                   |
| 1,3-Dichlorobenzene                      | 541-73-1   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| 1,4-Dichlorobenzene                      | 106-46-7   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| 1,2-Dichlorobenzene                      | 95-50-1    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| Hexachloroethane                         | 67-72-1    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| 1,2,4-Trichlorobenzene                   | 120-82-1   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| Hexachloropropylene                      | 1888-71-7  | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| Hexachlorobutadiene                      | 87-68-3    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| Hexachlorocyclopentadiene                | 77-47-4    | 2.5 | mg/kg |                  | ----              | ----              | <2.5              | ----              | <2.5              |
| Pentachlorobenzene                       | 608-93-5   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| Hexachlorobenzene (HCB)                  | 118-74-1   | 1.0 | mg/kg |                  | ----              | ----              | <1.0              | ----              | <1.0              |
| <b>EP075H: Anilines and Benzidines</b>   |            |     |       |                  |                   |                   |                   |                   |                   |
| Aniline                                  | 62-53-3    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| 4-Chloroaniline                          | 106-47-8   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| 2-Nitroaniline                           | 88-74-4    | 1.0 | mg/kg |                  | ----              | ----              | <1.0              | ----              | <1.0              |
| 3-Nitroaniline                           | 99-09-2    | 1.0 | mg/kg |                  | ----              | ----              | <1.0              | ----              | <1.0              |
| Dibenzofuran                             | 132-64-9   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| 4-Nitroaniline                           | 100-01-6   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| Carbazole                                | 86-74-8    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| 3,3'-Dichlorobenzidine                   | 91-94-1    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| <b>EP075I: Organochlorine Pesticides</b> |            |     |       |                  |                   |                   |                   |                   |                   |
| alpha-BHC                                | 319-84-6   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| beta-BHC                                 | 319-85-7   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| gamma-BHC                                | 58-89-9    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| delta-BHC                                | 319-86-8   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| Heptachlor                               | 76-44-8    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| Aldrin                                   | 309-00-2   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| Heptachlor epoxide                       | 1024-57-3  | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| alpha-Endosulfan                         | 959-98-8   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |
| 4,4'-DDE                                 | 72-55-9    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | <0.5              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                                     |             |     |       | Client sample ID |               |               |               |               |
|------------------------------------------------------------------------|-------------|-----|-------|------------------|---------------|---------------|---------------|---------------|
| Client sampling date / time                                            |             |     |       | BH307 / 0.5E     | BH307 / 0.5E  | BH309 / 0.4E  | BH309 / 0.4E  | BH403 / 0.2E  |
| Compound                                                               |             |     |       | ES1924021-022    | ES1924021-023 | ES1924021-024 | ES1924021-025 | ES1924021-026 |
| CAS Number LOR Unit                                                    |             |     |       | Result           | Result        | Result        | Result        | Result        |
| <b>EP075I: Organochlorine Pesticides - Continued</b>                   |             |     |       |                  |               |               |               |               |
| Dieldrin                                                               | 60-57-1     | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| Endrin                                                                 | 72-20-8     | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| beta-Endosulfan                                                        | 33213-65-9  | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| 4,4'-DDD                                                               | 72-54-8     | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| Endosulfan sulfate                                                     | 1031-07-8   | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| 4,4'-DDT                                                               | 50-29-3     | 1.0 | mg/kg | ----             | ----          | <1.0          | ----          | <1.0          |
| <b>EP075J: Organophosphorus Pesticides</b>                             |             |     |       |                  |               |               |               |               |
| Dichlorvos                                                             | 62-73-7     | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| Dimethoate                                                             | 60-51-5     | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| Diazinon                                                               | 333-41-5    | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| Chlorpyrifos-methyl                                                    | 5598-13-0   | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| Malathion                                                              | 121-75-5    | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| Fenthion                                                               | 55-38-9     | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| Chlorpyrifos                                                           | 2921-88-2   | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| Pirimphos-ethyl                                                        | 23505-41-1  | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| Chlorfenvinphos                                                        | 470-90-6    | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| Prothiofos                                                             | 34643-46-4  | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| Ethion                                                                 | 563-12-2    | 0.5 | mg/kg | ----             | ----          | <0.5          | ----          | <0.5          |
| <b>EP080/071: Total Petroleum Hydrocarbons</b>                         |             |     |       |                  |               |               |               |               |
| C6 - C9 Fraction                                                       | ----        | 10  | mg/kg | ----             | ----          | <10           | ----          | <10           |
| C10 - C14 Fraction                                                     | ----        | 50  | mg/kg | ----             | ----          | <50           | ----          | <50           |
| C15 - C28 Fraction                                                     | ----        | 100 | mg/kg | ----             | ----          | <100          | ----          | <100          |
| C29 - C36 Fraction                                                     | ----        | 100 | mg/kg | ----             | ----          | <100          | ----          | <100          |
| ^ C10 - C36 Fraction (sum)                                             | ----        | 50  | mg/kg | ----             | ----          | <50           | ----          | <50           |
| <b>EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions</b> |             |     |       |                  |               |               |               |               |
| C6 - C10 Fraction                                                      | C6_C10      | 10  | mg/kg | ----             | ----          | <10           | ----          | <10           |
| ^ C6 - C10 Fraction minus BTEX (F1)                                    | C6_C10-BTEX | 10  | mg/kg | ----             | ----          | <10           | ----          | <10           |
| >C10 - C16 Fraction                                                    | ----        | 50  | mg/kg | ----             | ----          | <50           | ----          | <50           |
| >C16 - C34 Fraction                                                    | ----        | 100 | mg/kg | ----             | ----          | <100          | ----          | <100          |
| >C34 - C40 Fraction                                                    | ----        | 100 | mg/kg | ----             | ----          | <100          | ----          | <100          |
| ^ >C10 - C40 Fraction (sum)                                            | ----        | 50  | mg/kg | ----             | ----          | <50           | ----          | <50           |
| ^ >C10 - C16 Fraction minus Naphthalene (F2)                           | ----        | 50  | mg/kg | ----             | ----          | <50           | ----          | <50           |

| Sub-Matrix: SOIL<br>(Matrix: SOIL)          |                   |     |       | Client sample ID  |  | BH307 / 0.5E      |  | BH307 / 0.5E      |  | BH309 / 0.4E      |  | BH309 / 0.4E      |  | BH403 / 0.2E |  |
|---------------------------------------------|-------------------|-----|-------|-------------------|--|-------------------|--|-------------------|--|-------------------|--|-------------------|--|--------------|--|
| Client sampling date / time                 |                   |     |       | 18-Jul-2019 00:00 |  | 18-Jul-2019 00:00 |  | 23-Jul-2019 00:00 |  | 23-Jul-2019 00:00 |  | 10-Jul-2019 00:00 |  |              |  |
| Compound                                    | CAS Number        | LOR | Unit  | ES1924021-022     |  | ES1924021-023     |  | ES1924021-024     |  | ES1924021-025     |  | ES1924021-026     |  |              |  |
|                                             |                   |     |       | Result            |  | Result            |  | Result            |  | Result            |  | Result            |  |              |  |
| EP080: BTEXN                                |                   |     |       |                   |  |                   |  |                   |  |                   |  |                   |  |              |  |
| Benzene                                     | 71-43-2           | 0.2 | mg/kg | ----              |  | ----              |  | <0.2              |  | ----              |  | <0.2              |  |              |  |
| Toluene                                     | 108-88-3          | 0.5 | mg/kg | ----              |  | ----              |  | <0.5              |  | ----              |  | <0.5              |  |              |  |
| Ethylbenzene                                | 100-41-4          | 0.5 | mg/kg | ----              |  | ----              |  | <0.5              |  | ----              |  | <0.5              |  |              |  |
| meta- & para-Xylene                         | 108-38-3 106-42-3 | 0.5 | mg/kg | ----              |  | ----              |  | <0.5              |  | ----              |  | <0.5              |  |              |  |
| ortho-Xylene                                | 95-47-6           | 0.5 | mg/kg | ----              |  | ----              |  | <0.5              |  | ----              |  | <0.5              |  |              |  |
| ^ Sum of BTEX                               | ----              | 0.2 | mg/kg | ----              |  | ----              |  | <0.2              |  | ----              |  | <0.2              |  |              |  |
| ^ Total Xylenes                             | ----              | 0.5 | mg/kg | ----              |  | ----              |  | <0.5              |  | ----              |  | <0.5              |  |              |  |
| Naphthalene                                 | 91-20-3           | 1   | mg/kg | ----              |  | ----              |  | <1                |  | ----              |  | <1                |  |              |  |
| EP066S: PCB Surrogate                       |                   |     |       |                   |  |                   |  |                   |  |                   |  |                   |  |              |  |
| Decachlorobiphenyl                          | 2051-24-3         | 0.1 | %     | ----              |  | ----              |  | 96.4              |  | ----              |  | 103               |  |              |  |
| EP074S: VOC Surrogates                      |                   |     |       |                   |  |                   |  |                   |  |                   |  |                   |  |              |  |
| 1,2-Dichloroethane-D4                       | 17060-07-0        | 0.5 | %     | ----              |  | ----              |  | 95.7              |  | ----              |  | 92.3              |  |              |  |
| Toluene-D8                                  | 2037-26-5         | 0.5 | %     | ----              |  | ----              |  | 106               |  | ----              |  | 92.0              |  |              |  |
| 4-Bromofluorobenzene                        | 460-00-4          | 0.5 | %     | ----              |  | ----              |  | 90.7              |  | ----              |  | 82.6              |  |              |  |
| EP075(SIM)S: Phenolic Compound Surrogates   |                   |     |       |                   |  |                   |  |                   |  |                   |  |                   |  |              |  |
| Phenol-d6                                   | 13127-88-3        | 0.5 | %     | ----              |  | ----              |  | 84.1              |  | ----              |  | 83.5              |  |              |  |
| 2-Chlorophenol-D4                           | 93951-73-6        | 0.5 | %     | ----              |  | ----              |  | 90.9              |  | ----              |  | 91.0              |  |              |  |
| 2,4,6-Tribromophenol                        | 118-79-6          | 0.5 | %     | ----              |  | ----              |  | 66.9              |  | ----              |  | 64.7              |  |              |  |
| EP075(SIM)T: PAH Surrogates                 |                   |     |       |                   |  |                   |  |                   |  |                   |  |                   |  |              |  |
| 2-Fluorobiphenyl                            | 321-60-8          | 0.5 | %     | ----              |  | ----              |  | 95.8              |  | ----              |  | 96.9              |  |              |  |
| Anthracene-d10                              | 1719-06-8         | 0.5 | %     | ----              |  | ----              |  | 99.9              |  | ----              |  | 100               |  |              |  |
| 4-Terphenyl-d14                             | 1718-51-0         | 0.5 | %     | ----              |  | ----              |  | 102               |  | ----              |  | 101               |  |              |  |
| EP075S: Acid Extractable Surrogates         |                   |     |       |                   |  |                   |  |                   |  |                   |  |                   |  |              |  |
| 2-Fluorophenol                              | 367-12-4          | 0.5 | %     | ----              |  | ----              |  | 104               |  | ----              |  | 92.3              |  |              |  |
| Phenol-d6                                   | 13127-88-3        | 0.5 | %     | ----              |  | ----              |  | 101               |  | ----              |  | 95.3              |  |              |  |
| 2-Chlorophenol-D4                           | 93951-73-6        | 0.5 | %     | ----              |  | ----              |  | 110               |  | ----              |  | 99.1              |  |              |  |
| 2,4,6-Tribromophenol                        | 118-79-6          | 0.5 | %     | ----              |  | ----              |  | 66.1              |  | ----              |  | 69.1              |  |              |  |
| EP075T: Base/Neutral Extractable Surrogates |                   |     |       |                   |  |                   |  |                   |  |                   |  |                   |  |              |  |
| Nitrobenzene-D5                             | 4165-60-0         | 0.5 | %     | ----              |  | ----              |  | 90.6              |  | ----              |  | 86.4              |  |              |  |
| 1,2-Dichlorobenzene-D4                      | 2199-69-1         | 0.5 | %     | ----              |  | ----              |  | 105               |  | ----              |  | 101               |  |              |  |
| 2-Fluorobiphenyl                            | 321-60-8          | 0.5 | %     | ----              |  | ----              |  | 122               |  | ----              |  | 120               |  |              |  |
| Anthracene-d10                              | 1719-06-8         | 0.5 | %     | ----              |  | ----              |  | 94.3              |  | ----              |  | 92.2              |  |              |  |
| 4-Terphenyl-d14                             | 1718-51-0         | 0.5 | %     | ----              |  | ----              |  | 120               |  | ----              |  | 116               |  |              |  |
| EP080S: TPH(V)/BTEX Surrogates              |                   |     |       |                   |  |                   |  |                   |  |                   |  |                   |  |              |  |



## Analytical Results

Sub-Matrix: SOIL  
 (Matrix: SOIL)

Client sample ID

|                                            |            |     |      | BH307 / 0.5E      | BH307 / 0.5E      | BH309 / 0.4E      | BH309 / 0.4E      | BH403 / 0.2E      |
|--------------------------------------------|------------|-----|------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                |            |     |      | 18-Jul-2019 00:00 | 18-Jul-2019 00:00 | 23-Jul-2019 00:00 | 23-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                                   | CAS Number | LOR | Unit | ES1924021-022     | ES1924021-023     | ES1924021-024     | ES1924021-025     | ES1924021-026     |
|                                            |            |     |      | Result            | Result            | Result            | Result            | Result            |
| EP080S: TPH(V)/BTEX Surrogates - Continued |            |     |      |                   |                   |                   |                   |                   |
| 1,2-Dichloroethane-D4                      | 17060-07-0 | 0.2 | %    | ----              | ----              | 95.5              | ----              | 92.0              |
| Toluene-D8                                 | 2037-26-5  | 0.2 | %    | ----              | ----              | 83.8              | ----              | 75.3              |
| 4-Bromofluorobenzene                       | 460-00-4   | 0.2 | %    | ----              | ----              | 87.2              | ----              | 80.2              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                               |            |      |        | Client sample ID | BH403 / 0.2E      | BH403 / 0.2E      | BH404 / 0.1E      | BH404 / 0.1E      | BH404 / 0.1E      |
|------------------------------------------------------------------|------------|------|--------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                      |            |      |        |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                                                         | CAS Number | LOR  | Unit   |                  | ES1924021-027     | ES1924021-028     | ES1924021-029     | ES1924021-030     | ES1924021-031     |
|                                                                  |            |      |        | Result           | Result            | Result            | Result            | Result            | Result            |
| <b>EA055: Moisture Content (Dried @ 105-110°C)</b>               |            |      |        |                  |                   |                   |                   |                   |                   |
| Moisture Content                                                 | ----       | 0.1  | %      | 8.2              | ----              | ----              | ----              | 6.6               | ----              |
| Moisture Content                                                 | ----       | 1.0  | %      | ----             | ----              | 9.4               | ----              | ----              | ----              |
| <b>EA200: AS 4964 - 2004 Identification of Asbestos in Soils</b> |            |      |        |                  |                   |                   |                   |                   |                   |
| Asbestos Detected                                                | 1332-21-4  | 0.1  | g/kg   | ----             | No                | ----              | ----              | ----              | No                |
| Asbestos (Trace)                                                 | 1332-21-4  | 5    | Fibres | ----             | No                | ----              | ----              | ----              | No                |
| Asbestos Type                                                    | 1332-21-4  | -    | --     | ----             | -                 | ----              | ----              | ----              | -                 |
| Sample weight (dry)                                              | ----       | 0.01 | g      | ----             | 48.1              | ----              | ----              | ----              | 51.8              |
| APPROVED IDENTIFIER:                                             | ----       | -    | --     | ----             | A. SMYLLIE        | ----              | ----              | ----              | A. SMYLLIE        |
| Synthetic Mineral Fibre                                          | ----       | 0.1  | g/kg   | ----             | No                | ----              | ----              | ----              | No                |
| Organic Fibre                                                    | ----       | 0.1  | g/kg   | ----             | No                | ----              | ----              | ----              | No                |
| <b>EG005(ED093)T: Total Metals by ICP-AES</b>                    |            |      |        |                  |                   |                   |                   |                   |                   |
| Arsenic                                                          | 7440-38-2  | 5    | mg/kg  | ----             | ----              | 6                 | ----              | ----              | ----              |
| Cadmium                                                          | 7440-43-9  | 1    | mg/kg  | ----             | ----              | <1                | ----              | ----              | ----              |
| Chromium                                                         | 7440-47-3  | 2    | mg/kg  | ----             | ----              | 13                | ----              | ----              | ----              |
| Copper                                                           | 7440-50-8  | 5    | mg/kg  | ----             | ----              | 75                | ----              | ----              | ----              |
| Lead                                                             | 7439-92-1  | 5    | mg/kg  | ----             | ----              | 49                | ----              | ----              | ----              |
| Nickel                                                           | 7440-02-0  | 2    | mg/kg  | ----             | ----              | 44                | ----              | ----              | ----              |
| Zinc                                                             | 7440-66-6  | 5    | mg/kg  | ----             | ----              | 107               | ----              | ----              | ----              |
| <b>EG035T: Total Recoverable Mercury by FIMS</b>                 |            |      |        |                  |                   |                   |                   |                   |                   |
| Mercury                                                          | 7439-97-6  | 0.1  | mg/kg  | ----             | ----              | <0.1              | ----              | ----              | ----              |
| <b>EP066: Polychlorinated Biphenyls (PCB)</b>                    |            |      |        |                  |                   |                   |                   |                   |                   |
| Total Polychlorinated biphenyls                                  | ----       | 0.1  | mg/kg  | ----             | ----              | <0.1              | ----              | ----              | ----              |
| <b>EP074A: Monocyclic Aromatic Hydrocarbons</b>                  |            |      |        |                  |                   |                   |                   |                   |                   |
| Styrene                                                          | 100-42-5   | 0.5  | mg/kg  | ----             | ----              | <0.5              | ----              | ----              | ----              |
| Isopropylbenzene                                                 | 98-82-8    | 0.5  | mg/kg  | ----             | ----              | <0.5              | ----              | ----              | ----              |
| n-Propylbenzene                                                  | 103-65-1   | 0.5  | mg/kg  | ----             | ----              | <0.5              | ----              | ----              | ----              |
| 1,3,5-Trimethylbenzene                                           | 108-67-8   | 0.5  | mg/kg  | ----             | ----              | <0.5              | ----              | ----              | ----              |
| sec-Butylbenzene                                                 | 135-98-8   | 0.5  | mg/kg  | ----             | ----              | <0.5              | ----              | ----              | ----              |
| 1,2,4-Trimethylbenzene                                           | 95-63-6    | 0.5  | mg/kg  | ----             | ----              | <0.5              | ----              | ----              | ----              |
| tert-Butylbenzene                                                | 98-06-6    | 0.5  | mg/kg  | ----             | ----              | <0.5              | ----              | ----              | ----              |
| p-Isopropyltoluene                                               | 99-87-6    | 0.5  | mg/kg  | ----             | ----              | <0.5              | ----              | ----              | ----              |
| n-Butylbenzene                                                   | 104-51-8   | 0.5  | mg/kg  | ----             | ----              | <0.5              | ----              | ----              | ----              |
| <b>EP074B: Oxygenated Compounds</b>                              |            |      |        |                  |                   |                   |                   |                   |                   |
| Vinyl Acetate                                                    | 108-05-4   | 5    | mg/kg  | ----             | ----              | <5                | ----              | ----              | ----              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)              |            |     |       | Client sample ID | BH403 / 0.2E      | BH403 / 0.2E      | BH404 / 0.1E      | BH404 / 0.1E      | BH404 / 0.1E      |
|-------------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                     |            |     |       |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                                        | CAS Number | LOR | Unit  |                  | ES1924021-027     | ES1924021-028     | ES1924021-029     | ES1924021-030     | ES1924021-031     |
|                                                 |            |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP074B: Oxygenated Compounds - Continued</b> |            |     |       |                  |                   |                   |                   |                   |                   |
| 2-Butanone (MEK)                                | 78-93-3    | 5   | mg/kg |                  | ----              | ----              | <5                | ----              | ----              |
| 4-Methyl-2-pentanone (MIBK)                     | 108-10-1   | 5   | mg/kg |                  | ----              | ----              | <5                | ----              | ----              |
| 2-Hexanone (MBK)                                | 591-78-6   | 5   | mg/kg |                  | ----              | ----              | <5                | ----              | ----              |
| <b>EP074C: Sulfonated Compounds</b>             |            |     |       |                  |                   |                   |                   |                   |                   |
| Carbon disulfide                                | 75-15-0    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| <b>EP074D: Fumigants</b>                        |            |     |       |                  |                   |                   |                   |                   |                   |
| 2,2-Dichloropropane                             | 594-20-7   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 1,2-Dichloropropane                             | 78-87-5    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| cis-1,3-Dichloropropylene                       | 10061-01-5 | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| trans-1,3-Dichloropropylene                     | 10061-02-6 | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 1,2-Dibromoethane (EDB)                         | 106-93-4   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| <b>EP074E: Halogenated Aliphatic Compounds</b>  |            |     |       |                  |                   |                   |                   |                   |                   |
| Dichlorodifluoromethane                         | 75-71-8    | 5   | mg/kg |                  | ----              | ----              | <5                | ----              | ----              |
| Chloromethane                                   | 74-87-3    | 5   | mg/kg |                  | ----              | ----              | <5                | ----              | ----              |
| Vinyl chloride                                  | 75-01-4    | 5   | mg/kg |                  | ----              | ----              | <5                | ----              | ----              |
| Bromomethane                                    | 74-83-9    | 5   | mg/kg |                  | ----              | ----              | <5                | ----              | ----              |
| Chloroethane                                    | 75-00-3    | 5   | mg/kg |                  | ----              | ----              | <5                | ----              | ----              |
| Trichlorofluoromethane                          | 75-69-4    | 5   | mg/kg |                  | ----              | ----              | <5                | ----              | ----              |
| 1,1-Dichloroethene                              | 75-35-4    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Iodomethane                                     | 74-88-4    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| trans-1,2-Dichloroethene                        | 156-60-5   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 1,1-Dichloroethane                              | 75-34-3    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| cis-1,2-Dichloroethene                          | 156-59-2   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 1,1,1-Trichloroethane                           | 71-55-6    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 1,1-Dichloropropylene                           | 563-58-6   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Carbon Tetrachloride                            | 56-23-5    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 1,2-Dichloroethane                              | 107-06-2   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Trichloroethene                                 | 79-01-6    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Dibromomethane                                  | 74-95-3    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 1,1,2-Trichloroethane                           | 79-00-5    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 1,3-Dichloropropane                             | 142-28-9   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Tetrachloroethene                               | 127-18-4   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 1,1,1,2-Tetrachloroethane                       | 630-20-6   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| trans-1,4-Dichloro-2-butene                     | 110-57-6   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |



## Analytical Results

Sub-Matrix: SOIL  
 (Matrix: SOIL)

Client sample ID

|                                                            |                   |     |       | BH403 / 0.2E      | BH403 / 0.2E      | BH404 / 0.1E      | BH404 / 0.1E      | BH404 / 0.1E      |
|------------------------------------------------------------|-------------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                |                   |     |       | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                                                   | CAS Number        | LOR | Unit  | ES1924021-027     | ES1924021-028     | ES1924021-029     | ES1924021-030     | ES1924021-031     |
|                                                            |                   |     |       | Result            | Result            | Result            | Result            | Result            |
| <b>EP074E: Halogenated Aliphatic Compounds - Continued</b> |                   |     |       |                   |                   |                   |                   |                   |
| cis-1,4-Dichloro-2-butene                                  | 1476-11-5         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 1,1,2,2-Tetrachloroethane                                  | 79-34-5           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 1,2,3-Trichloropropane                                     | 96-18-4           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Pentachloroethane                                          | 76-01-7           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 1,2-Dibromo-3-chloropropane                                | 96-12-8           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| <b>EP074F: Halogenated Aromatic Compounds</b>              |                   |     |       |                   |                   |                   |                   |                   |
| Chlorobenzene                                              | 108-90-7          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Bromobenzene                                               | 108-86-1          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 2-Chlorotoluene                                            | 95-49-8           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 4-Chlorotoluene                                            | 106-43-4          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| 1,2,3-Trichlorobenzene                                     | 87-61-6           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| <b>EP074G: Trihalomethanes</b>                             |                   |     |       |                   |                   |                   |                   |                   |
| Chloroform                                                 | 67-66-3           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Bromodichloromethane                                       | 75-27-4           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Dibromochloromethane                                       | 124-48-1          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Bromoform                                                  | 75-25-2           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| <b>EP075(SIM)B: Polynuclear Aromatic Hydrocarbons</b>      |                   |     |       |                   |                   |                   |                   |                   |
| Naphthalene                                                | 91-20-3           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Acenaphthylene                                             | 208-96-8          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Acenaphthene                                               | 83-32-9           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Fluorene                                                   | 86-73-7           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Phenanthrene                                               | 85-01-8           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Anthracene                                                 | 120-12-7          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Fluoranthene                                               | 206-44-0          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Pyrene                                                     | 129-00-0          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Benz(a)anthracene                                          | 56-55-3           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Chrysene                                                   | 218-01-9          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Benzo(b+j)fluoranthene                                     | 205-99-2 205-82-3 | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Benzo(k)fluoranthene                                       | 207-08-9          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Benzo(a)pyrene                                             | 50-32-8           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Indeno(1,2,3.cd)pyrene                                     | 193-39-5          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Dibenz(a,h)anthracene                                      | 53-70-3           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| Benzo(g,h,i)perylene                                       | 191-24-2          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |
| ^ Sum of polycyclic aromatic hydrocarbons                  | ----              | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                                |            |     |       | Client sample ID | BH403 / 0.2E      | BH403 / 0.2E      | BH404 / 0.1E      | BH404 / 0.1E      | BH404 / 0.1E      |
|-------------------------------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                       |            |     |       |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                                                          | CAS Number | LOR | Unit  |                  | ES1924021-027     | ES1924021-028     | ES1924021-029     | ES1924021-030     | ES1924021-031     |
|                                                                   |            |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued</b> |            |     |       |                  |                   |                   |                   |                   |                   |
| ^ Benzo(a)pyrene TEQ (zero)                                       | ----       | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| ^ Benzo(a)pyrene TEQ (half LOR)                                   | ----       | 0.5 | mg/kg |                  | ----              | ----              | <b>0.6</b>        | ----              | ----              |
| ^ Benzo(a)pyrene TEQ (LOR)                                        | ----       | 0.5 | mg/kg |                  | ----              | ----              | <b>1.2</b>        | ----              | ----              |
| <b>EP075A: Phenolic Compounds</b>                                 |            |     |       |                  |                   |                   |                   |                   |                   |
| Phenol                                                            | 108-95-2   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 2-Chlorophenol                                                    | 95-57-8    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 2-Methylphenol                                                    | 95-48-7    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 3- & 4-Methylphenol                                               | 1319-77-3  | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 2-Nitrophenol                                                     | 88-75-5    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 2,4-Dimethylphenol                                                | 105-67-9   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 2,4-Dichlorophenol                                                | 120-83-2   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 2,6-Dichlorophenol                                                | 87-65-0    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 4-Chloro-3-methylphenol                                           | 59-50-7    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 2,4,6-Trichlorophenol                                             | 88-06-2    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 2,4,5-Trichlorophenol                                             | 95-95-4    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Pentachlorophenol                                                 | 87-86-5    | 1   | mg/kg |                  | ----              | ----              | <1                | ----              | ----              |
| <b>EP075B: Polynuclear Aromatic Hydrocarbons</b>                  |            |     |       |                  |                   |                   |                   |                   |                   |
| 2-Methylnaphthalene                                               | 91-57-6    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| N-2-Fluorenyl Acetamide                                           | 53-96-3    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 7,12-Dimethylbenz(a)anthracene                                    | 57-97-6    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 3-Methylcholanthrene                                              | 56-49-5    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| <b>EP075C: Phthalate Esters</b>                                   |            |     |       |                  |                   |                   |                   |                   |                   |
| Dimethyl phthalate                                                | 131-11-3   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Diethyl phthalate                                                 | 84-66-2    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Di-n-butyl phthalate                                              | 84-74-2    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Butyl benzyl phthalate                                            | 85-68-7    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| bis(2-ethylhexyl) phthalate                                       | 117-81-7   | 5.0 | mg/kg |                  | ----              | ----              | <5.0              | ----              | ----              |
| Di-n-octylphthalate                                               | 117-84-0   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| <b>EP075D: Nitrosamines</b>                                       |            |     |       |                  |                   |                   |                   |                   |                   |
| N-Nitrosomethylethylamine                                         | 10595-95-6 | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| N-Nitrosodiethylamine                                             | 55-18-5    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| N-Nitrosopyrrolidine                                              | 930-55-2   | 1.0 | mg/kg |                  | ----              | ----              | <1.0              | ----              | ----              |
| N-Nitrosomorpholine                                               | 59-89-2    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| N-Nitrosodi-n-propylamine                                         | 621-64-7   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)        |                  |     |       | Client sample ID | BH403 / 0.2E      | BH403 / 0.2E      | BH404 / 0.1E      | BH404 / 0.1E      | BH404 / 0.1E      |
|-------------------------------------------|------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time               |                  |     |       |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                                  | CAS Number       | LOR | Unit  |                  | ES1924021-027     | ES1924021-028     | ES1924021-029     | ES1924021-030     | ES1924021-031     |
|                                           |                  |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP075D: Nitrosamines - Continued</b>   |                  |     |       |                  |                   |                   |                   |                   |                   |
| N-Nitrosopiperidine                       | 100-75-4         | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| N-Nitrosodibutylamine                     | 924-16-3         | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| N-Nitrosodiphenyl & Diphenylamine         | 86-30-6 122-39-4 | 1.0 | mg/kg |                  | ----              | ----              | <1.0              | ----              | ----              |
| Methapyrilene                             | 91-80-5          | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| <b>EP075E: Nitroaromatics and Ketones</b> |                  |     |       |                  |                   |                   |                   |                   |                   |
| 2-Picoline                                | 109-06-8         | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Acetophenone                              | 98-86-2          | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Nitrobenzene                              | 98-95-3          | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Isophorone                                | 78-59-1          | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 2,6-Dinitrotoluene                        | 606-20-2         | 1.0 | mg/kg |                  | ----              | ----              | <1.0              | ----              | ----              |
| 2,4-Dinitrotoluene                        | 121-14-2         | 1.0 | mg/kg |                  | ----              | ----              | <1.0              | ----              | ----              |
| 1-Naphthylamine                           | 134-32-7         | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 4-Nitroquinoline-N-oxide                  | 56-57-5          | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 5-Nitro-o-toluidine                       | 99-55-8          | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Azobenzene                                | 103-33-3         | 1   | mg/kg |                  | ----              | ----              | <1                | ----              | ----              |
| 1,3,5-Trinitrobenzene                     | 99-35-4          | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Phenacetin                                | 62-44-2          | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 4-Aminobiphenyl                           | 92-67-1          | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Pentachloronitrobenzene                   | 82-68-8          | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Pronamide                                 | 23950-58-5       | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Dimethylaminoazobenzene                   | 60-11-7          | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Chlorobenzilate                           | 510-15-6         | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| <b>EP075F: Haloethers</b>                 |                  |     |       |                  |                   |                   |                   |                   |                   |
| Bis(2-chloroethyl) ether                  | 111-44-4         | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Bis(2-chloroethoxy) methane               | 111-91-1         | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 4-Chlorophenyl phenyl ether               | 7005-72-3        | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 4-Bromophenyl phenyl ether                | 101-55-3         | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| <b>EP075G: Chlorinated Hydrocarbons</b>   |                  |     |       |                  |                   |                   |                   |                   |                   |
| 1,3-Dichlorobenzene                       | 541-73-1         | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 1,4-Dichlorobenzene                       | 106-46-7         | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 1,2-Dichlorobenzene                       | 95-50-1          | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Hexachloroethane                          | 67-72-1          | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 1,2,4-Trichlorobenzene                    | 120-82-1         | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                  |            |     |       | Client sample ID | BH403 / 0.2E      | BH403 / 0.2E      | BH404 / 0.1E      | BH404 / 0.1E      | BH404 / 0.1E      |
|-----------------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                         |            |     |       |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                                            | CAS Number | LOR | Unit  |                  | ES1924021-027     | ES1924021-028     | ES1924021-029     | ES1924021-030     | ES1924021-031     |
|                                                     |            |     |       |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP075G: Chlorinated Hydrocarbons - Continued</b> |            |     |       |                  |                   |                   |                   |                   |                   |
| Hexachloropropylene                                 | 1888-71-7  | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Hexachlorobutadiene                                 | 87-68-3    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Hexachlorocyclopentadiene                           | 77-47-4    | 2.5 | mg/kg |                  | ----              | ----              | <2.5              | ----              | ----              |
| Pentachlorobenzene                                  | 608-93-5   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Hexachlorobenzene (HCB)                             | 118-74-1   | 1.0 | mg/kg |                  | ----              | ----              | <1.0              | ----              | ----              |
| <b>EP075H: Anilines and Benzidines</b>              |            |     |       |                  |                   |                   |                   |                   |                   |
| Aniline                                             | 62-53-3    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 4-Chloroaniline                                     | 106-47-8   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 2-Nitroaniline                                      | 88-74-4    | 1.0 | mg/kg |                  | ----              | ----              | <1.0              | ----              | ----              |
| 3-Nitroaniline                                      | 99-09-2    | 1.0 | mg/kg |                  | ----              | ----              | <1.0              | ----              | ----              |
| Dibenzofuran                                        | 132-64-9   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 4-Nitroaniline                                      | 100-01-6   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Carbazole                                           | 86-74-8    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 3,3'-Dichlorobenzidine                              | 91-94-1    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| <b>EP075I: Organochlorine Pesticides</b>            |            |     |       |                  |                   |                   |                   |                   |                   |
| alpha-BHC                                           | 319-84-6   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| beta-BHC                                            | 319-85-7   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| gamma-BHC                                           | 58-89-9    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| delta-BHC                                           | 319-86-8   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Heptachlor                                          | 76-44-8    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Aldrin                                              | 309-00-2   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Heptachlor epoxide                                  | 1024-57-3  | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| alpha-Endosulfan                                    | 959-98-8   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 4,4'-DDE                                            | 72-55-9    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Dieldrin                                            | 60-57-1    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Endrin                                              | 72-20-8    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| beta-Endosulfan                                     | 33213-65-9 | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 4,4'-DDD                                            | 72-54-8    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Endosulfan sulfate                                  | 1031-07-8  | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| 4,4'-DDT                                            | 50-29-3    | 1.0 | mg/kg |                  | ----              | ----              | <1.0              | ----              | ----              |
| <b>EP075J: Organophosphorus Pesticides</b>          |            |     |       |                  |                   |                   |                   |                   |                   |
| Dichlorvos                                          | 62-73-7    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Dimethoate                                          | 60-51-5    | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |
| Diazinon                                            | 333-41-5   | 0.5 | mg/kg |                  | ----              | ----              | <0.5              | ----              | ----              |

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                              |                   |     |       | Client sample ID  | BH403 / 0.2E      | BH403 / 0.2E      | BH404 / 0.1E      | BH404 / 0.1E      | BH404 / 0.1E      |
|-----------------------------------------------------------------|-------------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                     |                   |     |       | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                                                        | CAS Number        | LOR | Unit  | ES1924021-027     | ES1924021-028     | ES1924021-029     | ES1924021-030     | ES1924021-031     |                   |
|                                                                 |                   |     |       | Result            | Result            | Result            | Result            | Result            |                   |
| EP075J: Organophosphorus Pesticides - Continued                 |                   |     |       |                   |                   |                   |                   |                   |                   |
| Chlorpyrifos-methyl                                             | 5598-13-0         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |                   |
| Malathion                                                       | 121-75-5          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |                   |
| Fenthion                                                        | 55-38-9           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |                   |
| Chlorpyrifos                                                    | 2921-88-2         | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |                   |
| Pirimphos-ethyl                                                 | 23505-41-1        | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |                   |
| Chlorfenvinphos                                                 | 470-90-6          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |                   |
| Prothiofos                                                      | 34643-46-4        | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |                   |
| Ethion                                                          | 563-12-2          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |                   |
| EP080/071: Total Petroleum Hydrocarbons                         |                   |     |       |                   |                   |                   |                   |                   |                   |
| C6 - C9 Fraction                                                | ----              | 10  | mg/kg | ----              | ----              | <10               | ----              | ----              |                   |
| C10 - C14 Fraction                                              | ----              | 50  | mg/kg | ----              | ----              | <50               | ----              | ----              |                   |
| C15 - C28 Fraction                                              | ----              | 100 | mg/kg | ----              | ----              | <100              | ----              | ----              |                   |
| C29 - C36 Fraction                                              | ----              | 100 | mg/kg | ----              | ----              | <100              | ----              | ----              |                   |
| ^ C10 - C36 Fraction (sum)                                      | ----              | 50  | mg/kg | ----              | ----              | <50               | ----              | ----              |                   |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions |                   |     |       |                   |                   |                   |                   |                   |                   |
| C6 - C10 Fraction                                               | C6_C10            | 10  | mg/kg | ----              | ----              | <10               | ----              | ----              |                   |
| ^ C6 - C10 Fraction minus BTEX (F1)                             | C6_C10-BTEX       | 10  | mg/kg | ----              | ----              | <10               | ----              | ----              |                   |
| >C10 - C16 Fraction                                             | ----              | 50  | mg/kg | ----              | ----              | <50               | ----              | ----              |                   |
| >C16 - C34 Fraction                                             | ----              | 100 | mg/kg | ----              | ----              | <100              | ----              | ----              |                   |
| >C34 - C40 Fraction                                             | ----              | 100 | mg/kg | ----              | ----              | <100              | ----              | ----              |                   |
| ^ >C10 - C40 Fraction (sum)                                     | ----              | 50  | mg/kg | ----              | ----              | <50               | ----              | ----              |                   |
| ^ >C10 - C16 Fraction minus Naphthalene (F2)                    | ----              | 50  | mg/kg | ----              | ----              | <50               | ----              | ----              |                   |
| EP080: BTEXN                                                    |                   |     |       |                   |                   |                   |                   |                   |                   |
| Benzene                                                         | 71-43-2           | 0.2 | mg/kg | ----              | ----              | <0.2              | ----              | ----              |                   |
| Toluene                                                         | 108-88-3          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |                   |
| Ethylbenzene                                                    | 100-41-4          | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |                   |
| meta- & para-Xylene                                             | 108-38-3 106-42-3 | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |                   |
| ortho-Xylene                                                    | 95-47-6           | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |                   |
| ^ Sum of BTEX                                                   | ----              | 0.2 | mg/kg | ----              | ----              | <0.2              | ----              | ----              |                   |
| ^ Total Xylenes                                                 | ----              | 0.5 | mg/kg | ----              | ----              | <0.5              | ----              | ----              |                   |
| Naphthalene                                                     | 91-20-3           | 1   | mg/kg | ----              | ----              | <1                | ----              | ----              |                   |
| EP231A: Perfluoroalkyl Sulfonic Acids                           |                   |     |       |                   |                   |                   |                   |                   |                   |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                       |            |        |       | Client sample ID | BH403 / 0.2E      | BH403 / 0.2E      | BH404 / 0.1E      | BH404 / 0.1E      | BH404 / 0.1E      |
|----------------------------------------------------------|------------|--------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                              |            |        |       |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                                                 | CAS Number | LOR    | Unit  |                  | ES1924021-027     | ES1924021-028     | ES1924021-029     | ES1924021-030     | ES1924021-031     |
|                                                          |            |        |       | Result           | Result            | Result            | Result            | Result            | Result            |
| <b>EP231A: Perfluoroalkyl Sulfonic Acids - Continued</b> |            |        |       |                  |                   |                   |                   |                   |                   |
| Perfluorobutane sulfonic acid (PFBS)                     | 375-73-5   | 0.0002 | mg/kg | <0.0002          | ----              | ----              | ----              | <0.0002           | ----              |
| Perfluoropentane sulfonic acid (PFPeS)                   | 2706-91-4  | 0.0002 | mg/kg | <0.0002          | ----              | ----              | ----              | <0.0002           | ----              |
| Perfluorohexane sulfonic acid (PFHxS)                    | 355-46-4   | 0.0002 | mg/kg | <0.0002          | ----              | ----              | ----              | <0.0002           | ----              |
| Perfluoroheptane sulfonic acid (PFHpS)                   | 375-92-8   | 0.0002 | mg/kg | <0.0002          | ----              | ----              | ----              | <0.0002           | ----              |
| Perfluorooctane sulfonic acid (PFOS)                     | 1763-23-1  | 0.0002 | mg/kg | <0.0002          | ----              | ----              | ----              | <0.0002           | ----              |
| Perfluorodecane sulfonic acid (PFDS)                     | 335-77-3   | 0.0002 | mg/kg | <0.0002          | ----              | ----              | ----              | <0.0002           | ----              |
| <b>EP231B: Perfluoroalkyl Carboxylic Acids</b>           |            |        |       |                  |                   |                   |                   |                   |                   |
| Perfluorobutanoic acid (PFBA)                            | 375-22-4   | 0.001  | mg/kg | <0.001           | ----              | ----              | ----              | <0.001            | ----              |
| Perfluoropentanoic acid (PFPeA)                          | 2706-90-3  | 0.0002 | mg/kg | <0.0002          | ----              | ----              | ----              | <0.0002           | ----              |
| Perfluorohexanoic acid (PFHxA)                           | 307-24-4   | 0.0002 | mg/kg | <0.0002          | ----              | ----              | ----              | <0.0002           | ----              |
| Perfluoroheptanoic acid (PFHpA)                          | 375-85-9   | 0.0002 | mg/kg | <0.0002          | ----              | ----              | ----              | <0.0002           | ----              |
| Perfluorooctanoic acid (PFOA)                            | 335-67-1   | 0.0002 | mg/kg | <0.0002          | ----              | ----              | ----              | <0.0002           | ----              |
| Perfluorononanoic acid (PFNA)                            | 375-95-1   | 0.0002 | mg/kg | <0.0002          | ----              | ----              | ----              | <0.0002           | ----              |
| Perfluorodecanoic acid (PFDA)                            | 335-76-2   | 0.0002 | mg/kg | <0.0002          | ----              | ----              | ----              | <0.0002           | ----              |
| Perfluoroundecanoic acid (PFUnDA)                        | 2058-94-8  | 0.0002 | mg/kg | <0.0002          | ----              | ----              | ----              | <0.0002           | ----              |
| Perfluorododecanoic acid (PFDoDA)                        | 307-55-1   | 0.0002 | mg/kg | <0.0002          | ----              | ----              | ----              | <0.0002           | ----              |
| Perfluorotridecanoic acid (PFTrDA)                       | 72629-94-8 | 0.0002 | mg/kg | <0.0002          | ----              | ----              | ----              | <0.0002           | ----              |
| Perfluorotetradecanoic acid (PFTeDA)                     | 376-06-7   | 0.0005 | mg/kg | <0.0005          | ----              | ----              | ----              | <0.0005           | ----              |
| <b>EP231C: Perfluoroalkyl Sulfonamides</b>               |            |        |       |                  |                   |                   |                   |                   |                   |
| Perfluorooctane sulfonamide (FOSA)                       | 754-91-6   | 0.0002 | mg/kg | <0.0002          | ----              | ----              | ----              | <0.0002           | ----              |
| N-Methyl perfluorooctane sulfonamide (MeFOSA)            | 31506-32-8 | 0.0005 | mg/kg | <0.0005          | ----              | ----              | ----              | <0.0005           | ----              |
| N-Ethyl perfluorooctane sulfonamide (EtFOSA)             | 4151-50-2  | 0.0005 | mg/kg | <0.0005          | ----              | ----              | ----              | <0.0005           | ----              |

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                        |                    |        |       | Client sample ID  | BH403 / 0.2E      | BH403 / 0.2E      | BH404 / 0.1E      | BH404 / 0.1E      | BH404 / 0.1E      |
|-----------------------------------------------------------|--------------------|--------|-------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                               |                    |        |       | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                                                  | CAS Number         | LOR    | Unit  | ES1924021-027     | ES1924021-028     | ES1924021-029     | ES1924021-030     | ES1924021-031     |                   |
|                                                           |                    |        |       | Result            | Result            | Result            | Result            | Result            | Result            |
| EP231C: Perfluoroalkyl Sulfonamides - Continued           |                    |        |       |                   |                   |                   |                   |                   |                   |
| N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)      | 24448-09-7         | 0.0005 | mg/kg | <0.0005           | ----              | ----              | <0.0005           | ----              |                   |
| N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)       | 1691-99-2          | 0.0005 | mg/kg | <0.0005           | ----              | ----              | <0.0005           | ----              |                   |
| N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA) | 2355-31-9          | 0.0002 | mg/kg | <0.0002           | ----              | ----              | <0.0002           | ----              |                   |
| N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)  | 2991-50-6          | 0.0002 | mg/kg | <0.0002           | ----              | ----              | <0.0002           | ----              |                   |
| EP231D: (n:2) Fluorotelomer Sulfonic Acids                |                    |        |       |                   |                   |                   |                   |                   |                   |
| 4:2 Fluorotelomer sulfonic acid (4:2 FTS)                 | 757124-72-4        | 0.0005 | mg/kg | <0.0005           | ----              | ----              | <0.0005           | ----              |                   |
| 6:2 Fluorotelomer sulfonic acid (6:2 FTS)                 | 27619-97-2         | 0.0005 | mg/kg | <0.0005           | ----              | ----              | <0.0005           | ----              |                   |
| 8:2 Fluorotelomer sulfonic acid (8:2 FTS)                 | 39108-34-4         | 0.0005 | mg/kg | <0.0005           | ----              | ----              | <0.0005           | ----              |                   |
| 10:2 Fluorotelomer sulfonic acid (10:2 FTS)               | 120226-60-0        | 0.0005 | mg/kg | <0.0005           | ----              | ----              | <0.0005           | ----              |                   |
| EP231P: PFAS Sums                                         |                    |        |       |                   |                   |                   |                   |                   |                   |
| Sum of PFAS                                               | ----               | 0.0002 | mg/kg | <0.0002           | ----              | ----              | <0.0002           | ----              |                   |
| Sum of PFHxS and PFOS                                     | 355-46-4/1763-23-1 | 0.0002 | mg/kg | <0.0002           | ----              | ----              | <0.0002           | ----              |                   |
| Sum of PFAS (WA DER List)                                 | ----               | 0.0002 | mg/kg | <0.0002           | ----              | ----              | <0.0002           | ----              |                   |
| EP066S: PCB Surrogate                                     |                    |        |       |                   |                   |                   |                   |                   |                   |
| Decachlorobiphenyl                                        | 2051-24-3          | 0.1    | %     | ----              | ----              | 104               | ----              | ----              |                   |
| EP074S: VOC Surrogates                                    |                    |        |       |                   |                   |                   |                   |                   |                   |
| 1,2-Dichloroethane-D4                                     | 17060-07-0         | 0.5    | %     | ----              | ----              | 98.7              | ----              | ----              |                   |
| Toluene-D8                                                | 2037-26-5          | 0.5    | %     | ----              | ----              | 99.4              | ----              | ----              |                   |
| 4-Bromofluorobenzene                                      | 460-00-4           | 0.5    | %     | ----              | ----              | 87.8              | ----              | ----              |                   |
| EP075(SIM)S: Phenolic Compound Surrogates                 |                    |        |       |                   |                   |                   |                   |                   |                   |
| Phenol-d6                                                 | 13127-88-3         | 0.5    | %     | ----              | ----              | 81.6              | ----              | ----              |                   |
| 2-Chlorophenol-D4                                         | 93951-73-6         | 0.5    | %     | ----              | ----              | 88.4              | ----              | ----              |                   |
| 2,4,6-Tribromophenol                                      | 118-79-6           | 0.5    | %     | ----              | ----              | 63.9              | ----              | ----              |                   |
| EP075(SIM)T: PAH Surrogates                               |                    |        |       |                   |                   |                   |                   |                   |                   |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                 |            |        |      | Client sample ID | BH403 / 0.2E      | BH403 / 0.2E      | BH404 / 0.1E      | BH404 / 0.1E      | BH404 / 0.1E      |
|----------------------------------------------------|------------|--------|------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                        |            |        |      |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 |
| Compound                                           | CAS Number | LOR    | Unit |                  | ES1924021-027     | ES1924021-028     | ES1924021-029     | ES1924021-030     | ES1924021-031     |
|                                                    |            |        |      |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP075(SIM)T: PAH Surrogates - Continued</b>     |            |        |      |                  |                   |                   |                   |                   |                   |
| 2-Fluorobiphenyl                                   | 321-60-8   | 0.5    | %    |                  | ----              | ----              | 94.3              | ----              | ----              |
| Anthracene-d10                                     | 1719-06-8  | 0.5    | %    |                  | ----              | ----              | 96.0              | ----              | ----              |
| 4-Terphenyl-d14                                    | 1718-51-0  | 0.5    | %    |                  | ----              | ----              | 97.7              | ----              | ----              |
| <b>EP075S: Acid Extractable Surrogates</b>         |            |        |      |                  |                   |                   |                   |                   |                   |
| 2-Fluorophenol                                     | 367-12-4   | 0.5    | %    |                  | ----              | ----              | 96.1              | ----              | ----              |
| Phenol-d6                                          | 13127-88-3 | 0.5    | %    |                  | ----              | ----              | 89.2              | ----              | ----              |
| 2-Chlorophenol-D4                                  | 93951-73-6 | 0.5    | %    |                  | ----              | ----              | 95.7              | ----              | ----              |
| 2,4,6-Tribromophenol                               | 118-79-6   | 0.5    | %    |                  | ----              | ----              | 63.8              | ----              | ----              |
| <b>EP075T: Base/Neutral Extractable Surrogates</b> |            |        |      |                  |                   |                   |                   |                   |                   |
| Nitrobenzene-D5                                    | 4165-60-0  | 0.5    | %    |                  | ----              | ----              | 82.5              | ----              | ----              |
| 1,2-Dichlorobenzene-D4                             | 2199-69-1  | 0.5    | %    |                  | ----              | ----              | 93.4              | ----              | ----              |
| 2-Fluorobiphenyl                                   | 321-60-8   | 0.5    | %    |                  | ----              | ----              | 117               | ----              | ----              |
| Anthracene-d10                                     | 1719-06-8  | 0.5    | %    |                  | ----              | ----              | 89.9              | ----              | ----              |
| 4-Terphenyl-d14                                    | 1718-51-0  | 0.5    | %    |                  | ----              | ----              | 112               | ----              | ----              |
| <b>EP080S: TPH(V)/BTEX Surrogates</b>              |            |        |      |                  |                   |                   |                   |                   |                   |
| 1,2-Dichloroethane-D4                              | 17060-07-0 | 0.2    | %    |                  | ----              | ----              | 98.4              | ----              | ----              |
| Toluene-D8                                         | 2037-26-5  | 0.2    | %    |                  | ----              | ----              | 78.7              | ----              | ----              |
| 4-Bromofluorobenzene                               | 460-00-4   | 0.2    | %    |                  | ----              | ----              | 84.8              | ----              | ----              |
| <b>EP231S: PFAS Surrogate</b>                      |            |        |      |                  |                   |                   |                   |                   |                   |
| 13C4-PFOS                                          | ----       | 0.0002 | %    |                  | 76.5              | ----              | ----              | 88.5              | ----              |
| 13C8-PFOA                                          | ----       | 0.0002 | %    |                  | 70.0              | ----              | ----              | 97.0              | ----              |



## Analytical Results

|                                                           |            |      |        |                  |                   |                   |                   |       |       |
|-----------------------------------------------------------|------------|------|--------|------------------|-------------------|-------------------|-------------------|-------|-------|
| Sub-Matrix: SOIL<br>(Matrix: SOIL)                        |            |      |        | Client sample ID | BH404 / 0.5E      | BH404 / 0.5E      | BH404 / 0.5E      | ----  | ----  |
| Client sampling date / time                               |            |      |        |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | ----  | ----  |
| Compound                                                  | CAS Number | LOR  | Unit   |                  | ES1924021-032     | ES1924021-033     | ES1924021-034     | ----- | ----- |
|                                                           |            |      |        |                  | Result            | Result            | Result            | ----  | ----  |
| EA055: Moisture Content (Dried @ 105-110°C)               |            |      |        |                  |                   |                   |                   |       |       |
| Moisture Content                                          | ----       | 0.1  | %      |                  | ----              | 12.0              | ----              | ----  | ----  |
| Moisture Content                                          | ----       | 1.0  | %      |                  | 12.8              | ----              | ----              | ----  | ----  |
| EA200: AS 4964 - 2004 Identification of Asbestos in Soils |            |      |        |                  |                   |                   |                   |       |       |
| Asbestos Detected                                         | 1332-21-4  | 0.1  | g/kg   |                  | ----              | ----              | No                | ----  | ----  |
| Asbestos (Trace)                                          | 1332-21-4  | 5    | Fibres |                  | ----              | ----              | No                | ----  | ----  |
| Asbestos Type                                             | 1332-21-4  | -    | --     |                  | ----              | ----              | -                 | ----  | ----  |
| Sample weight (dry)                                       | ----       | 0.01 | g      |                  | ----              | ----              | 28.1              | ----  | ----  |
| APPROVED IDENTIFIER:                                      | ----       | -    | --     |                  | ----              | ----              | A. SMYLIE         | ----  | ----  |
| Synthetic Mineral Fibre                                   | ----       | 0.1  | g/kg   |                  | ----              | ----              | No                | ----  | ----  |
| Organic Fibre                                             | ----       | 0.1  | g/kg   |                  | ----              | ----              | No                | ----  | ----  |
| EG005(ED093)T: Total Metals by ICP-AES                    |            |      |        |                  |                   |                   |                   |       |       |
| Arsenic                                                   | 7440-38-2  | 5    | mg/kg  |                  | 11                | ----              | ----              | ----  | ----  |
| Cadmium                                                   | 7440-43-9  | 1    | mg/kg  |                  | <1                | ----              | ----              | ----  | ----  |
| Chromium                                                  | 7440-47-3  | 2    | mg/kg  |                  | 26                | ----              | ----              | ----  | ----  |
| Copper                                                    | 7440-50-8  | 5    | mg/kg  |                  | 52                | ----              | ----              | ----  | ----  |
| Lead                                                      | 7439-92-1  | 5    | mg/kg  |                  | 217               | ----              | ----              | ----  | ----  |
| Nickel                                                    | 7440-02-0  | 2    | mg/kg  |                  | 30                | ----              | ----              | ----  | ----  |
| Zinc                                                      | 7440-66-6  | 5    | mg/kg  |                  | 230               | ----              | ----              | ----  | ----  |
| EG035T: Total Recoverable Mercury by FIMS                 |            |      |        |                  |                   |                   |                   |       |       |
| Mercury                                                   | 7439-97-6  | 0.1  | mg/kg  |                  | 0.3               | ----              | ----              | ----  | ----  |
| EP066: Polychlorinated Biphenyls (PCB)                    |            |      |        |                  |                   |                   |                   |       |       |
| Total Polychlorinated biphenyls                           | ----       | 0.1  | mg/kg  |                  | <0.1              | ----              | ----              | ----  | ----  |
| EP074A: Monocyclic Aromatic Hydrocarbons                  |            |      |        |                  |                   |                   |                   |       |       |
| Styrene                                                   | 100-42-5   | 0.5  | mg/kg  |                  | <0.5              | ----              | ----              | ----  | ----  |
| Isopropylbenzene                                          | 98-82-8    | 0.5  | mg/kg  |                  | <0.5              | ----              | ----              | ----  | ----  |
| n-Propylbenzene                                           | 103-65-1   | 0.5  | mg/kg  |                  | <0.5              | ----              | ----              | ----  | ----  |
| 1,3,5-Trimethylbenzene                                    | 108-67-8   | 0.5  | mg/kg  |                  | <0.5              | ----              | ----              | ----  | ----  |
| sec-Butylbenzene                                          | 135-98-8   | 0.5  | mg/kg  |                  | <0.5              | ----              | ----              | ----  | ----  |
| 1,2,4-Trimethylbenzene                                    | 95-63-6    | 0.5  | mg/kg  |                  | <0.5              | ----              | ----              | ----  | ----  |
| tert-Butylbenzene                                         | 98-06-6    | 0.5  | mg/kg  |                  | <0.5              | ----              | ----              | ----  | ----  |
| p-Isopropyltoluene                                        | 99-87-6    | 0.5  | mg/kg  |                  | <0.5              | ----              | ----              | ----  | ----  |
| n-Butylbenzene                                            | 104-51-8   | 0.5  | mg/kg  |                  | <0.5              | ----              | ----              | ----  | ----  |
| EP074B: Oxygenated Compounds                              |            |      |        |                  |                   |                   |                   |       |       |
| Vinyl Acetate                                             | 108-05-4   | 5    | mg/kg  |                  | <5                | ----              | ----              | ----  | ----  |



## Analytical Results

|                                                 |            |     |       |                  |                   |                   |                   |       |       |
|-------------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------|-------|
| Sub-Matrix: SOIL<br>(Matrix: SOIL)              |            |     |       | Client sample ID | BH404 / 0.5E      | BH404 / 0.5E      | BH404 / 0.5E      | ----  | ----  |
| Client sampling date / time                     |            |     |       |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | ----  | ----  |
| Compound                                        | CAS Number | LOR | Unit  |                  | ES1924021-032     | ES1924021-033     | ES1924021-034     | ----- | ----- |
|                                                 |            |     |       |                  | Result            | Result            | Result            | ----  | ----  |
| <b>EP074B: Oxygenated Compounds - Continued</b> |            |     |       |                  |                   |                   |                   |       |       |
| 2-Butanone (MEK)                                | 78-93-3    | 5   | mg/kg |                  | <5                | ----              | ----              | ----  | ----  |
| 4-Methyl-2-pentanone (MIBK)                     | 108-10-1   | 5   | mg/kg |                  | <5                | ----              | ----              | ----  | ----  |
| 2-Hexanone (MBK)                                | 591-78-6   | 5   | mg/kg |                  | <5                | ----              | ----              | ----  | ----  |
| <b>EP074C: Sulfonated Compounds</b>             |            |     |       |                  |                   |                   |                   |       |       |
| Carbon disulfide                                | 75-15-0    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| <b>EP074D: Fumigants</b>                        |            |     |       |                  |                   |                   |                   |       |       |
| 2,2-Dichloropropane                             | 594-20-7   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 1,2-Dichloropropane                             | 78-87-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| cis-1,3-Dichloropropylene                       | 10061-01-5 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| trans-1,3-Dichloropropylene                     | 10061-02-6 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 1,2-Dibromoethane (EDB)                         | 106-93-4   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| <b>EP074E: Halogenated Aliphatic Compounds</b>  |            |     |       |                  |                   |                   |                   |       |       |
| Dichlorodifluoromethane                         | 75-71-8    | 5   | mg/kg |                  | <5                | ----              | ----              | ----  | ----  |
| Chloromethane                                   | 74-87-3    | 5   | mg/kg |                  | <5                | ----              | ----              | ----  | ----  |
| Vinyl chloride                                  | 75-01-4    | 5   | mg/kg |                  | <5                | ----              | ----              | ----  | ----  |
| Bromomethane                                    | 74-83-9    | 5   | mg/kg |                  | <5                | ----              | ----              | ----  | ----  |
| Chloroethane                                    | 75-00-3    | 5   | mg/kg |                  | <5                | ----              | ----              | ----  | ----  |
| Trichlorofluoromethane                          | 75-69-4    | 5   | mg/kg |                  | <5                | ----              | ----              | ----  | ----  |
| 1,1-Dichloroethene                              | 75-35-4    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Iodomethane                                     | 74-88-4    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| trans-1,2-Dichloroethene                        | 156-60-5   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 1,1-Dichloroethane                              | 75-34-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| cis-1,2-Dichloroethene                          | 156-59-2   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 1,1,1-Trichloroethane                           | 71-55-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 1,1-Dichloropropylene                           | 563-58-6   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Carbon Tetrachloride                            | 56-23-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 1,2-Dichloroethane                              | 107-06-2   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Trichloroethene                                 | 79-01-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Dibromomethane                                  | 74-95-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 1,1,2-Trichloroethane                           | 79-00-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 1,3-Dichloropropane                             | 142-28-9   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Tetrachloroethene                               | 127-18-4   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 1,1,1,2-Tetrachloroethane                       | 630-20-6   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| trans-1,4-Dichloro-2-butene                     | 110-57-6   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |



## Analytical Results

|                                                     |                   |     |       |                  |                   |                   |                   |       |       |
|-----------------------------------------------------|-------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------|-------|
| Sub-Matrix: SOIL<br>(Matrix: SOIL)                  |                   |     |       | Client sample ID | BH404 / 0.5E      | BH404 / 0.5E      | BH404 / 0.5E      | ----  | ----  |
| Client sampling date / time                         |                   |     |       |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | ----  | ----  |
| Compound                                            | CAS Number        | LOR | Unit  |                  | ES1924021-032     | ES1924021-033     | ES1924021-034     | ----- | ----- |
|                                                     |                   |     |       | Result           | Result            | Result            |                   | ----  | ----  |
| EP074E: Halogenated Aliphatic Compounds - Continued |                   |     |       |                  |                   |                   |                   |       |       |
| cis-1,4-Dichloro-2-butene                           | 1476-11-5         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 1,1,2,2-Tetrachloroethane                           | 79-34-5           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 1,2,3-Trichloropropane                              | 96-18-4           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Pentachloroethane                                   | 76-01-7           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 1,2-Dibromo-3-chloropropane                         | 96-12-8           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| EP074F: Halogenated Aromatic Compounds              |                   |     |       |                  |                   |                   |                   |       |       |
| Chlorobenzene                                       | 108-90-7          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Bromobenzene                                        | 108-86-1          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 2-Chlorotoluene                                     | 95-49-8           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 4-Chlorotoluene                                     | 106-43-4          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 1,2,3-Trichlorobenzene                              | 87-61-6           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| EP074G: Trihalomethanes                             |                   |     |       |                  |                   |                   |                   |       |       |
| Chloroform                                          | 67-66-3           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Bromodichloromethane                                | 75-27-4           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Dibromochloromethane                                | 124-48-1          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Bromoform                                           | 75-25-2           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons      |                   |     |       |                  |                   |                   |                   |       |       |
| Naphthalene                                         | 91-20-3           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Acenaphthylene                                      | 208-96-8          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Acenaphthene                                        | 83-32-9           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Fluorene                                            | 86-73-7           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Phenanthrene                                        | 85-01-8           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Anthracene                                          | 120-12-7          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Fluoranthene                                        | 206-44-0          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Pyrene                                              | 129-00-0          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Benz(a)anthracene                                   | 56-55-3           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Chrysene                                            | 218-01-9          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Benzo(b+j)fluoranthene                              | 205-99-2 205-82-3 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Benzo(k)fluoranthene                                | 207-08-9          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Benzo(a)pyrene                                      | 50-32-8           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Indeno(1,2,3-cd)pyrene                              | 193-39-5          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Dibenz(a,h)anthracene                               | 53-70-3           | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Benzo(g,h,i)perylene                                | 191-24-2          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| ^ Sum of polycyclic aromatic hydrocarbons           | ----              | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                                |            |     |       | Client sample ID | BH404 / 0.5E      | BH404 / 0.5E      | BH404 / 0.5E      | ----  | ----  |
|-------------------------------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------|-------|
| Client sampling date / time                                       |            |     |       |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | ----  | ----  |
| Compound                                                          | CAS Number | LOR | Unit  |                  | ES1924021-032     | ES1924021-033     | ES1924021-034     | ----- | ----- |
|                                                                   |            |     |       | Result           | Result            | Result            |                   | ----  | ----  |
| <b>EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued</b> |            |     |       |                  |                   |                   |                   |       |       |
| ^ Benzo(a)pyrene TEQ (zero)                                       | ----       | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| ^ Benzo(a)pyrene TEQ (half LOR)                                   | ----       | 0.5 | mg/kg |                  | <b>0.6</b>        | ----              | ----              | ----  | ----  |
| ^ Benzo(a)pyrene TEQ (LOR)                                        | ----       | 0.5 | mg/kg |                  | <b>1.2</b>        | ----              | ----              | ----  | ----  |
| <b>EP075A: Phenolic Compounds</b>                                 |            |     |       |                  |                   |                   |                   |       |       |
| Phenol                                                            | 108-95-2   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 2-Chlorophenol                                                    | 95-57-8    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 2-Methylphenol                                                    | 95-48-7    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 3- & 4-Methylphenol                                               | 1319-77-3  | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 2-Nitrophenol                                                     | 88-75-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 2,4-Dimethylphenol                                                | 105-67-9   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 2,4-Dichlorophenol                                                | 120-83-2   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 2,6-Dichlorophenol                                                | 87-65-0    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 4-Chloro-3-methylphenol                                           | 59-50-7    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 2,4,6-Trichlorophenol                                             | 88-06-2    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 2,4,5-Trichlorophenol                                             | 95-95-4    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Pentachlorophenol                                                 | 87-86-5    | 1   | mg/kg |                  | <1                | ----              | ----              | ----  | ----  |
| <b>EP075B: Polynuclear Aromatic Hydrocarbons</b>                  |            |     |       |                  |                   |                   |                   |       |       |
| 2-Methylnaphthalene                                               | 91-57-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| N-2-Fluorenyl Acetamide                                           | 53-96-3    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 7,12-Dimethylbenz(a)anthracene                                    | 57-97-6    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 3-Methylcholanthrene                                              | 56-49-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| <b>EP075C: Phthalate Esters</b>                                   |            |     |       |                  |                   |                   |                   |       |       |
| Dimethyl phthalate                                                | 131-11-3   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Diethyl phthalate                                                 | 84-66-2    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Di-n-butyl phthalate                                              | 84-74-2    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Butyl benzyl phthalate                                            | 85-68-7    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| bis(2-ethylhexyl) phthalate                                       | 117-81-7   | 5.0 | mg/kg |                  | <5.0              | ----              | ----              | ----  | ----  |
| Di-n-octylphthalate                                               | 117-84-0   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| <b>EP075D: Nitrosamines</b>                                       |            |     |       |                  |                   |                   |                   |       |       |
| N-Nitrosomethylethylamine                                         | 10595-95-6 | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| N-Nitrosodiethylamine                                             | 55-18-5    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| N-Nitrosopyrrolidine                                              | 930-55-2   | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | ----  | ----  |
| N-Nitrosomorpholine                                               | 59-89-2    | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| N-Nitrosodi-n-propylamine                                         | 621-64-7   | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |



## Analytical Results

| Sub-Matrix: SOIL<br>(Matrix: SOIL)        |                  |     |       | Client sample ID | BH404 / 0.5E      | BH404 / 0.5E      | BH404 / 0.5E      | ----  | ----  |
|-------------------------------------------|------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------|-------|
| Client sampling date / time               |                  |     |       |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | ----  | ----  |
| Compound                                  | CAS Number       | LOR | Unit  |                  | ES1924021-032     | ES1924021-033     | ES1924021-034     | ----- | ----- |
|                                           |                  |     |       | Result           | Result            | Result            |                   | ----  | ----  |
| <b>EP075D: Nitrosamines - Continued</b>   |                  |     |       |                  |                   |                   |                   |       |       |
| N-Nitrosopiperidine                       | 100-75-4         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| N-Nitrosodibutylamine                     | 924-16-3         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| N-Nitrosodiphenyl & Diphenylamine         | 86-30-6 122-39-4 | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | ----  | ----  |
| Methapyrilene                             | 91-80-5          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| <b>EP075E: Nitroaromatics and Ketones</b> |                  |     |       |                  |                   |                   |                   |       |       |
| 2-Picoline                                | 109-06-8         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Acetophenone                              | 98-86-2          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Nitrobenzene                              | 98-95-3          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Isophorone                                | 78-59-1          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 2,6-Dinitrotoluene                        | 606-20-2         | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | ----  | ----  |
| 2,4-Dinitrotoluene                        | 121-14-2         | 1.0 | mg/kg |                  | <1.0              | ----              | ----              | ----  | ----  |
| 1-Naphthylamine                           | 134-32-7         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 4-Nitroquinoline-N-oxide                  | 56-57-5          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 5-Nitro-o-toluidine                       | 99-55-8          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Azobenzene                                | 103-33-3         | 1   | mg/kg |                  | <1                | ----              | ----              | ----  | ----  |
| 1,3,5-Trinitrobenzene                     | 99-35-4          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Phenacetin                                | 62-44-2          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 4-Aminobiphenyl                           | 92-67-1          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Pentachloronitrobenzene                   | 82-68-8          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Pronamide                                 | 23950-58-5       | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Dimethylaminoazobenzene                   | 60-11-7          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Chlorobenzilate                           | 510-15-6         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| <b>EP075F: Haloethers</b>                 |                  |     |       |                  |                   |                   |                   |       |       |
| Bis(2-chloroethyl) ether                  | 111-44-4         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Bis(2-chloroethoxy) methane               | 111-91-1         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 4-Chlorophenyl phenyl ether               | 7005-72-3        | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 4-Bromophenyl phenyl ether                | 101-55-3         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| <b>EP075G: Chlorinated Hydrocarbons</b>   |                  |     |       |                  |                   |                   |                   |       |       |
| 1,3-Dichlorobenzene                       | 541-73-1         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 1,4-Dichlorobenzene                       | 106-46-7         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 1,2-Dichlorobenzene                       | 95-50-1          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| Hexachloroethane                          | 67-72-1          | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |
| 1,2,4-Trichlorobenzene                    | 120-82-1         | 0.5 | mg/kg |                  | <0.5              | ----              | ----              | ----  | ----  |



## Analytical Results

|                                                     |            |     |       |                  |                   |                   |                   |       |       |
|-----------------------------------------------------|------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------|-------|
| Sub-Matrix: SOIL<br>(Matrix: SOIL)                  |            |     |       | Client sample ID | BH404 / 0.5E      | BH404 / 0.5E      | BH404 / 0.5E      | ----  | ----  |
| Client sampling date / time                         |            |     |       |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | ----  | ----  |
| Compound                                            | CAS Number | LOR | Unit  |                  | ES1924021-032     | ES1924021-033     | ES1924021-034     | ----- | ----- |
|                                                     |            |     |       | Result           | Result            | Result            |                   | ----  | ----  |
| <b>EP075G: Chlorinated Hydrocarbons - Continued</b> |            |     |       |                  |                   |                   |                   |       |       |
| Hexachloropropylene                                 | 1888-71-7  | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| Hexachlorobutadiene                                 | 87-68-3    | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| Hexachlorocyclopentadiene                           | 77-47-4    | 2.5 | mg/kg | <2.5             | ----              | ----              | ----              | ----  | ----  |
| Pentachlorobenzene                                  | 608-93-5   | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| Hexachlorobenzene (HCB)                             | 118-74-1   | 1.0 | mg/kg | <1.0             | ----              | ----              | ----              | ----  | ----  |
| <b>EP075H: Anilines and Benzidines</b>              |            |     |       |                  |                   |                   |                   |       |       |
| Aniline                                             | 62-53-3    | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| 4-Chloroaniline                                     | 106-47-8   | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| 2-Nitroaniline                                      | 88-74-4    | 1.0 | mg/kg | <1.0             | ----              | ----              | ----              | ----  | ----  |
| 3-Nitroaniline                                      | 99-09-2    | 1.0 | mg/kg | <1.0             | ----              | ----              | ----              | ----  | ----  |
| Dibenzofuran                                        | 132-64-9   | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| 4-Nitroaniline                                      | 100-01-6   | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| Carbazole                                           | 86-74-8    | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| 3,3'-Dichlorobenzidine                              | 91-94-1    | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| <b>EP075I: Organochlorine Pesticides</b>            |            |     |       |                  |                   |                   |                   |       |       |
| alpha-BHC                                           | 319-84-6   | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| beta-BHC                                            | 319-85-7   | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| gamma-BHC                                           | 58-89-9    | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| delta-BHC                                           | 319-86-8   | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| Heptachlor                                          | 76-44-8    | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| Aldrin                                              | 309-00-2   | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| Heptachlor epoxide                                  | 1024-57-3  | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| alpha-Endosulfan                                    | 959-98-8   | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| 4,4'-DDE                                            | 72-55-9    | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| Dieldrin                                            | 60-57-1    | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| Endrin                                              | 72-20-8    | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| beta-Endosulfan                                     | 33213-65-9 | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| 4,4'-DDD                                            | 72-54-8    | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| Endosulfan sulfate                                  | 1031-07-8  | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| 4,4'-DDT                                            | 50-29-3    | 1.0 | mg/kg | <1.0             | ----              | ----              | ----              | ----  | ----  |
| <b>EP075J: Organophosphorus Pesticides</b>          |            |     |       |                  |                   |                   |                   |       |       |
| Dichlorvos                                          | 62-73-7    | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| Dimethoate                                          | 60-51-5    | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |
| Diazinon                                            | 333-41-5   | 0.5 | mg/kg | <0.5             | ----              | ----              | ----              | ----  | ----  |

|                                                                 |                   |     |       |                   |              |                   |              |                   |              |       |      |       |
|-----------------------------------------------------------------|-------------------|-----|-------|-------------------|--------------|-------------------|--------------|-------------------|--------------|-------|------|-------|
| Sub-Matrix: SOIL<br>(Matrix: SOIL)                              |                   |     |       | Client sample ID  | BH404 / 0.5E |                   | BH404 / 0.5E |                   | BH404 / 0.5E |       | ---- | ----  |
| Client sampling date / time                                     |                   |     |       | 10-Jul-2019 00:00 |              | 10-Jul-2019 00:00 |              | 10-Jul-2019 00:00 |              | ----  |      | ----  |
| Compound                                                        | CAS Number        | LOR | Unit  | ES1924021-032     |              | ES1924021-033     |              | ES1924021-034     |              | ----- |      | ----- |
|                                                                 |                   |     |       | Result            |              | Result            |              | Result            |              | ----  |      | ----  |
| EP075J: Organophosphorus Pesticides - Continued                 |                   |     |       |                   |              |                   |              |                   |              |       |      |       |
| Chlorpyrifos-methyl                                             | 5598-13-0         | 0.5 | mg/kg | <0.5              |              | ----              |              | ----              |              | ----  |      | ----  |
| Malathion                                                       | 121-75-5          | 0.5 | mg/kg | <0.5              |              | ----              |              | ----              |              | ----  |      | ----  |
| Fenthion                                                        | 55-38-9           | 0.5 | mg/kg | <0.5              |              | ----              |              | ----              |              | ----  |      | ----  |
| Chlorpyrifos                                                    | 2921-88-2         | 0.5 | mg/kg | <0.5              |              | ----              |              | ----              |              | ----  |      | ----  |
| Pirimphos-ethyl                                                 | 23505-41-1        | 0.5 | mg/kg | <0.5              |              | ----              |              | ----              |              | ----  |      | ----  |
| Chlorfenvinphos                                                 | 470-90-6          | 0.5 | mg/kg | <0.5              |              | ----              |              | ----              |              | ----  |      | ----  |
| Prothiofos                                                      | 34643-46-4        | 0.5 | mg/kg | <0.5              |              | ----              |              | ----              |              | ----  |      | ----  |
| Ethion                                                          | 563-12-2          | 0.5 | mg/kg | <0.5              |              | ----              |              | ----              |              | ----  |      | ----  |
| EP080/071: Total Petroleum Hydrocarbons                         |                   |     |       |                   |              |                   |              |                   |              |       |      |       |
| C6 - C9 Fraction                                                | ----              | 10  | mg/kg | <10               |              | ----              |              | ----              |              | ----  |      | ----  |
| C10 - C14 Fraction                                              | ----              | 50  | mg/kg | <50               |              | ----              |              | ----              |              | ----  |      | ----  |
| C15 - C28 Fraction                                              | ----              | 100 | mg/kg | <100              |              | ----              |              | ----              |              | ----  |      | ----  |
| C29 - C36 Fraction                                              | ----              | 100 | mg/kg | <100              |              | ----              |              | ----              |              | ----  |      | ----  |
| ^ C10 - C36 Fraction (sum)                                      | ----              | 50  | mg/kg | <50               |              | ----              |              | ----              |              | ----  |      | ----  |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions |                   |     |       |                   |              |                   |              |                   |              |       |      |       |
| C6 - C10 Fraction                                               | C6_C10            | 10  | mg/kg | <10               |              | ----              |              | ----              |              | ----  |      | ----  |
| ^ C6 - C10 Fraction minus BTEX (F1)                             | C6_C10-BTEX       | 10  | mg/kg | <10               |              | ----              |              | ----              |              | ----  |      | ----  |
| >C10 - C16 Fraction                                             | ----              | 50  | mg/kg | <50               |              | ----              |              | ----              |              | ----  |      | ----  |
| >C16 - C34 Fraction                                             | ----              | 100 | mg/kg | <100              |              | ----              |              | ----              |              | ----  |      | ----  |
| >C34 - C40 Fraction                                             | ----              | 100 | mg/kg | <100              |              | ----              |              | ----              |              | ----  |      | ----  |
| ^ >C10 - C40 Fraction (sum)                                     | ----              | 50  | mg/kg | <50               |              | ----              |              | ----              |              | ----  |      | ----  |
| ^ >C10 - C16 Fraction minus Naphthalene (F2)                    | ----              | 50  | mg/kg | <50               |              | ----              |              | ----              |              | ----  |      | ----  |
| EP080: BTEXN                                                    |                   |     |       |                   |              |                   |              |                   |              |       |      |       |
| Benzene                                                         | 71-43-2           | 0.2 | mg/kg | <0.2              |              | ----              |              | ----              |              | ----  |      | ----  |
| Toluene                                                         | 108-88-3          | 0.5 | mg/kg | <0.5              |              | ----              |              | ----              |              | ----  |      | ----  |
| Ethylbenzene                                                    | 100-41-4          | 0.5 | mg/kg | <0.5              |              | ----              |              | ----              |              | ----  |      | ----  |
| meta- & para-Xylene                                             | 108-38-3 106-42-3 | 0.5 | mg/kg | <0.5              |              | ----              |              | ----              |              | ----  |      | ----  |
| ortho-Xylene                                                    | 95-47-6           | 0.5 | mg/kg | <0.5              |              | ----              |              | ----              |              | ----  |      | ----  |
| ^ Sum of BTEX                                                   | ----              | 0.2 | mg/kg | <0.2              |              | ----              |              | ----              |              | ----  |      | ----  |
| ^ Total Xylenes                                                 | ----              | 0.5 | mg/kg | <0.5              |              | ----              |              | ----              |              | ----  |      | ----  |
| Naphthalene                                                     | 91-20-3           | 1   | mg/kg | <1                |              | ----              |              | ----              |              | ----  |      | ----  |
| EP231A: Perfluoroalkyl Sulfonic Acids                           |                   |     |       |                   |              |                   |              |                   |              |       |      |       |



## Analytical Results

|                                                          |            |        |       |                  |                   |                   |                   |       |       |
|----------------------------------------------------------|------------|--------|-------|------------------|-------------------|-------------------|-------------------|-------|-------|
| Sub-Matrix: SOIL<br>(Matrix: SOIL)                       |            |        |       | Client sample ID | BH404 / 0.5E      | BH404 / 0.5E      | BH404 / 0.5E      | ----  | ----  |
| Client sampling date / time                              |            |        |       |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | ----  | ----  |
| Compound                                                 | CAS Number | LOR    | Unit  |                  | ES1924021-032     | ES1924021-033     | ES1924021-034     | ----- | ----- |
|                                                          |            |        |       |                  | Result            | Result            | Result            | ----  | ----  |
| <b>EP231A: Perfluoroalkyl Sulfonic Acids - Continued</b> |            |        |       |                  |                   |                   |                   |       |       |
| Perfluorobutane sulfonic acid (PFBS)                     | 375-73-5   | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----  | ----  |
| Perfluoropentane sulfonic acid (PFPeS)                   | 2706-91-4  | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----  | ----  |
| Perfluorohexane sulfonic acid (PFHxS)                    | 355-46-4   | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----  | ----  |
| Perfluoroheptane sulfonic acid (PFHpS)                   | 375-92-8   | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----  | ----  |
| Perfluorooctane sulfonic acid (PFOS)                     | 1763-23-1  | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----  | ----  |
| Perfluorodecane sulfonic acid (PFDS)                     | 335-77-3   | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----  | ----  |
| <b>EP231B: Perfluoroalkyl Carboxylic Acids</b>           |            |        |       |                  |                   |                   |                   |       |       |
| Perfluorobutanoic acid (PFBA)                            | 375-22-4   | 0.001  | mg/kg |                  | ----              | <0.001            | ----              | ----  | ----  |
| Perfluoropentanoic acid (PFPeA)                          | 2706-90-3  | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----  | ----  |
| Perfluorohexanoic acid (PFHxA)                           | 307-24-4   | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----  | ----  |
| Perfluoroheptanoic acid (PFHpA)                          | 375-85-9   | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----  | ----  |
| Perfluorooctanoic acid (PFOA)                            | 335-67-1   | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----  | ----  |
| Perfluorononanoic acid (PFNA)                            | 375-95-1   | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----  | ----  |
| Perfluorodecanoic acid (PFDA)                            | 335-76-2   | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----  | ----  |
| Perfluoroundecanoic acid (PFUnDA)                        | 2058-94-8  | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----  | ----  |
| Perfluorododecanoic acid (PFDoDA)                        | 307-55-1   | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----  | ----  |
| Perfluorotridecanoic acid (PFTrDA)                       | 72629-94-8 | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----  | ----  |
| Perfluorotetradecanoic acid (PFTeDA)                     | 376-06-7   | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----  | ----  |
| <b>EP231C: Perfluoroalkyl Sulfonamides</b>               |            |        |       |                  |                   |                   |                   |       |       |
| Perfluorooctane sulfonamide (FOSA)                       | 754-91-6   | 0.0002 | mg/kg |                  | ----              | <0.0002           | ----              | ----  | ----  |
| N-Methyl perfluorooctane sulfonamide (MeFOSA)            | 31506-32-8 | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----  | ----  |
| N-Ethyl perfluorooctane sulfonamide (EtFOSA)             | 4151-50-2  | 0.0005 | mg/kg |                  | ----              | <0.0005           | ----              | ----  | ----  |

| Sub-Matrix: SOIL<br>(Matrix: SOIL)                        |                    |        |       | Client sample ID  | BH404 / 0.5E      | BH404 / 0.5E      | BH404 / 0.5E | ----  | ---- |
|-----------------------------------------------------------|--------------------|--------|-------|-------------------|-------------------|-------------------|--------------|-------|------|
| Client sampling date / time                               |                    |        |       | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | ----         | ----  |      |
| Compound                                                  | CAS Number         | LOR    | Unit  | ES1924021-032     | ES1924021-033     | ES1924021-034     | -----        | ----- |      |
|                                                           |                    |        |       | Result            | Result            | Result            | ----         | ----  |      |
| EP231C: Perfluoroalkyl Sulfonamides - Continued           |                    |        |       |                   |                   |                   |              |       |      |
| N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)      | 24448-09-7         | 0.0005 | mg/kg | ----              | <0.0005           | ----              | ----         | ----  | ---- |
| N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)       | 1691-99-2          | 0.0005 | mg/kg | ----              | <0.0005           | ----              | ----         | ----  | ---- |
| N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA) | 2355-31-9          | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----         | ----  | ---- |
| N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)  | 2991-50-6          | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----         | ----  | ---- |
| EP231D: (n:2) Fluorotelomer Sulfonic Acids                |                    |        |       |                   |                   |                   |              |       |      |
| 4:2 Fluorotelomer sulfonic acid (4:2 FTS)                 | 757124-72-4        | 0.0005 | mg/kg | ----              | <0.0005           | ----              | ----         | ----  | ---- |
| 6:2 Fluorotelomer sulfonic acid (6:2 FTS)                 | 27619-97-2         | 0.0005 | mg/kg | ----              | <0.0005           | ----              | ----         | ----  | ---- |
| 8:2 Fluorotelomer sulfonic acid (8:2 FTS)                 | 39108-34-4         | 0.0005 | mg/kg | ----              | <0.0005           | ----              | ----         | ----  | ---- |
| 10:2 Fluorotelomer sulfonic acid (10:2 FTS)               | 120226-60-0        | 0.0005 | mg/kg | ----              | <0.0005           | ----              | ----         | ----  | ---- |
| EP231P: PFAS Sums                                         |                    |        |       |                   |                   |                   |              |       |      |
| Sum of PFAS                                               | ----               | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----         | ----  | ---- |
| Sum of PFHxS and PFOS                                     | 355-46-4/1763-23-1 | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----         | ----  | ---- |
| Sum of PFAS (WA DER List)                                 | ----               | 0.0002 | mg/kg | ----              | <0.0002           | ----              | ----         | ----  | ---- |
| EP066S: PCB Surrogate                                     |                    |        |       |                   |                   |                   |              |       |      |
| Decachlorobiphenyl                                        | 2051-24-3          | 0.1    | %     | 93.4              | ----              | ----              | ----         | ----  | ---- |
| EP074S: VOC Surrogates                                    |                    |        |       |                   |                   |                   |              |       |      |
| 1,2-Dichloroethane-D4                                     | 17060-07-0         | 0.5    | %     | 89.0              | ----              | ----              | ----         | ----  | ---- |
| Toluene-D8                                                | 2037-26-5          | 0.5    | %     | 92.0              | ----              | ----              | ----         | ----  | ---- |
| 4-Bromofluorobenzene                                      | 460-00-4           | 0.5    | %     | 80.8              | ----              | ----              | ----         | ----  | ---- |
| EP075(SIM)S: Phenolic Compound Surrogates                 |                    |        |       |                   |                   |                   |              |       |      |
| Phenol-d6                                                 | 13127-88-3         | 0.5    | %     | 81.1              | ----              | ----              | ----         | ----  | ---- |
| 2-Chlorophenol-D4                                         | 93951-73-6         | 0.5    | %     | 87.5              | ----              | ----              | ----         | ----  | ---- |
| 2,4,6-Tribromophenol                                      | 118-79-6           | 0.5    | %     | 63.7              | ----              | ----              | ----         | ----  | ---- |
| EP075(SIM)T: PAH Surrogates                               |                    |        |       |                   |                   |                   |              |       |      |



## Analytical Results

|                                             |            |        |      |                  |                   |                   |                   |       |       |
|---------------------------------------------|------------|--------|------|------------------|-------------------|-------------------|-------------------|-------|-------|
| Sub-Matrix: SOIL<br>(Matrix: SOIL)          |            |        |      | Client sample ID | BH404 / 0.5E      | BH404 / 0.5E      | BH404 / 0.5E      | ----  | ----  |
| Client sampling date / time                 |            |        |      |                  | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | 10-Jul-2019 00:00 | ----  | ----  |
| Compound                                    | CAS Number | LOR    | Unit |                  | ES1924021-032     | ES1924021-033     | ES1924021-034     | ----- | ----- |
|                                             |            |        |      |                  | Result            | Result            | Result            | ----  | ----  |
| EP075(SIM)T: PAH Surrogates - Continued     |            |        |      |                  |                   |                   |                   |       |       |
| 2-Fluorobiphenyl                            | 321-60-8   | 0.5    | %    |                  | 93.5              | ----              | ----              | ----  | ----  |
| Anthracene-d10                              | 1719-06-8  | 0.5    | %    |                  | 96.3              | ----              | ----              | ----  | ----  |
| 4-Terphenyl-d14                             | 1718-51-0  | 0.5    | %    |                  | 98.7              | ----              | ----              | ----  | ----  |
| EP075S: Acid Extractable Surrogates         |            |        |      |                  |                   |                   |                   |       |       |
| 2-Fluorophenol                              | 367-12-4   | 0.5    | %    |                  | 106               | ----              | ----              | ----  | ----  |
| Phenol-d6                                   | 13127-88-3 | 0.5    | %    |                  | 98.7              | ----              | ----              | ----  | ----  |
| 2-Chlorophenol-D4                           | 93951-73-6 | 0.5    | %    |                  | 102               | ----              | ----              | ----  | ----  |
| 2,4,6-Tribromophenol                        | 118-79-6   | 0.5    | %    |                  | 49.7              | ----              | ----              | ----  | ----  |
| EP075T: Base/Neutral Extractable Surrogates |            |        |      |                  |                   |                   |                   |       |       |
| Nitrobenzene-D5                             | 4165-60-0  | 0.5    | %    |                  | 89.5              | ----              | ----              | ----  | ----  |
| 1,2-Dichlorobenzene-D4                      | 2199-69-1  | 0.5    | %    |                  | 99.1              | ----              | ----              | ----  | ----  |
| 2-Fluorobiphenyl                            | 321-60-8   | 0.5    | %    |                  | 121               | ----              | ----              | ----  | ----  |
| Anthracene-d10                              | 1719-06-8  | 0.5    | %    |                  | 91.6              | ----              | ----              | ----  | ----  |
| 4-Terphenyl-d14                             | 1718-51-0  | 0.5    | %    |                  | 116               | ----              | ----              | ----  | ----  |
| EP080S: TPH(V)/BTEX Surrogates              |            |        |      |                  |                   |                   |                   |       |       |
| 1,2-Dichloroethane-D4                       | 17060-07-0 | 0.2    | %    |                  | 88.8              | ----              | ----              | ----  | ----  |
| Toluene-D8                                  | 2037-26-5  | 0.2    | %    |                  | 80.9              | ----              | ----              | ----  | ----  |
| 4-Bromofluorobenzene                        | 460-00-4   | 0.2    | %    |                  | 77.4              | ----              | ----              | ----  | ----  |
| EP231S: PFAS Surrogate                      |            |        |      |                  |                   |                   |                   |       |       |
| 13C4-PFOS                                   | ----       | 0.0002 | %    |                  | ----              | 88.5              | ----              | ----  | ----  |
| 13C8-PFOA                                   | ----       | 0.0002 | %    |                  | ----              | 99.0              | ----              | ----  | ----  |



## Analytical Results

Sub-Matrix: TCLP LEACHATE  
 (Matrix: WATER)

Client sample ID

|                                                       |                   |        |      | BH301 / 0.15E     | BH305 / 0.4E      | BH307 / 0.5E      | ----  | ----  |
|-------------------------------------------------------|-------------------|--------|------|-------------------|-------------------|-------------------|-------|-------|
| Client sampling date / time                           |                   |        |      | 24-Jul-2019 00:00 | 20-Jul-2019 00:00 | 18-Jul-2019 00:00 | ----  | ----  |
| Compound                                              | CAS Number        | LOR    | Unit | ES1924021-001     | ES1924021-011     | ES1924021-020     | ----- | ----- |
|                                                       |                   |        |      | Result            | Result            | Result            | ----  | ----  |
| <b>EG005(ED093)C: Leachable Metals by ICPAES</b>      |                   |        |      |                   |                   |                   |       |       |
| Arsenic                                               | 7440-38-2         | 0.1    | mg/L | <0.1              | <0.1              | <0.1              | ----  | ----  |
| Cadmium                                               | 7440-43-9         | 0.05   | mg/L | <0.05             | <0.05             | <0.05             | ----  | ----  |
| Chromium                                              | 7440-47-3         | 0.1    | mg/L | <0.1              | <0.1              | <0.1              | ----  | ----  |
| Copper                                                | 7440-50-8         | 0.1    | mg/L | 0.7               | <0.1              | <0.1              | ----  | ----  |
| Lead                                                  | 7439-92-1         | 0.1    | mg/L | 2.8               | <0.1              | <0.1              | ----  | ----  |
| Nickel                                                | 7440-02-0         | 0.1    | mg/L | <0.1              | <0.1              | <0.1              | ----  | ----  |
| Zinc                                                  | 7440-66-6         | 0.1    | mg/L | 1.8               | 0.2               | <0.1              | ----  | ----  |
| <b>EG035C: Leachable Mercury by FIMS</b>              |                   |        |      |                   |                   |                   |       |       |
| Mercury                                               | 7439-97-6         | 0.0010 | mg/L | <0.0010           | <0.0010           | <0.0010           | ----  | ----  |
| <b>EP075(SIM)B: Polynuclear Aromatic Hydrocarbons</b> |                   |        |      |                   |                   |                   |       |       |
| Naphthalene                                           | 91-20-3           | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Acenaphthylene                                        | 208-96-8          | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Acenaphthene                                          | 83-32-9           | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Fluorene                                              | 86-73-7           | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Phenanthrene                                          | 85-01-8           | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Anthracene                                            | 120-12-7          | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Fluoranthene                                          | 206-44-0          | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Pyrene                                                | 129-00-0          | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Benz(a)anthracene                                     | 56-55-3           | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Chrysene                                              | 218-01-9          | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Benzo(b+j)fluoranthene                                | 205-99-2 205-82-3 | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Benzo(k)fluoranthene                                  | 207-08-9          | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Benzo(a)pyrene                                        | 50-32-8           | 0.5    | µg/L | <0.5              | <0.5              | <0.5              | ----  | ----  |
| Indeno(1.2.3.cd)pyrene                                | 193-39-5          | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Dibenz(a.h)anthracene                                 | 53-70-3           | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| Benzo(g.h.i)perylene                                  | 191-24-2          | 1.0    | µg/L | <1.0              | <1.0              | <1.0              | ----  | ----  |
| ^ Sum of polycyclic aromatic hydrocarbons             | ----              | 0.5    | µg/L | <0.5              | <0.5              | <0.5              | ----  | ----  |
| ^ Benzo(a)pyrene TEQ (zero)                           | ----              | 0.5    | µg/L | <0.5              | <0.5              | <0.5              | ----  | ----  |
| <b>EP075(SIM)S: Phenolic Compound Surrogates</b>      |                   |        |      |                   |                   |                   |       |       |
| Phenol-d6                                             | 13127-88-3        | 1.0    | %    | 28.0              | 27.6              | 30.2              | ----  | ----  |
| 2-Chlorophenol-D4                                     | 93951-73-6        | 1.0    | %    | 57.2              | 58.6              | 69.4              | ----  | ----  |
| 2,4,6-Tribromophenol                                  | 118-79-6          | 1.0    | %    | 74.6              | 70.7              | 79.1              | ----  | ----  |
| <b>EP075(SIM)T: PAH Surrogates</b>                    |                   |        |      |                   |                   |                   |       |       |
| 2-Fluorobiphenyl                                      | 321-60-8          | 1.0    | %    | 93.0              | 89.1              | 95.8              | ----  | ----  |



## Analytical Results

Sub-Matrix: **TCLP LEACHATE**  
 (Matrix: **WATER**)

Client sample ID

|                                                |            |     |      | BH301 / 0.15E     | BH305 / 0.4E      | BH307 / 0.5E      | ----  | ----  |
|------------------------------------------------|------------|-----|------|-------------------|-------------------|-------------------|-------|-------|
| Client sampling date / time                    |            |     |      | 24-Jul-2019 00:00 | 20-Jul-2019 00:00 | 18-Jul-2019 00:00 | ----  | ----  |
| Compound                                       | CAS Number | LOR | Unit | ES1924021-001     | ES1924021-011     | ES1924021-020     | ----- | ----- |
|                                                |            |     |      | Result            | Result            | Result            | ----  | ----  |
| <b>EP075(SIM)T: PAH Surrogates - Continued</b> |            |     |      |                   |                   |                   |       |       |
| <b>Anthracene-d10</b>                          | 1719-06-8  | 1.0 | %    | <b>92.7</b>       | <b>97.2</b>       | <b>89.4</b>       | ----  | ----  |
| <b>4-Terphenyl-d14</b>                         | 1718-51-0  | 1.0 | %    | <b>92.9</b>       | <b>95.6</b>       | <b>97.6</b>       | ----  | ----  |

## Analytical Results

### Descriptive Results

Sub-Matrix: **SOIL**

| Method: Compound                                                 | Client sample ID - Client sampling date / time | Analytical Results                                                                                                                    |
|------------------------------------------------------------------|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <b>EA200: AS 4964 - 2004 Identification of Asbestos in Soils</b> |                                                |                                                                                                                                       |
| EA200: Description                                               | BH301 / 0.15E - 24-Jul-2019 00:00              | Mid brown soil.                                                                                                                       |
| EA200: Description                                               | BH303 / 0.2E - 15-Jul-2019 00:00               | Mid brown soil.                                                                                                                       |
| EA200: Description                                               | BH304 / 0.7E - 11-Jul-2019 00:00               | Mid brown soil.                                                                                                                       |
| EA200: Description                                               | BH305 / 0.4E - 20-Jul-2019 00:00               | Mid brown soil.                                                                                                                       |
| EA200: Description                                               | BH306 / 0.5E - 09-Jul-2019 00:00               | Mid brown soil containing several fragments of asbestos cement debris approximately 2x2x2mm and several loose asbestos fibre bundles. |
| EA200: Description                                               | BH307 / 0.5E - 18-Jul-2019 00:00               | Mid brown soil.                                                                                                                       |
| EA200: Description                                               | BH403 / 0.2E - 10-Jul-2019 00:00               | Mid brown soil.                                                                                                                       |
| EA200: Description                                               | BH404 / 0.1E - 10-Jul-2019 00:00               | Mid brown soil.                                                                                                                       |
| EA200: Description                                               | BH404 / 0.5E - 10-Jul-2019 00:00               | Mid brown soil.                                                                                                                       |



## Surrogate Control Limits

| Sub-Matrix: SOIL                                   |            | Recovery Limits (%) |      |
|----------------------------------------------------|------------|---------------------|------|
| Compound                                           | CAS Number | Low                 | High |
| <b>EP066S: PCB Surrogate</b>                       |            |                     |      |
| Decachlorobiphenyl                                 | 2051-24-3  | 39                  | 149  |
| <b>EP074S: VOC Surrogates</b>                      |            |                     |      |
| 1,2-Dichloroethane-D4                              | 17060-07-0 | 64                  | 130  |
| Toluene-D8                                         | 2037-26-5  | 66                  | 136  |
| 4-Bromofluorobenzene                               | 460-00-4   | 60                  | 122  |
| <b>EP075(SIM)S: Phenolic Compound Surrogates</b>   |            |                     |      |
| Phenol-d6                                          | 13127-88-3 | 63                  | 123  |
| 2-Chlorophenol-D4                                  | 93951-73-6 | 66                  | 122  |
| 2,4,6-Tribromophenol                               | 118-79-6   | 40                  | 138  |
| <b>EP075(SIM)T: PAH Surrogates</b>                 |            |                     |      |
| 2-Fluorobiphenyl                                   | 321-60-8   | 70                  | 122  |
| Anthracene-d10                                     | 1719-06-8  | 66                  | 128  |
| 4-Terphenyl-d14                                    | 1718-51-0  | 65                  | 129  |
| <b>EP075S: Acid Extractable Surrogates</b>         |            |                     |      |
| 2-Fluorophenol                                     | 367-12-4   | 29                  | 149  |
| Phenol-d6                                          | 13127-88-3 | 32                  | 128  |
| 2-Chlorophenol-D4                                  | 93951-73-6 | 32                  | 128  |
| 2,4,6-Tribromophenol                               | 118-79-6   | 13                  | 121  |
| <b>EP075T: Base/Neutral Extractable Surrogates</b> |            |                     |      |
| Nitrobenzene-D5                                    | 4165-60-0  | 33                  | 125  |
| 1,2-Dichlorobenzene-D4                             | 2199-69-1  | 34                  | 108  |
| 2-Fluorobiphenyl                                   | 321-60-8   | 35                  | 121  |
| Anthracene-d10                                     | 1719-06-8  | 35                  | 123  |
| 4-Terphenyl-d14                                    | 1718-51-0  | 33                  | 125  |
| <b>EP080S: TPH(V)/BTEX Surrogates</b>              |            |                     |      |
| 1,2-Dichloroethane-D4                              | 17060-07-0 | 73                  | 133  |
| Toluene-D8                                         | 2037-26-5  | 74                  | 132  |
| 4-Bromofluorobenzene                               | 460-00-4   | 72                  | 130  |
| <b>EP231S: PFAS Surrogate</b>                      |            |                     |      |
| 13C4-PFOS                                          | ----       | 60                  | 120  |
| 13C8-PFOA                                          | ----       | 60                  | 120  |

| Sub-Matrix: TCLP LEACHATE                        |            | Recovery Limits (%) |      |
|--------------------------------------------------|------------|---------------------|------|
| Compound                                         | CAS Number | Low                 | High |
| <b>EP075(SIM)S: Phenolic Compound Surrogates</b> |            |                     |      |
| Phenol-d6                                        | 13127-88-3 | 10                  | 44   |
| 2-Chlorophenol-D4                                | 93951-73-6 | 14                  | 94   |
| 2,4,6-Tribromophenol                             | 118-79-6   | 17                  | 125  |

Page : 80 of 80  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



| Sub-Matrix: TCLP LEACHATE   |            | Recovery Limits (%) |      |
|-----------------------------|------------|---------------------|------|
| Compound                    | CAS Number | Low                 | High |
| EP075(SIM)T: PAH Surrogates |            |                     |      |
| 2-Fluorobiphenyl            | 321-60-8   | 20                  | 104  |
| Anthracene-d10              | 1719-06-8  | 27                  | 113  |
| 4-Terphenyl-d14             | 1718-51-0  | 32                  | 112  |

## QUALITY CONTROL REPORT

Work Order : **ES1924021**

Page : 1 of 26

Amendment : **(Preliminary Report)**

Client : **GOLDER ASSOCIATES**  
 Contact : **ERIC WON**  
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**ST LEONARDS NSW, AUSTRALIA 2065**

Laboratory : Environmental Division Sydney  
 Contact : Customer Services ES  
 Address : 277-289 Woodpark Road Smithfield NSW Australia 2164

Telephone : ----  
 Project : 19125312  
 Order number : 19125312  
 C-O-C number : ----  
 Sampler : ----  
 Site : ----  
 Quote number : EN/002/18 National BQ  
 No. of samples received : 33  
 No. of samples analysed : 33

Telephone : +61-2-8784 8555  
 Date Samples Received : 31-Jul-2019  
 Date Analysis Commenced : 02-Aug-2019  
 Issue Date : 07-Aug-2019



Accreditation No. 825  
 Accredited for compliance with  
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| Signatories      | Position              | Accreditation Category                   |
|------------------|-----------------------|------------------------------------------|
| Alana Smylie     | Asbestos Identifier   | Newcastle - Asbestos, Mayfield West, NSW |
| Celine Conceicao | Senior Spectroscopist | Sydney Inorganics, Smithfield, NSW       |
| Edwandy Fadjjar  | Organic Coordinator   | Sydney Organics, Smithfield, NSW         |
| Evie Sidarta     | Inorganic Chemist     | Sydney Inorganics, Smithfield, NSW       |
| Franco Lentini   | LCMS Coordinator      | Sydney Organics, Smithfield, NSW         |

### General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot  
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.  
LOR = Limit of reporting  
RPD = Relative Percentage Difference  
# = Indicates failed QC

## Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

| Sub-Matrix: SOIL                                                     |                  |                         |            | Laboratory Duplicate (DUP) Report |       |                 |                  |         |                     |
|----------------------------------------------------------------------|------------------|-------------------------|------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID                                                 | Client sample ID | Method: Compound        | CAS Number | LOR                               | Unit  | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| <b>EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 2504267)</b>      |                  |                         |            |                                   |       |                 |                  |         |                     |
| ES1923655-002                                                        | Anonymous        | EG005T: Cadmium         | 7440-43-9  | 1                                 | mg/kg | <1              | <1               | 0.00    | No Limit            |
|                                                                      |                  | EG005T: Chromium        | 7440-47-3  | 2                                 | mg/kg | 12              | 13               | 0.00    | No Limit            |
|                                                                      |                  | EG005T: Nickel          | 7440-02-0  | 2                                 | mg/kg | <2              | <2               | 0.00    | No Limit            |
|                                                                      |                  | EG005T: Arsenic         | 7440-38-2  | 5                                 | mg/kg | 7               | 6                | 0.00    | No Limit            |
|                                                                      |                  | EG005T: Copper          | 7440-50-8  | 5                                 | mg/kg | 10              | 9                | 0.00    | No Limit            |
|                                                                      |                  | EG005T: Lead            | 7439-92-1  | 5                                 | mg/kg | 15              | 15               | 0.00    | No Limit            |
|                                                                      |                  | EG005T: Zinc            | 7440-66-6  | 5                                 | mg/kg | <5              | <5               | 0.00    | No Limit            |
| ES1924021-024                                                        | BH309 / 0.4E     | EG005T: Cadmium         | 7440-43-9  | 1                                 | mg/kg | <1              | <1               | 0.00    | No Limit            |
|                                                                      |                  | EG005T: Chromium        | 7440-47-3  | 2                                 | mg/kg | 18              | 16               | 11.4    | No Limit            |
|                                                                      |                  | EG005T: Nickel          | 7440-02-0  | 2                                 | mg/kg | 9               | 12               | 21.5    | No Limit            |
|                                                                      |                  | EG005T: Arsenic         | 7440-38-2  | 5                                 | mg/kg | 12              | 12               | 0.00    | No Limit            |
|                                                                      |                  | EG005T: Copper          | 7440-50-8  | 5                                 | mg/kg | 26              | 28               | 10.5    | No Limit            |
|                                                                      |                  | EG005T: Lead            | 7439-92-1  | 5                                 | mg/kg | 15              | 14               | 6.89    | No Limit            |
|                                                                      |                  | EG005T: Zinc            | 7440-66-6  | 5                                 | mg/kg | 36              | 43               | 17.6    | No Limit            |
| <b>EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 2504270)</b> |                  |                         |            |                                   |       |                 |                  |         |                     |
| ES1923655-011                                                        | Anonymous        | EA055: Moisture Content | ----       | 0.1                               | %     | 27.8            | 27.7             | 0.00    | 0% - 20%            |
| ES1924021-032                                                        | BH404 / 0.5E     | EA055: Moisture Content | ----       | 0.1                               | %     | 12.8            | 12.9             | 0.00    | 0% - 50%            |
| <b>EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 2505800)</b> |                  |                         |            |                                   |       |                 |                  |         |                     |
| EM1912116-001                                                        | Anonymous        | EA055: Moisture Content | ----       | 0.1                               | %     | 10.8            | 10.7             | 1.18    | 0% - 20%            |
| ES1924021-012                                                        | BH305 / 0.4E     | EA055: Moisture Content | ----       | 0.1                               | %     | 13.1            | 13.3             | 1.76    | 0% - 20%            |
| <b>EG035T: Total Recoverable Mercury by FIMS (QC Lot: 2504266)</b>   |                  |                         |            |                                   |       |                 |                  |         |                     |
| ES1923655-002                                                        | Anonymous        | EG035T: Mercury         | 7439-97-6  | 0.1                               | mg/kg | <0.1            | <0.1             | 0.00    | No Limit            |
| ES1924021-024                                                        | BH309 / 0.4E     | EG035T: Mercury         | 7439-97-6  | 0.1                               | mg/kg | <0.1            | <0.1             | 0.00    | No Limit            |
| <b>EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 2503659)</b>      |                  |                         |            |                                   |       |                 |                  |         |                     |

(Preliminary Report)

Page : 3 of 26  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



| Sub-Matrix: SOIL                                                     |                  |                                        |            | Laboratory Duplicate (DUP) Report |       |                 |                  |         |                     |
|----------------------------------------------------------------------|------------------|----------------------------------------|------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID                                                 | Client sample ID | Method: Compound                       | CAS Number | LOR                               | Unit  | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 2503659) - continued |                  |                                        |            |                                   |       |                 |                  |         |                     |
| ES1924021-001                                                        | BH301 / 0.15E    | EP066: Total Polychlorinated biphenyls | ----       | 0.1                               | mg/kg | <0.1            | <0.1             | 0.00    | No Limit            |
| ES1924021-032                                                        | BH404 / 0.5E     | EP066: Total Polychlorinated biphenyls | ----       | 0.1                               | mg/kg | <0.1            | <0.1             | 0.00    | No Limit            |
| EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 2503952)           |                  |                                        |            |                                   |       |                 |                  |         |                     |
| ES1924021-001                                                        | BH301 / 0.15E    | EP074: Styrene                         | 100-42-5   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                      |                  | EP074: Isopropylbenzene                | 98-82-8    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                      |                  | EP074: n-Propylbenzene                 | 103-65-1   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                      |                  | EP074: 1.3.5-Trimethylbenzene          | 108-67-8   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                      |                  | EP074: sec-Butylbenzene                | 135-98-8   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                      |                  | EP074: 1.2.4-Trimethylbenzene          | 95-63-6    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                      |                  | EP074: tert-Butylbenzene               | 98-06-6    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                      |                  | EP074: p-Isopropyltoluene              | 99-87-6    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                      |                  | EP074: n-Butylbenzene                  | 104-51-8   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
| ES1924021-024                                                        | BH309 / 0.4E     | EP074: Styrene                         | 100-42-5   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                      |                  | EP074: Isopropylbenzene                | 98-82-8    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                      |                  | EP074: n-Propylbenzene                 | 103-65-1   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                      |                  | EP074: 1.3.5-Trimethylbenzene          | 108-67-8   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                      |                  | EP074: sec-Butylbenzene                | 135-98-8   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                      |                  | EP074: 1.2.4-Trimethylbenzene          | 95-63-6    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                      |                  | EP074: tert-Butylbenzene               | 98-06-6    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                      |                  | EP074: p-Isopropyltoluene              | 99-87-6    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                      |                  | EP074: n-Butylbenzene                  | 104-51-8   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
| EP074B: Oxygenated Compounds (QC Lot: 2503952)                       |                  |                                        |            |                                   |       |                 |                  |         |                     |
| ES1924021-001                                                        | BH301 / 0.15E    | EP074: Vinyl Acetate                   | 108-05-4   | 5                                 | mg/kg | <5              | <5               | 0.00    | No Limit            |
|                                                                      |                  | EP074: 2-Butanone (MEK)                | 78-93-3    | 5                                 | mg/kg | <5              | <5               | 0.00    | No Limit            |
|                                                                      |                  | EP074: 4-Methyl-2-pentanone (MIBK)     | 108-10-1   | 5                                 | mg/kg | <5              | <5               | 0.00    | No Limit            |
|                                                                      |                  | EP074: 2-Hexanone (MBK)                | 591-78-6   | 5                                 | mg/kg | <5              | <5               | 0.00    | No Limit            |
| ES1924021-024                                                        | BH309 / 0.4E     | EP074: Vinyl Acetate                   | 108-05-4   | 5                                 | mg/kg | <5              | <5               | 0.00    | No Limit            |
|                                                                      |                  | EP074: 2-Butanone (MEK)                | 78-93-3    | 5                                 | mg/kg | <5              | <5               | 0.00    | No Limit            |
|                                                                      |                  | EP074: 4-Methyl-2-pentanone (MIBK)     | 108-10-1   | 5                                 | mg/kg | <5              | <5               | 0.00    | No Limit            |
|                                                                      |                  | EP074: 2-Hexanone (MBK)                | 591-78-6   | 5                                 | mg/kg | <5              | <5               | 0.00    | No Limit            |
| EP074C: Sulfonated Compounds (QC Lot: 2503952)                       |                  |                                        |            |                                   |       |                 |                  |         |                     |
| ES1924021-001                                                        | BH301 / 0.15E    | EP074: Carbon disulfide                | 75-15-0    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
| ES1924021-024                                                        | BH309 / 0.4E     | EP074: Carbon disulfide                | 75-15-0    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
| EP074D: Fumigants (QC Lot: 2503952)                                  |                  |                                        |            |                                   |       |                 |                  |         |                     |
| ES1924021-001                                                        | BH301 / 0.15E    | EP074: 2.2-Dichloropropane             | 594-20-7   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                      |                  | EP074: 1.2-Dichloropropane             | 78-87-5    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                      |                  | EP074: cis-1.3-Dichloropropylene       | 10061-01-5 | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                      |                  | EP074: trans-1.3-Dichloropropylene     | 10061-02-6 | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                      |                  | EP074: 1.2-Dibromoethane (EDB)         | 106-93-4   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |

(Preliminary Report)

Page : 4 of 26  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



| Sub-Matrix: SOIL                                          |                  |                                    |            | Laboratory Duplicate (DUP) Report |       |                 |                  |         |                     |
|-----------------------------------------------------------|------------------|------------------------------------|------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID                                      | Client sample ID | Method: Compound                   | CAS Number | LOR                               | Unit  | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP074D: Fumigants (QC Lot: 2503952) - continued           |                  |                                    |            |                                   |       |                 |                  |         |                     |
| ES1924021-024                                             | BH309 / 0.4E     | EP074: 2,2-Dichloropropane         | 594-20-7   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: 1,2-Dichloropropane         | 78-87-5    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: cis-1,3-Dichloropropylene   | 10061-01-5 | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: trans-1,3-Dichloropropylene | 10061-02-6 | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: 1,2-Dibromoethane (EDB)     | 106-93-4   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
| EP074E: Halogenated Aliphatic Compounds (QC Lot: 2503952) |                  |                                    |            |                                   |       |                 |                  |         |                     |
| ES1924021-001                                             | BH301 / 0.15E    | EP074: 1,1-Dichloroethene          | 75-35-4    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: Iodomethane                 | 74-88-4    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: trans-1,2-Dichloroethene    | 156-60-5   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: 1,1-Dichloroethane          | 75-34-3    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: cis-1,2-Dichloroethene      | 156-59-2   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: 1,1,1-Trichloroethane       | 71-55-6    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: 1,1-Dichloropropylene       | 563-58-6   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: Carbon Tetrachloride        | 56-23-5    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: 1,2-Dichloroethane          | 107-06-2   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: Trichloroethene             | 79-01-6    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: Dibromomethane              | 74-95-3    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: 1,1,2-Trichloroethane       | 79-00-5    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: 1,3-Dichloropropane         | 142-28-9   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: Tetrachloroethene           | 127-18-4   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: 1,1,1,2-Tetrachloroethane   | 630-20-6   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: trans-1,4-Dichloro-2-butene | 110-57-6   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: cis-1,4-Dichloro-2-butene   | 1476-11-5  | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: 1,1,2,2-Tetrachloroethane   | 79-34-5    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: 1,2,3-Trichloropropane      | 96-18-4    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: Pentachloroethane           | 76-01-7    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: 1,2-Dibromo-3-chloropropane | 96-12-8    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: Dichlorodifluoromethane     | 75-71-8    | 5                                 | mg/kg | <5              | <5               | 0.00    | No Limit            |
|                                                           |                  | EP074: Chloromethane               | 74-87-3    | 5                                 | mg/kg | <5              | <5               | 0.00    | No Limit            |
|                                                           |                  | EP074: Vinyl chloride              | 75-01-4    | 5                                 | mg/kg | <5              | <5               | 0.00    | No Limit            |
|                                                           |                  | EP074: Bromomethane                | 74-83-9    | 5                                 | mg/kg | <5              | <5               | 0.00    | No Limit            |
|                                                           |                  | EP074: Chloroethane                | 75-00-3    | 5                                 | mg/kg | <5              | <5               | 0.00    | No Limit            |
|                                                           |                  | EP074: Trichlorofluoromethane      | 75-69-4    | 5                                 | mg/kg | <5              | <5               | 0.00    | No Limit            |
| ES1924021-024                                             | BH309 / 0.4E     | EP074: 1,1-Dichloroethene          | 75-35-4    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: Iodomethane                 | 74-88-4    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: trans-1,2-Dichloroethene    | 156-60-5   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: 1,1-Dichloroethane          | 75-34-3    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: cis-1,2-Dichloroethene      | 156-59-2   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: 1,1,1-Trichloroethane       | 71-55-6    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                           |                  | EP074: 1,1-Dichloropropylene       | 563-58-6   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |

(Preliminary Report)

Page : 5 of 26  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



| Sub-Matrix: SOIL                                                      |                  |                                    |            | Laboratory Duplicate (DUP) Report |       |                 |                  |         |                     |
|-----------------------------------------------------------------------|------------------|------------------------------------|------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID                                                  | Client sample ID | Method: Compound                   | CAS Number | LOR                               | Unit  | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP074E: Halogenated Aliphatic Compounds (QC Lot: 2503952) - continued |                  |                                    |            |                                   |       |                 |                  |         |                     |
| ES1924021-024                                                         | BH309 / 0.4E     | EP074: Carbon Tetrachloride        | 56-23-5    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: 1,2-Dichloroethane          | 107-06-2   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: Trichloroethene             | 79-01-6    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: Dibromomethane              | 74-95-3    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: 1,1,2-Trichloroethane       | 79-00-5    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: 1,3-Dichloropropane         | 142-28-9   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: Tetrachloroethene           | 127-18-4   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: 1,1,1,2-Tetrachloroethane   | 630-20-6   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: trans-1,4-Dichloro-2-butene | 110-57-6   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: cis-1,4-Dichloro-2-butene   | 1476-11-5  | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: 1,1,2,2-Tetrachloroethane   | 79-34-5    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: 1,2,3-Trichloropropane      | 96-18-4    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: Pentachloroethane           | 76-01-7    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: 1,2-Dibromo-3-chloropropane | 96-12-8    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: Dichlorodifluoromethane     | 75-71-8    | 5                                 | mg/kg | <5              | <5               | 0.00    | No Limit            |
|                                                                       |                  | EP074: Chloromethane               | 74-87-3    | 5                                 | mg/kg | <5              | <5               | 0.00    | No Limit            |
|                                                                       |                  | EP074: Vinyl chloride              | 75-01-4    | 5                                 | mg/kg | <5              | <5               | 0.00    | No Limit            |
|                                                                       |                  | EP074: Bromomethane                | 74-83-9    | 5                                 | mg/kg | <5              | <5               | 0.00    | No Limit            |
|                                                                       |                  | EP074: Chloroethane                | 75-00-3    | 5                                 | mg/kg | <5              | <5               | 0.00    | No Limit            |
|                                                                       |                  | EP074: Trichlorofluoromethane      | 75-69-4    | 5                                 | mg/kg | <5              | <5               | 0.00    | No Limit            |
| EP074F: Halogenated Aromatic Compounds (QC Lot: 2503952)              |                  |                                    |            |                                   |       |                 |                  |         |                     |
| ES1924021-001                                                         | BH301 / 0.15E    | EP074: Chlorobenzene               | 108-90-7   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: Bromobenzene                | 108-86-1   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: 2-Chlorotoluene             | 95-49-8    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: 4-Chlorotoluene             | 106-43-4   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: 1,2,3-Trichlorobenzene      | 87-61-6    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
| ES1924021-024                                                         | BH309 / 0.4E     | EP074: Chlorobenzene               | 108-90-7   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: Bromobenzene                | 108-86-1   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: 2-Chlorotoluene             | 95-49-8    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: 4-Chlorotoluene             | 106-43-4   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: 1,2,3-Trichlorobenzene      | 87-61-6    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
| EP074G: Trihalomethanes (QC Lot: 2503952)                             |                  |                                    |            |                                   |       |                 |                  |         |                     |
| ES1924021-001                                                         | BH301 / 0.15E    | EP074: Chloroform                  | 67-66-3    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: Bromodichloromethane        | 75-27-4    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: Dibromochloromethane        | 124-48-1   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: Bromoform                   | 75-25-2    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
| ES1924021-024                                                         | BH309 / 0.4E     | EP074: Chloroform                  | 67-66-3    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: Bromodichloromethane        | 75-27-4    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: Dibromochloromethane        | 124-48-1   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                       |                  | EP074: Bromoform                   | 75-25-2    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |

(Preliminary Report)

Page : 6 of 26  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



| Sub-Matrix: SOIL                                                 |                  |                                                     |            | Laboratory Duplicate (DUP) Report |       |                 |                  |         |                     |
|------------------------------------------------------------------|------------------|-----------------------------------------------------|------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID                                             | Client sample ID | Method: Compound                                    | CAS Number | LOR                               | Unit  | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2503658) |                  |                                                     |            |                                   |       |                 |                  |         |                     |
| ES1924021-001                                                    | BH301 / 0.15E    | EP075(SIM): Naphthalene                             | 91-20-3    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Acenaphthylene                          | 208-96-8   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Acenaphthene                            | 83-32-9    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Fluorene                                | 86-73-7    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Phenanthrene                            | 85-01-8    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Anthracene                              | 120-12-7   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Fluoranthene                            | 206-44-0   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Pyrene                                  | 129-00-0   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Benz(a)anthracene                       | 56-55-3    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Chrysene                                | 218-01-9   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Benzo(b+j)fluoranthene                  | 205-99-2   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  |                                                     | 205-82-3   |                                   |       |                 |                  |         |                     |
|                                                                  |                  | EP075(SIM): Benzo(k)fluoranthene                    | 207-08-9   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Benzo(a)pyrene                          | 50-32-8    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Indeno(1.2.3.cd)pyrene                  | 193-39-5   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Dibenz(a,h)anthracene                   | 53-70-3    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Benzo(g,h,i)perylene                    | 191-24-2   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Sum of polycyclic aromatic hydrocarbons | ----       | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Benzo(a)pyrene TEQ (zero)               | ----       | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
| ES1924021-032                                                    | BH404 / 0.5E     | EP075(SIM): Naphthalene                             | 91-20-3    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Acenaphthylene                          | 208-96-8   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Acenaphthene                            | 83-32-9    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Fluorene                                | 86-73-7    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Phenanthrene                            | 85-01-8    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Anthracene                              | 120-12-7   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Fluoranthene                            | 206-44-0   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Pyrene                                  | 129-00-0   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Benz(a)anthracene                       | 56-55-3    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Chrysene                                | 218-01-9   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Benzo(b+j)fluoranthene                  | 205-99-2   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  |                                                     | 205-82-3   |                                   |       |                 |                  |         |                     |
|                                                                  |                  | EP075(SIM): Benzo(k)fluoranthene                    | 207-08-9   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Benzo(a)pyrene                          | 50-32-8    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Indeno(1.2.3.cd)pyrene                  | 193-39-5   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Dibenz(a,h)anthracene                   | 53-70-3    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Benzo(g,h,i)perylene                    | 191-24-2   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Sum of polycyclic aromatic hydrocarbons | ----       | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075(SIM): Benzo(a)pyrene TEQ (zero)               | ----       | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |

(Preliminary Report)

Page : 7 of 26  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



| Sub-Matrix: SOIL                                            |                  |                                       |            | Laboratory Duplicate (DUP) Report |       |                 |                  |         |                     |
|-------------------------------------------------------------|------------------|---------------------------------------|------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID                                        | Client sample ID | Method: Compound                      | CAS Number | LOR                               | Unit  | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP075A: Phenolic Compounds (QC Lot: 2503656)                |                  |                                       |            |                                   |       |                 |                  |         |                     |
| ES1924021-001                                               | BH301 / 0.15E    | EP075: Phenol                         | 108-95-2   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: 2-Chlorophenol                 | 95-57-8    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: 2-Methylphenol                 | 95-48-7    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: 3- & 4-Methylphenol            | 1319-77-3  | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: 2-Nitrophenol                  | 88-75-5    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: 2,4-Dimethylphenol             | 105-67-9   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: 2,4-Dichlorophenol             | 120-83-2   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: 2,6-Dichlorophenol             | 87-65-0    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: 4-Chloro-3-methylphenol        | 59-50-7    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: 2,4,6-Trichlorophenol          | 88-06-2    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: 2,4,5-Trichlorophenol          | 95-95-4    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: Pentachlorophenol              | 87-86-5    | 1                                 | mg/kg | <1              | <1               | 0.00    | No Limit            |
| ES1924021-032                                               | BH404 / 0.5E     | EP075: Phenol                         | 108-95-2   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: 2-Chlorophenol                 | 95-57-8    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: 2-Methylphenol                 | 95-48-7    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: 3- & 4-Methylphenol            | 1319-77-3  | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: 2-Nitrophenol                  | 88-75-5    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: 2,4-Dimethylphenol             | 105-67-9   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: 2,4-Dichlorophenol             | 120-83-2   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: 2,6-Dichlorophenol             | 87-65-0    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: 4-Chloro-3-methylphenol        | 59-50-7    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: 2,4,6-Trichlorophenol          | 88-06-2    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: 2,4,5-Trichlorophenol          | 95-95-4    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: Pentachlorophenol              | 87-86-5    | 1                                 | mg/kg | <1              | <1               | 0.00    | No Limit            |
| EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2503656) |                  |                                       |            |                                   |       |                 |                  |         |                     |
| ES1924021-001                                               | BH301 / 0.15E    | EP075: 2-Methylnaphthalene            | 91-57-6    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: N-2-Fluorenyl Acetamide        | 53-96-3    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: 7,12-Dimethylbenz(a)anthracene | 57-97-6    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: 3-Methylcholanthrene           | 56-49-5    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
| ES1924021-032                                               | BH404 / 0.5E     | EP075: 2-Methylnaphthalene            | 91-57-6    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: N-2-Fluorenyl Acetamide        | 53-96-3    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: 7,12-Dimethylbenz(a)anthracene | 57-97-6    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: 3-Methylcholanthrene           | 56-49-5    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
| EP075C: Phthalate Esters (QC Lot: 2503656)                  |                  |                                       |            |                                   |       |                 |                  |         |                     |
| ES1924021-001                                               | BH301 / 0.15E    | EP075: Dimethyl phthalate             | 131-11-3   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: Diethyl phthalate              | 84-66-2    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: Di-n-butyl phthalate           | 84-74-2    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: Butyl benzyl phthalate         | 85-68-7    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                             |                  | EP075: Di-n-octylphthalate            | 117-84-0   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
| ES1924021-032                                               | BH404 / 0.5E     | EP075: Dimethyl phthalate             | 131-11-3   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |

(Preliminary Report)

Page : 8 of 26  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



| Sub-Matrix: SOIL                                       |                  |                                          |                     | Laboratory Duplicate (DUP) Report |       |                 |                  |         |                     |
|--------------------------------------------------------|------------------|------------------------------------------|---------------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID                                   | Client sample ID | Method: Compound                         | CAS Number          | LOR                               | Unit  | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP075C: Phthalate Esters (QC Lot: 2503656) - continued |                  |                                          |                     |                                   |       |                 |                  |         |                     |
| ES1924021-032                                          | BH404 / 0.5E     | EP075: Diethyl phthalate                 | 84-66-2             | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: Di-n-butyl phthalate              | 84-74-2             | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: Butyl benzyl phthalate            | 85-68-7             | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: Di-n-octylphthalate               | 117-84-0            | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
| EP075D: Nitrosamines (QC Lot: 2503656)                 |                  |                                          |                     |                                   |       |                 |                  |         |                     |
| ES1924021-001                                          | BH301 / 0.15E    | EP075: N-Nitrosomethylethylamine         | 10595-95-6          | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: N-Nitrosodiethylamine             | 55-18-5             | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: N-Nitrosopyrrolidine              | 930-55-2            | 0.5                               | mg/kg | <1.0            | <1.0             | 0.00    | No Limit            |
|                                                        |                  | EP075: N-Nitrosomorpholine               | 59-89-2             | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: N-Nitrosodi-n-propylamine         | 621-64-7            | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: N-Nitrosopiperidine               | 100-75-4            | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: N-Nitrosodibutylamine             | 924-16-3            | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: N-Nitrosodiphenyl & Diphenylamine | 86-30-6<br>122-39-4 | 0.5                               | mg/kg | <1.0            | <1.0             | 0.00    | No Limit            |
|                                                        |                  | EP075: Methapyrilene                     | 91-80-5             | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
| ES1924021-032                                          | BH404 / 0.5E     | EP075: N-Nitrosomethylethylamine         | 10595-95-6          | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: N-Nitrosodiethylamine             | 55-18-5             | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: N-Nitrosopyrrolidine              | 930-55-2            | 0.5                               | mg/kg | <1.0            | <1.0             | 0.00    | No Limit            |
|                                                        |                  | EP075: N-Nitrosomorpholine               | 59-89-2             | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: N-Nitrosodi-n-propylamine         | 621-64-7            | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: N-Nitrosopiperidine               | 100-75-4            | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: N-Nitrosodibutylamine             | 924-16-3            | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: N-Nitrosodiphenyl & Diphenylamine | 86-30-6<br>122-39-4 | 0.5                               | mg/kg | <1.0            | <1.0             | 0.00    | No Limit            |
|                                                        |                  | EP075: Methapyrilene                     | 91-80-5             | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
| EP075E: Nitroaromatics and Ketones (QC Lot: 2503656)   |                  |                                          |                     |                                   |       |                 |                  |         |                     |
| ES1924021-001                                          | BH301 / 0.15E    | EP075: 2-Picoline                        | 109-06-8            | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: Acetophenone                      | 98-86-2             | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: Nitrobenzene                      | 98-95-3             | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: Isophorone                        | 78-59-1             | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: 2,6-Dinitrotoluene                | 606-20-2            | 0.5                               | mg/kg | <1.0            | <1.0             | 0.00    | No Limit            |
|                                                        |                  | EP075: 2,4-Dinitrotoluene                | 121-14-2            | 0.5                               | mg/kg | <1.0            | <1.0             | 0.00    | No Limit            |
|                                                        |                  | EP075: 1-Naphthylamine                   | 134-32-7            | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: 4-Nitroquinoline-N-oxide          | 56-57-5             | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: 5-Nitro-o-toluidine               | 99-55-8             | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: 1,3,5-Trinitrobenzene             | 99-35-4             | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: Phenacetin                        | 62-44-2             | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: 4-Aminobiphenyl                   | 92-67-1             | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: Pentachloronitrobenzene           | 82-68-8             | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                        |                  | EP075: Pronamide                         | 23950-58-5          | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |

(Preliminary Report)

Page : 9 of 26  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



| Sub-Matrix: SOIL                                                 |                  |                                      |            | Laboratory Duplicate (DUP) Report |       |                 |                  |         |                     |
|------------------------------------------------------------------|------------------|--------------------------------------|------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID                                             | Client sample ID | Method: Compound                     | CAS Number | LOR                               | Unit  | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP075E: Nitroaromatics and Ketones (QC Lot: 2503656) - continued |                  |                                      |            |                                   |       |                 |                  |         |                     |
| ES1924021-001                                                    | BH301 / 0.15E    | EP075: Dimethylaminoazobenzene       | 60-11-7    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: Chlorobenzilate               | 510-15-6   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: Azobenzene                    | 103-33-3   | 1                                 | mg/kg | <1              | <1               | 0.00    | No Limit            |
| ES1924021-032                                                    | BH404 / 0.5E     | EP075: 2-Picoline                    | 109-06-8   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: Acetophenone                  | 98-86-2    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: Nitrobenzene                  | 98-95-3    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: Isophorone                    | 78-59-1    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: 2,6-Dinitrotoluene            | 606-20-2   | 0.5                               | mg/kg | <1.0            | <1.0             | 0.00    | No Limit            |
|                                                                  |                  | EP075: 2,4-Dinitrotoluene            | 121-14-2   | 0.5                               | mg/kg | <1.0            | <1.0             | 0.00    | No Limit            |
|                                                                  |                  | EP075: 1-Naphthylamine               | 134-32-7   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: 4-Nitroquinoline-N-oxide      | 56-57-5    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: 5-Nitro-o-toluidine           | 99-55-8    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: 1,3,5-Trinitrobenzene         | 99-35-4    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: Phenacetin                    | 62-44-2    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: 4-Aminobiphenyl               | 92-67-1    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: Pentachloronitrobenzene       | 82-68-8    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: Pronamide                     | 23950-58-5 | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: Dimethylaminoazobenzene       | 60-11-7    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: Chlorobenzilate               | 510-15-6   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: Azobenzene                    | 103-33-3   | 1                                 | mg/kg | <1              | <1               | 0.00    | No Limit            |
|                                                                  |                  | EP075F: Haloethers (QC Lot: 2503656) |            |                                   |       |                 |                  |         |                     |
| ES1924021-001                                                    | BH301 / 0.15E    | EP075: Bis(2-chloroethyl) ether      | 111-44-4   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: Bis(2-chloroethoxy) methane   | 111-91-1   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: 4-Chlorophenyl phenyl ether   | 7005-72-3  | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: 4-Bromophenyl phenyl ether    | 101-55-3   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
| ES1924021-032                                                    | BH404 / 0.5E     | EP075: Bis(2-chloroethyl) ether      | 111-44-4   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: Bis(2-chloroethoxy) methane   | 111-91-1   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: 4-Chlorophenyl phenyl ether   | 7005-72-3  | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: 4-Bromophenyl phenyl ether    | 101-55-3   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
| EP075G: Chlorinated Hydrocarbons (QC Lot: 2503656)               |                  |                                      |            |                                   |       |                 |                  |         |                     |
| ES1924021-001                                                    | BH301 / 0.15E    | EP075: 1,3-Dichlorobenzene           | 541-73-1   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: 1,4-Dichlorobenzene           | 106-46-7   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: 1,2-Dichlorobenzene           | 95-50-1    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: Hexachloroethane              | 67-72-1    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: 1,2,4-Trichlorobenzene        | 120-82-1   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: Hexachloropropylene           | 1888-71-7  | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: Hexachlorobutadiene           | 87-68-3    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: Pentachlorobenzene            | 608-93-5   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                  |                  | EP075: Hexachlorobenzene (HCB)       | 118-74-1   | 0.5                               | mg/kg | <1.0            | <1.0             | 0.00    | No Limit            |
| EP075: Hexachlorocyclopentadiene                                 | 77-47-4          | 2.5                                  | mg/kg      | <2.5                              | <2.5  | 0.00            | No Limit         |         |                     |

(Preliminary Report)

Page : 10 of 26  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



| Sub-Matrix: SOIL                                               |                  |                                |            | Laboratory Duplicate (DUP) Report |       |                 |                  |         |                     |
|----------------------------------------------------------------|------------------|--------------------------------|------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID                                           | Client sample ID | Method: Compound               | CAS Number | LOR                               | Unit  | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP075G: Chlorinated Hydrocarbons (QC Lot: 2503656) - continued |                  |                                |            |                                   |       |                 |                  |         |                     |
| ES1924021-032                                                  | BH404 / 0.5E     | EP075: 1,3-Dichlorobenzene     | 541-73-1   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: 1,4-Dichlorobenzene     | 106-46-7   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: 1,2-Dichlorobenzene     | 95-50-1    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: Hexachloroethane        | 67-72-1    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: 1,2,4-Trichlorobenzene  | 120-82-1   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: Hexachloropropylene     | 1888-71-7  | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: Hexachlorobutadiene     | 87-68-3    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: Pentachlorobenzene      | 608-93-5   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: Hexachlorobenzene (HCB) | 118-74-1   | 0.5                               | mg/kg | <1.0            | <1.0             | 0.00    | No Limit            |
| EP075: Hexachlorocyclopentadiene                               | 77-47-4          | 2.5                            | mg/kg      | <2.5                              | <2.5  | 0.00            | No Limit         |         |                     |
| EP075H: Anilines and Benzidines (QC Lot: 2503656)              |                  |                                |            |                                   |       |                 |                  |         |                     |
| ES1924021-001                                                  | BH301 / 0.15E    | EP075: Aniline                 | 62-53-3    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: 4-Chloroaniline         | 106-47-8   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: 2-Nitroaniline          | 88-74-4    | 0.5                               | mg/kg | <1.0            | <1.0             | 0.00    | No Limit            |
|                                                                |                  | EP075: 3-Nitroaniline          | 99-09-2    | 0.5                               | mg/kg | <1.0            | <1.0             | 0.00    | No Limit            |
|                                                                |                  | EP075: Dibenzofuran            | 132-64-9   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: 4-Nitroaniline          | 100-01-6   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: Carbazole               | 86-74-8    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: 3,3`-Dichlorobenzidine  | 91-94-1    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
| ES1924021-032                                                  | BH404 / 0.5E     | EP075: Aniline                 | 62-53-3    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: 4-Chloroaniline         | 106-47-8   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: 2-Nitroaniline          | 88-74-4    | 0.5                               | mg/kg | <1.0            | <1.0             | 0.00    | No Limit            |
|                                                                |                  | EP075: 3-Nitroaniline          | 99-09-2    | 0.5                               | mg/kg | <1.0            | <1.0             | 0.00    | No Limit            |
|                                                                |                  | EP075: Dibenzofuran            | 132-64-9   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: 4-Nitroaniline          | 100-01-6   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: Carbazole               | 86-74-8    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: 3,3`-Dichlorobenzidine  | 91-94-1    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
| EP075I: Organochlorine Pesticides (QC Lot: 2503656)            |                  |                                |            |                                   |       |                 |                  |         |                     |
| ES1924021-001                                                  | BH301 / 0.15E    | EP075: alpha-BHC               | 319-84-6   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: beta-BHC                | 319-85-7   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: gamma-BHC               | 58-89-9    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: delta-BHC               | 319-86-8   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: Heptachlor              | 76-44-8    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: Aldrin                  | 309-00-2   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: Heptachlor epoxide      | 1024-57-3  | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: alpha-Endosulfan        | 959-98-8   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: 4,4`-DDE                | 72-55-9    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: Dieldrin                | 60-57-1    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: Endrin                  | 72-20-8    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                |                  | EP075: beta-Endosulfan         | 33213-65-9 | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |

(Preliminary Report)

Page : 11 of 26  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



| Sub-Matrix: SOIL                                                |                  |                            |              | Laboratory Duplicate (DUP) Report |         |                 |                  |         |                     |
|-----------------------------------------------------------------|------------------|----------------------------|--------------|-----------------------------------|---------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID                                            | Client sample ID | Method: Compound           | CAS Number   | LOR                               | Unit    | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP075I: Organochlorine Pesticides (QC Lot: 2503656) - continued |                  |                            |              |                                   |         |                 |                  |         |                     |
| ES1924021-001                                                   | BH301 / 0.15E    | EP075: 4,4`-DDD            | 72-54-8      | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: Endosulfan sulfate  | 1031-07-8    | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: 4,4`-DDT            | 50-29-3      | 0.5                               | mg/kg   | <1.0            | <1.0             | 0.00    | No Limit            |
| ES1924021-032                                                   | BH404 / 0.5E     | EP075: alpha-BHC           | 319-84-6     | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: beta-BHC            | 319-85-7     | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: gamma-BHC           | 58-89-9      | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: delta-BHC           | 319-86-8     | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: Heptachlor          | 76-44-8      | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: Aldrin              | 309-00-2     | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: Heptachlor epoxide  | 1024-57-3    | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: alpha-Endosulfan    | 959-98-8     | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: 4,4`-DDE            | 72-55-9      | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: Dieldrin            | 60-57-1      | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: Endrin              | 72-20-8      | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: beta-Endosulfan     | 33213-65-9   | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: 4,4`-DDD            | 72-54-8      | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: Endosulfan sulfate  | 1031-07-8    | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: 4,4`-DDT            | 50-29-3      | 0.5                               | mg/kg   | <1.0            | <1.0             | 0.00    | No Limit            |
| EP075J: Organophosphorus Pesticides (QC Lot: 2503656)           |                  |                            |              |                                   |         |                 |                  |         |                     |
| ES1924021-001                                                   | BH301 / 0.15E    | EP075: Dichlorvos          | 62-73-7      | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: Dimethoate          | 60-51-5      | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: Diazinon            | 333-41-5     | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: Chlorpyrifos-methyl | 5598-13-0    | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: Malathion           | 121-75-5     | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: Fenthion            | 55-38-9      | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: Chlorpyrifos        | 2921-88-2    | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: Pirimphos-ethyl     | 23505-41-1   | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: Chlorfenvinphos     | 470-90-6     | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: Prothiofos          | 34643-46-4   | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | EP075: Ethion              | 563-12-2     | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                 |                  | ES1924021-032              | BH404 / 0.5E | EP075: Dichlorvos                 | 62-73-7 | 0.5             | mg/kg            | <0.5    | <0.5                |
| EP075: Dimethoate                                               | 60-51-5          |                            |              | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
| EP075: Diazinon                                                 | 333-41-5         |                            |              | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
| EP075: Chlorpyrifos-methyl                                      | 5598-13-0        |                            |              | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
| EP075: Malathion                                                | 121-75-5         |                            |              | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
| EP075: Fenthion                                                 | 55-38-9          |                            |              | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
| EP075: Chlorpyrifos                                             | 2921-88-2        |                            |              | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
| EP075: Pirimphos-ethyl                                          | 23505-41-1       |                            |              | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
| EP075: Chlorfenvinphos                                          | 470-90-6         |                            |              | 0.5                               | mg/kg   | <0.5            | <0.5             | 0.00    | No Limit            |
| EP075: Prothiofos                                               | 34643-46-4       | 0.5                        | mg/kg        | <0.5                              | <0.5    | 0.00            | No Limit         |         |                     |

(Preliminary Report)

Page : 12 of 26  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



| Sub-Matrix: SOIL                                                                  |                  |                                                |            | Laboratory Duplicate (DUP) Report |       |                 |                  |         |                     |
|-----------------------------------------------------------------------------------|------------------|------------------------------------------------|------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID                                                              | Client sample ID | Method: Compound                               | CAS Number | LOR                               | Unit  | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP075J: Organophosphorus Pesticides (QC Lot: 2503656) - continued                 |                  |                                                |            |                                   |       |                 |                  |         |                     |
| ES1924021-032                                                                     | BH404 / 0.5E     | EP075: Ethion                                  | 563-12-2   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
| EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2503657)                         |                  |                                                |            |                                   |       |                 |                  |         |                     |
| ES1924021-001                                                                     | BH301 / 0.15E    | EP071: C15 - C28 Fraction                      | ----       | 100                               | mg/kg | <100            | <100             | 0.00    | No Limit            |
|                                                                                   |                  | EP071: C29 - C36 Fraction                      | ----       | 100                               | mg/kg | <100            | <100             | 0.00    | No Limit            |
|                                                                                   |                  | EP071: C10 - C14 Fraction                      | ----       | 50                                | mg/kg | <50             | <50              | 0.00    | No Limit            |
| ES1924021-032                                                                     | BH404 / 0.5E     | EP071: C15 - C28 Fraction                      | ----       | 100                               | mg/kg | <100            | <100             | 0.00    | No Limit            |
|                                                                                   |                  | EP071: C29 - C36 Fraction                      | ----       | 100                               | mg/kg | <100            | <100             | 0.00    | No Limit            |
|                                                                                   |                  | EP071: C10 - C14 Fraction                      | ----       | 50                                | mg/kg | <50             | <50              | 0.00    | No Limit            |
| EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2503951)                         |                  |                                                |            |                                   |       |                 |                  |         |                     |
| ES1924021-001                                                                     | BH301 / 0.15E    | EP080: C6 - C9 Fraction                        | ----       | 10                                | mg/kg | <10             | <10              | 0.00    | No Limit            |
| ES1924021-024                                                                     | BH309 / 0.4E     | EP080: C6 - C9 Fraction                        | ----       | 10                                | mg/kg | <10             | <10              | 0.00    | No Limit            |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2503657) |                  |                                                |            |                                   |       |                 |                  |         |                     |
| ES1924021-001                                                                     | BH301 / 0.15E    | EP071: >C16 - C34 Fraction                     | ----       | 100                               | mg/kg | <100            | <100             | 0.00    | No Limit            |
|                                                                                   |                  | EP071: >C34 - C40 Fraction                     | ----       | 100                               | mg/kg | <100            | <100             | 0.00    | No Limit            |
|                                                                                   |                  | EP071: >C10 - C16 Fraction                     | ----       | 50                                | mg/kg | <50             | <50              | 0.00    | No Limit            |
| ES1924021-032                                                                     | BH404 / 0.5E     | EP071: >C16 - C34 Fraction                     | ----       | 100                               | mg/kg | <100            | <100             | 0.00    | No Limit            |
|                                                                                   |                  | EP071: >C34 - C40 Fraction                     | ----       | 100                               | mg/kg | <100            | <100             | 0.00    | No Limit            |
|                                                                                   |                  | EP071: >C10 - C16 Fraction                     | ----       | 50                                | mg/kg | <50             | <50              | 0.00    | No Limit            |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2503951) |                  |                                                |            |                                   |       |                 |                  |         |                     |
| ES1924021-001                                                                     | BH301 / 0.15E    | EP080: C6 - C10 Fraction                       | C6_C10     | 10                                | mg/kg | <10             | <10              | 0.00    | No Limit            |
| ES1924021-024                                                                     | BH309 / 0.4E     | EP080: C6 - C10 Fraction                       | C6_C10     | 10                                | mg/kg | <10             | <10              | 0.00    | No Limit            |
| EP080: BTEXN (QC Lot: 2503951)                                                    |                  |                                                |            |                                   |       |                 |                  |         |                     |
| ES1924021-001                                                                     | BH301 / 0.15E    | EP080: Benzene                                 | 71-43-2    | 0.2                               | mg/kg | <0.2            | <0.2             | 0.00    | No Limit            |
|                                                                                   |                  | EP080: Toluene                                 | 108-88-3   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                                   |                  | EP080: Ethylbenzene                            | 100-41-4   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                                   |                  | EP080: meta- & para-Xylene                     | 108-38-3   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                                   |                  |                                                | 106-42-3   |                                   |       |                 |                  |         |                     |
|                                                                                   |                  | EP080: ortho-Xylene                            | 95-47-6    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
| ES1924021-024                                                                     | BH309 / 0.4E     | EP080: Naphthalene                             | 91-20-3    | 1                                 | mg/kg | <1              | <1               | 0.00    | No Limit            |
|                                                                                   |                  | EP080: Benzene                                 | 71-43-2    | 0.2                               | mg/kg | <0.2            | <0.2             | 0.00    | No Limit            |
|                                                                                   |                  | EP080: Toluene                                 | 108-88-3   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                                   |                  | EP080: Ethylbenzene                            | 100-41-4   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                                   |                  | EP080: meta- & para-Xylene                     | 108-38-3   | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                                   |                  |                                                | 106-42-3   |                                   |       |                 |                  |         |                     |
|                                                                                   |                  | EP080: ortho-Xylene                            | 95-47-6    | 0.5                               | mg/kg | <0.5            | <0.5             | 0.00    | No Limit            |
|                                                                                   |                  | EP080: Naphthalene                             | 91-20-3    | 1                                 | mg/kg | <1              | <1               | 0.00    | No Limit            |
| EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 2504604)                           |                  |                                                |            |                                   |       |                 |                  |         |                     |
| ES1924021-012                                                                     | BH305 / 0.4E     | EP231X: Perfluorobutane sulfonic acid (PFBS)   | 375-73-5   | 0.0002                            | mg/kg | <0.0002         | <0.0002          | 0.00    | No Limit            |
|                                                                                   |                  | EP231X: Perfluoropentane sulfonic acid (PFPeS) | 2706-91-4  | 0.0002                            | mg/kg | <0.0002         | <0.0002          | 0.00    | No Limit            |

(Preliminary Report)

Page : 13 of 26  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



| Sub-Matrix: SOIL                                                    |                  |                                                                   |            | Laboratory Duplicate (DUP) Report       |           |                 |                  |         |                     |
|---------------------------------------------------------------------|------------------|-------------------------------------------------------------------|------------|-----------------------------------------|-----------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID                                                | Client sample ID | Method: Compound                                                  | CAS Number | LOR                                     | Unit      | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 2504604) - continued |                  |                                                                   |            |                                         |           |                 |                  |         |                     |
| ES1924021-012                                                       | BH305 / 0.4E     | EP231X: Perfluorohexane sulfonic acid (PFHxS)                     | 355-46-4   | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluoroheptane sulfonic acid (PFHpS)                    | 375-92-8   | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluorooctane sulfonic acid (PFOS)                      | 1763-23-1  | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluorodecane sulfonic acid (PFDS)                      | 335-77-3   | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
| ES1924360-006                                                       | Anonymous        | EP231X: Perfluorobutane sulfonic acid (PFBS)                      | 375-73-5   | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluoropentane sulfonic acid (PFPeS)                    | 2706-91-4  | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluorohexane sulfonic acid (PFHxS)                     | 355-46-4   | 0.0002                                  | mg/kg     | 0.0004          | 0.0004           | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluoroheptane sulfonic acid (PFHpS)                    | 375-92-8   | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluorooctane sulfonic acid (PFOS)                      | 1763-23-1  | 0.0002                                  | mg/kg     | 0.0015          | 0.0012           | 19.9    | No Limit            |
|                                                                     |                  | EP231X: Perfluorodecane sulfonic acid (PFDS)                      | 335-77-3   | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
|                                                                     |                  | EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 2504604)         |            |                                         |           |                 |                  |         |                     |
| ES1924021-012                                                       | BH305 / 0.4E     | EP231X: Perfluoropentanoic acid (PFPeA)                           | 2706-90-3  | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluorohexanoic acid (PFHxA)                            | 307-24-4   | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluoroheptanoic acid (PFHpA)                           | 375-85-9   | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluorooctanoic acid (PFOA)                             | 335-67-1   | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluorononanoic acid (PFNA)                             | 375-95-1   | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluorodecanoic acid (PFDA)                             | 335-76-2   | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluoroundecanoic acid (PFUnDA)                         | 2058-94-8  | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluorododecanoic acid (PFDODA)                         | 307-55-1   | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluorotridecanoic acid (PFTrDA)                        | 72629-94-8 | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluorotetradecanoic acid (PFTeDA)                      | 376-06-7   | 0.0005                                  | mg/kg     | <0.0005         | <0.0005          | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluorobutanoic acid (PFBA)                             | 375-22-4   | 0.001                                   | mg/kg     | <0.001          | <0.001           | 0.00    | No Limit            |
|                                                                     |                  | ES1924360-006                                                     | Anonymous  | EP231X: Perfluoropentanoic acid (PFPeA) | 2706-90-3 | 0.0002          | mg/kg            | <0.0002 | <0.0002             |
| EP231X: Perfluorohexanoic acid (PFHxA)                              | 307-24-4         |                                                                   |            | 0.0002                                  | mg/kg     | 0.0002          | 0.0002           | 0.00    | No Limit            |
| EP231X: Perfluoroheptanoic acid (PFHpA)                             | 375-85-9         |                                                                   |            | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
| EP231X: Perfluorooctanoic acid (PFOA)                               | 335-67-1         |                                                                   |            | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
| EP231X: Perfluorononanoic acid (PFNA)                               | 375-95-1         |                                                                   |            | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
| EP231X: Perfluorodecanoic acid (PFDA)                               | 335-76-2         |                                                                   |            | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
| EP231X: Perfluoroundecanoic acid (PFUnDA)                           | 2058-94-8        |                                                                   |            | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
| EP231X: Perfluorododecanoic acid (PFDODA)                           | 307-55-1         |                                                                   |            | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
| EP231X: Perfluorotridecanoic acid (PFTrDA)                          | 72629-94-8       |                                                                   |            | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
| EP231X: Perfluorotetradecanoic acid (PFTeDA)                        | 376-06-7         |                                                                   |            | 0.0005                                  | mg/kg     | <0.0005         | <0.0005          | 0.00    | No Limit            |
| EP231X: Perfluorobutanoic acid (PFBA)                               | 375-22-4         |                                                                   |            | 0.001                                   | mg/kg     | <0.001          | <0.001           | 0.00    | No Limit            |
| EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 2504604)               |                  |                                                                   |            |                                         |           |                 |                  |         |                     |
| ES1924021-012                                                       | BH305 / 0.4E     | EP231X: Perfluorooctane sulfonamide (FOSA)                        | 754-91-6   | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
|                                                                     |                  | EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA) | 2355-31-9  | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |
|                                                                     |                  | EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)  | 2991-50-6  | 0.0002                                  | mg/kg     | <0.0002         | <0.0002          | 0.00    | No Limit            |

Sub-Matrix: SOIL

| Sub-Matrix: SOIL                                                  |                  |                                                                   |             | Laboratory Duplicate (DUP) Report |       |                 |                  |         |                     |
|-------------------------------------------------------------------|------------------|-------------------------------------------------------------------|-------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID                                              | Client sample ID | Method: Compound                                                  | CAS Number  | LOR                               | Unit  | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 2504604) - continued |                  |                                                                   |             |                                   |       |                 |                  |         |                     |
| ES1924021-012                                                     | BH305 / 0.4E     | EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)             | 31506-32-8  | 0.0005                            | mg/kg | <0.0005         | <0.0005          | 0.00    | No Limit            |
|                                                                   |                  | EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)              | 4151-50-2   | 0.0005                            | mg/kg | <0.0005         | <0.0005          | 0.00    | No Limit            |
|                                                                   |                  | EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)      | 24448-09-7  | 0.0005                            | mg/kg | <0.0005         | <0.0005          | 0.00    | No Limit            |
|                                                                   |                  | EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)       | 1691-99-2   | 0.0005                            | mg/kg | <0.0005         | <0.0005          | 0.00    | No Limit            |
| ES1924360-006                                                     | Anonymous        | EP231X: Perfluorooctane sulfonamide (FOSA)                        | 754-91-6    | 0.0002                            | mg/kg | <0.0002         | <0.0002          | 0.00    | No Limit            |
|                                                                   |                  | EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA) | 2355-31-9   | 0.0002                            | mg/kg | <0.0002         | <0.0002          | 0.00    | No Limit            |
|                                                                   |                  | EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)  | 2991-50-6   | 0.0002                            | mg/kg | <0.0002         | <0.0002          | 0.00    | No Limit            |
|                                                                   |                  | EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)             | 31506-32-8  | 0.0005                            | mg/kg | <0.0005         | <0.0005          | 0.00    | No Limit            |
|                                                                   |                  | EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)              | 4151-50-2   | 0.0005                            | mg/kg | <0.0005         | <0.0005          | 0.00    | No Limit            |
|                                                                   |                  | EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)      | 24448-09-7  | 0.0005                            | mg/kg | <0.0005         | <0.0005          | 0.00    | No Limit            |
|                                                                   |                  | EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)       | 1691-99-2   | 0.0005                            | mg/kg | <0.0005         | <0.0005          | 0.00    | No Limit            |
| EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 2504604)      |                  |                                                                   |             |                                   |       |                 |                  |         |                     |
| ES1924021-012                                                     | BH305 / 0.4E     | EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)                 | 757124-72-4 | 0.0005                            | mg/kg | <0.0005         | <0.0005          | 0.00    | No Limit            |
|                                                                   |                  | EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)                 | 27619-97-2  | 0.0005                            | mg/kg | <0.0005         | <0.0005          | 0.00    | No Limit            |
|                                                                   |                  | EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)                 | 39108-34-4  | 0.0005                            | mg/kg | <0.0005         | <0.0005          | 0.00    | No Limit            |
|                                                                   |                  | EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)               | 120226-60-0 | 0.0005                            | mg/kg | <0.0005         | <0.0005          | 0.00    | No Limit            |
| ES1924360-006                                                     | Anonymous        | EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)                 | 757124-72-4 | 0.0005                            | mg/kg | <0.0005         | <0.0005          | 0.00    | No Limit            |
|                                                                   |                  | EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)                 | 27619-97-2  | 0.0005                            | mg/kg | <0.0005         | <0.0005          | 0.00    | No Limit            |
|                                                                   |                  | EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)                 | 39108-34-4  | 0.0005                            | mg/kg | <0.0005         | <0.0005          | 0.00    | No Limit            |
|                                                                   |                  | EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)               | 120226-60-0 | 0.0005                            | mg/kg | <0.0005         | <0.0005          | 0.00    | No Limit            |
| Sub-Matrix: WATER                                                 |                  |                                                                   |             | Laboratory Duplicate (DUP) Report |       |                 |                  |         |                     |
| Laboratory sample ID                                              | Client sample ID | Method: Compound                                                  | CAS Number  | LOR                               | Unit  | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EG005(ED093)C: Leachable Metals by ICPAES (QC Lot: 2509309)       |                  |                                                                   |             |                                   |       |                 |                  |         |                     |

(Preliminary Report)

Page : 15 of 26  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Sub-Matrix: **WATER**

| Sub-Matrix: WATER                                                       |                  |                  |            | Laboratory Duplicate (DUP) Report |      |                 |                  |         |                     |
|-------------------------------------------------------------------------|------------------|------------------|------------|-----------------------------------|------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID                                                    | Client sample ID | Method: Compound | CAS Number | LOR                               | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EG005(ED093)C: Leachable Metals by ICPAES (QC Lot: 2509309) - continued |                  |                  |            |                                   |      |                 |                  |         |                     |
| ES1917798-014                                                           | Anonymous        | EG005C: Cadmium  | 7440-43-9  | 0.05                              | mg/L | <0.05           | <0.05            | 0.00    | No Limit            |
|                                                                         |                  | EG005C: Arsenic  | 7440-38-2  | 0.1                               | mg/L | <0.1            | <0.1             | 0.00    | No Limit            |
|                                                                         |                  | EG005C: Chromium | 7440-47-3  | 0.1                               | mg/L | <0.1            | <0.1             | 0.00    | No Limit            |
|                                                                         |                  | EG005C: Copper   | 7440-50-8  | 0.1                               | mg/L | 2.0             | 2.1              | 0.00    | 0% - 20%            |
|                                                                         |                  | EG005C: Lead     | 7439-92-1  | 0.1                               | mg/L | 2.5             | 2.6              | 0.00    | 0% - 20%            |
|                                                                         |                  | EG005C: Nickel   | 7440-02-0  | 0.1                               | mg/L | <0.1            | <0.1             | 0.00    | No Limit            |
|                                                                         |                  | EG005C: Zinc     | 7440-66-6  | 0.1                               | mg/L | 0.2             | 0.2              | 0.00    | No Limit            |
| ES1924275-003                                                           | Anonymous        | EG005C: Cadmium  | 7440-43-9  | 0.05                              | mg/L | <0.05           | <0.05            | 0.00    | No Limit            |
|                                                                         |                  | EG005C: Arsenic  | 7440-38-2  | 0.1                               | mg/L | <0.1            | <0.1             | 0.00    | No Limit            |
|                                                                         |                  | EG005C: Chromium | 7440-47-3  | 0.1                               | mg/L | <0.1            | <0.1             | 0.00    | No Limit            |
|                                                                         |                  | EG005C: Copper   | 7440-50-8  | 0.1                               | mg/L | <0.1            | <0.1             | 0.00    | No Limit            |
|                                                                         |                  | EG005C: Lead     | 7439-92-1  | 0.1                               | mg/L | <0.1            | <0.1             | 0.00    | No Limit            |
|                                                                         |                  | EG005C: Nickel   | 7440-02-0  | 0.1                               | mg/L | <0.1            | <0.1             | 0.00    | No Limit            |
|                                                                         |                  | EG005C: Zinc     | 7440-66-6  | 0.1                               | mg/L | 0.1             | 0.1              | 0.00    | No Limit            |
| EG035C: Leachable Mercury by FIMS (QC Lot: 2508869)                     |                  |                  |            |                                   |      |                 |                  |         |                     |
| ES1924021-001                                                           | BH301 / 0.15E    | EG035C: Mercury  | 7439-97-6  | 0.0001                            | mg/L | <0.0010         | <0.0010          | 0.00    | No Limit            |

| Sub-Matrix: SOIL                                           |            |     |         | Method Blank (MB) Report | Laboratory Control Spike (LCS) Report |                    |                     |      |
|------------------------------------------------------------|------------|-----|---------|--------------------------|---------------------------------------|--------------------|---------------------|------|
|                                                            |            |     |         |                          | Spike Concentration                   | Spike Recovery (%) | Recovery Limits (%) |      |
| Method: Compound                                           | CAS Number | LOR | Unit    | Result                   |                                       | LCS                | Low                 | High |
| EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2504267)    |            |     |         |                          |                                       |                    |                     |      |
| EG005T: Arsenic                                            | 7440-38-2  | 5   | mg/kg   | <5                       | 21.7 mg/kg                            | 108                | 86                  | 126  |
| EG005T: Cadmium                                            | 7440-43-9  | 1   | mg/kg   | <1                       | 4.64 mg/kg                            | 105                | 83                  | 113  |
| EG005T: Chromium                                           | 7440-47-3  | 2   | mg/kg   | <2                       | 43.9 mg/kg                            | 93.3               | 76                  | 128  |
| EG005T: Copper                                             | 7440-50-8  | 5   | mg/kg   | <5                       | 32 mg/kg                              | 110                | 86                  | 120  |
| EG005T: Lead                                               | 7439-92-1  | 5   | mg/kg   | <5                       | 40 mg/kg                              | 103                | 80                  | 114  |
| EG005T: Nickel                                             | 7440-02-0  | 2   | mg/kg   | <2                       | 55 mg/kg                              | 103                | 87                  | 123  |
| EG005T: Zinc                                               | 7440-66-6  | 5   | mg/kg   | <5                       | 60.8 mg/kg                            | 104                | 80                  | 122  |
| EG035T: Total Recoverable Mercury by FIMS (QCLot: 2504266) |            |     |         |                          |                                       |                    |                     |      |
| EG035T: Mercury                                            | 7439-97-6  | 0.1 | mg/kg   | <0.1                     | 2.57 mg/kg                            | 82.7               | 70                  | 105  |
| EN33: TCLP Leach (QCLot: 2506576)                          |            |     |         |                          |                                       |                    |                     |      |
| EN33a: Initial pH                                          | ----       | 0.1 | pH Unit | 1.0                      | ----                                  | ----               | ----                | ---- |
| EN33a: After HCl pH                                        | ----       | 0.1 | pH Unit | 1.0                      | ----                                  | ----               | ----                | ---- |
| EN33a: Final pH                                            | ----       | 0.1 | pH Unit | 1.0                      | ----                                  | ----               | ----                | ---- |
| EP066: Polychlorinated Biphenyls (PCB) (QCLot: 2503659)    |            |     |         |                          |                                       |                    |                     |      |
| EP066: Total Polychlorinated biphenyls                     | ----       | 0.1 | mg/kg   | <0.1                     | 1 mg/kg                               | 108                | 62                  | 126  |
| EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 2503952)  |            |     |         |                          |                                       |                    |                     |      |
| EP074: Styrene                                             | 100-42-5   | 0.5 | mg/kg   | <0.5                     | 1 mg/kg                               | 77.4               | 67                  | 113  |
| EP074: Isopropylbenzene                                    | 98-82-8    | 0.5 | mg/kg   | <0.5                     | 1 mg/kg                               | 96.0               | 65                  | 117  |
| EP074: n-Propylbenzene                                     | 103-65-1   | 0.5 | mg/kg   | <0.5                     | 1 mg/kg                               | 85.8               | 66                  | 122  |
| EP074: 1.3.5-Trimethylbenzene                              | 108-67-8   | 0.5 | mg/kg   | <0.5                     | 1 mg/kg                               | 92.0               | 68                  | 118  |
| EP074: sec-Butylbenzene                                    | 135-98-8   | 0.5 | mg/kg   | <0.5                     | 1 mg/kg                               | 93.7               | 69                  | 119  |
| EP074: 1.2.4-Trimethylbenzene                              | 95-63-6    | 0.5 | mg/kg   | <0.5                     | 1 mg/kg                               | 91.8               | 69                  | 117  |
| EP074: tert-Butylbenzene                                   | 98-06-6    | 0.5 | mg/kg   | <0.5                     | 1 mg/kg                               | 90.4               | 69                  | 115  |
| EP074: p-Isopropyltoluene                                  | 99-87-6    | 0.5 | mg/kg   | <0.5                     | 1 mg/kg                               | 93.1               | 66                  | 118  |
| EP074: n-Butylbenzene                                      | 104-51-8   | 0.5 | mg/kg   | <0.5                     | 1 mg/kg                               | 89.0               | 59                  | 125  |
| EP074B: Oxygenated Compounds (QCLot: 2503952)              |            |     |         |                          |                                       |                    |                     |      |
| EP074: Vinyl Acetate                                       | 108-05-4   | 5   | mg/kg   | <5                       | 10 mg/kg                              | 69.4               | 30                  | 156  |
| EP074: 2-Butanone (MEK)                                    | 78-93-3    | 5   | mg/kg   | <5                       | 10 mg/kg                              | 92.9               | 58                  | 136  |
| EP074: 4-Methyl-2-pentanone (MIBK)                         | 108-10-1   | 5   | mg/kg   | <5                       | 10 mg/kg                              | 87.5               | 62                  | 132  |
| EP074: 2-Hexanone (MBK)                                    | 591-78-6   | 5   | mg/kg   | <5                       | 10 mg/kg                              | 85.8               | 54                  | 136  |
| EP074C: Sulfonated Compounds (QCLot: 2503952)              |            |     |         |                          |                                       |                    |                     |      |
| EP074: Carbon disulfide                                    | 75-15-0    | 0.5 | mg/kg   | <0.5                     | 1 mg/kg                               | 73.9               | 54                  | 126  |
| EP074D: Fumigants (QCLot: 2503952)                         |            |     |         |                          |                                       |                    |                     |      |

(Preliminary Report)

Page : 17 of 26  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Sub-Matrix: SOIL

| Method Blank (MB) Report                                 |            |     |       | Laboratory Control Spike (LCS) Report |                    |      |                     |     |
|----------------------------------------------------------|------------|-----|-------|---------------------------------------|--------------------|------|---------------------|-----|
|                                                          |            |     |       | Spike Concentration                   | Spike Recovery (%) |      | Recovery Limits (%) |     |
|                                                          |            |     |       |                                       | LCS                | Low  | High                |     |
| Method: Compound                                         | CAS Number | LOR | Unit  | Result                                |                    |      |                     |     |
| EP074D: Fumigants (QCLot: 2503952) - continued           |            |     |       |                                       |                    |      |                     |     |
| EP074: 2,2-Dichloropropane                               | 594-20-7   | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 80.9 | 60                  | 126 |
| EP074: 1,2-Dichloropropane                               | 78-87-5    | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 88.5 | 68                  | 124 |
| EP074: cis-1,3-Dichloropropylene                         | 10061-01-5 | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 73.7 | 51                  | 119 |
| EP074: trans-1,3-Dichloropropylene                       | 10061-02-6 | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 73.6 | 52                  | 114 |
| EP074: 1,2-Dibromoethane (EDB)                           | 106-93-4   | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 98.7 | 63                  | 115 |
| EP074E: Halogenated Aliphatic Compounds (QCLot: 2503952) |            |     |       |                                       |                    |      |                     |     |
| EP074: Dichlorodifluoromethane                           | 75-71-8    | 5   | mg/kg | <5                                    | 10 mg/kg           | 92.6 | 30                  | 148 |
| EP074: Chloromethane                                     | 74-87-3    | 5   | mg/kg | <5                                    | 10 mg/kg           | 79.1 | 41                  | 141 |
| EP074: Vinyl chloride                                    | 75-01-4    | 5   | mg/kg | <5                                    | 10 mg/kg           | 99.7 | 43                  | 147 |
| EP074: Bromomethane                                      | 74-83-9    | 5   | mg/kg | <5                                    | 10 mg/kg           | 101  | 47                  | 141 |
| EP074: Chloroethane                                      | 75-00-3    | 5   | mg/kg | <5                                    | 10 mg/kg           | 103  | 49                  | 143 |
| EP074: Trichlorofluoromethane                            | 75-69-4    | 5   | mg/kg | <5                                    | 10 mg/kg           | 103  | 49                  | 135 |
| EP074: 1,1-Dichloroethene                                | 75-35-4    | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 90.4 | 54                  | 126 |
| EP074: Iodomethane                                       | 74-88-4    | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 75.9 | 43                  | 129 |
| EP074: trans-1,2-Dichloroethene                          | 156-60-5   | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 80.9 | 64                  | 120 |
| EP074: 1,1-Dichloroethane                                | 75-34-3    | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 89.3 | 67                  | 125 |
| EP074: cis-1,2-Dichloroethene                            | 156-59-2   | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 90.2 | 69                  | 121 |
| EP074: 1,1,1-Trichloroethane                             | 71-55-6    | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 81.6 | 65                  | 117 |
| EP074: 1,1-Dichloropropylene                             | 563-58-6   | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 84.0 | 65                  | 123 |
| EP074: Carbon Tetrachloride                              | 56-23-5    | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 77.6 | 59                  | 125 |
| EP074: 1,2-Dichloroethane                                | 107-06-2   | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 88.9 | 65                  | 125 |
| EP074: Trichloroethene                                   | 79-01-6    | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 89.8 | 70                  | 118 |
| EP074: Dibromomethane                                    | 74-95-3    | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 92.5 | 68                  | 118 |
| EP074: 1,1,2-Trichloroethane                             | 79-00-5    | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 105  | 64                  | 126 |
| EP074: 1,3-Dichloropropane                               | 142-28-9   | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 102  | 68                  | 122 |
| EP074: Tetrachloroethene                                 | 127-18-4   | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 105  | 67                  | 143 |
| EP074: 1,1,1,2-Tetrachloroethane                         | 630-20-6   | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 94.6 | 62                  | 122 |
| EP074: trans-1,4-Dichloro-2-butene                       | 110-57-6   | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 86.7 | 54                  | 128 |
| EP074: cis-1,4-Dichloro-2-butene                         | 1476-11-5  | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 82.9 | 55                  | 129 |
| EP074: 1,1,2,2-Tetrachloroethane                         | 79-34-5    | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 98.6 | 65                  | 121 |
| EP074: 1,2,3-Trichloropropane                            | 96-18-4    | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 100  | 61                  | 125 |
| EP074: Pentachloroethane                                 | 76-01-7    | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 88.3 | 20                  | 134 |
| EP074: 1,2-Dibromo-3-chloropropane                       | 96-12-8    | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 86.3 | 53                  | 129 |
| EP074F: Halogenated Aromatic Compounds (QCLot: 2503952)  |            |     |       |                                       |                    |      |                     |     |
| EP074: Chlorobenzene                                     | 108-90-7   | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 102  | 68                  | 116 |
| EP074: Bromobenzene                                      | 108-86-1   | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 95.2 | 70                  | 114 |
| EP074: 2-Chlorotoluene                                   | 95-49-8    | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 89.7 | 68                  | 122 |
| EP074: 4-Chlorotoluene                                   | 106-43-4   | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 88.7 | 67                  | 123 |
| EP074: 1,2,3-Trichlorobenzene                            | 87-61-6    | 0.5 | mg/kg | <0.5                                  | 1 mg/kg            | 103  | 52                  | 122 |

(Preliminary Report)

Page : 18 of 26  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



| Sub-Matrix: SOIL                                                |            |     |       | Method Blank (MB)<br>Report | Laboratory Control Spike (LCS) Report |                    |                     |      |
|-----------------------------------------------------------------|------------|-----|-------|-----------------------------|---------------------------------------|--------------------|---------------------|------|
|                                                                 |            |     |       |                             | Spike<br>Concentration                | Spike Recovery (%) | Recovery Limits (%) |      |
|                                                                 |            |     |       |                             |                                       | LCS                | Low                 | High |
| Method: Compound                                                | CAS Number | LOR | Unit  | Result                      |                                       |                    |                     |      |
| EP074G: Trihalomethanes (QCLot: 2503952)                        |            |     |       |                             |                                       |                    |                     |      |
| EP074: Chloroform                                               | 67-66-3    | 0.5 | mg/kg | <0.5                        | 1 mg/kg                               | 87.5               | 66                  | 124  |
| EP074: Bromodichloromethane                                     | 75-27-4    | 0.5 | mg/kg | <0.5                        | 1 mg/kg                               | 79.3               | 61                  | 121  |
| EP074: Dibromochloromethane                                     | 124-48-1   | 0.5 | mg/kg | <0.5                        | 1 mg/kg                               | 89.8               | 63                  | 121  |
| EP074: Bromoform                                                | 75-25-2    | 0.5 | mg/kg | <0.5                        | 1 mg/kg                               | 87.5               | 60                  | 126  |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2503658) |            |     |       |                             |                                       |                    |                     |      |
| EP075(SIM): Naphthalene                                         | 91-20-3    | 0.5 | mg/kg | <0.5                        | 6 mg/kg                               | 107                | 77                  | 125  |
| EP075(SIM): Acenaphthylene                                      | 208-96-8   | 0.5 | mg/kg | <0.5                        | 6 mg/kg                               | 105                | 72                  | 124  |
| EP075(SIM): Acenaphthene                                        | 83-32-9    | 0.5 | mg/kg | <0.5                        | 6 mg/kg                               | 107                | 73                  | 127  |
| EP075(SIM): Fluorene                                            | 86-73-7    | 0.5 | mg/kg | <0.5                        | 6 mg/kg                               | 104                | 72                  | 126  |
| EP075(SIM): Phenanthrene                                        | 85-01-8    | 0.5 | mg/kg | <0.5                        | 6 mg/kg                               | 107                | 75                  | 127  |
| EP075(SIM): Anthracene                                          | 120-12-7   | 0.5 | mg/kg | <0.5                        | 6 mg/kg                               | 93.4               | 77                  | 127  |
| EP075(SIM): Fluoranthene                                        | 206-44-0   | 0.5 | mg/kg | <0.5                        | 6 mg/kg                               | 112                | 73                  | 127  |
| EP075(SIM): Pyrene                                              | 129-00-0   | 0.5 | mg/kg | <0.5                        | 6 mg/kg                               | 109                | 74                  | 128  |
| EP075(SIM): Benz(a)anthracene                                   | 56-55-3    | 0.5 | mg/kg | <0.5                        | 6 mg/kg                               | 92.8               | 69                  | 123  |
| EP075(SIM): Chrysene                                            | 218-01-9   | 0.5 | mg/kg | <0.5                        | 6 mg/kg                               | 98.9               | 75                  | 127  |
| EP075(SIM): Benzo(b+j)fluoranthene                              | 205-99-2   | 0.5 | mg/kg | <0.5                        | 6 mg/kg                               | 88.5               | 68                  | 116  |
|                                                                 | 205-82-3   |     |       |                             |                                       |                    |                     |      |
| EP075(SIM): Benzo(k)fluoranthene                                | 207-08-9   | 0.5 | mg/kg | <0.5                        | 6 mg/kg                               | 98.6               | 74                  | 126  |
| EP075(SIM): Benzo(a)pyrene                                      | 50-32-8    | 0.5 | mg/kg | <0.5                        | 6 mg/kg                               | 99.1               | 70                  | 126  |
| EP075(SIM): Indeno(1.2.3.cd)pyrene                              | 193-39-5   | 0.5 | mg/kg | <0.5                        | 6 mg/kg                               | 96.0               | 61                  | 121  |
| EP075(SIM): Dibenz(a,h)anthracene                               | 53-70-3    | 0.5 | mg/kg | <0.5                        | 6 mg/kg                               | 92.7               | 62                  | 118  |
| EP075(SIM): Benzo(g,h,i)perylene                                | 191-24-2   | 0.5 | mg/kg | <0.5                        | 6 mg/kg                               | 92.1               | 63                  | 121  |
| EP075A: Phenolic Compounds (QCLot: 2503656)                     |            |     |       |                             |                                       |                    |                     |      |
| EP075: Phenol                                                   | 108-95-2   | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 104                | 64                  | 114  |
| EP075: 2-Chlorophenol                                           | 95-57-8    | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 91.6               | 57                  | 115  |
| EP075: 2-Methylphenol                                           | 95-48-7    | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 87.7               | 55                  | 117  |
| EP075: 3- & 4-Methylphenol                                      | 1319-77-3  | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 76.6               | 46                  | 122  |
| EP075: 2-Nitrophenol                                            | 88-75-5    | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 80.9               | 47                  | 117  |
| EP075: 2,4-Dimethylphenol                                       | 105-67-9   | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 88.2               | 14                  | 108  |
| EP075: 2,4-Dichlorophenol                                       | 120-83-2   | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 86.0               | 47                  | 105  |
| EP075: 2,6-Dichlorophenol                                       | 87-65-0    | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 94.4               | 48                  | 110  |
| EP075: 4-Chloro-3-methylphenol                                  | 59-50-7    | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 99.4               | 57                  | 113  |
| EP075: 2,4,6-Trichlorophenol                                    | 88-06-2    | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 90.8               | 49                  | 109  |
| EP075: 2,4,5-Trichlorophenol                                    | 95-95-4    | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 91.0               | 49                  | 107  |
| EP075: Pentachlorophenol                                        | 87-86-5    | 1   | mg/kg | <1                          | 3 mg/kg                               | 23.4               | 12                  | 76   |
| EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 2503656)      |            |     |       |                             |                                       |                    |                     |      |
| EP075: 2-Methylnaphthalene                                      | 91-57-6    | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 102                | 58                  | 116  |
| EP075: N-2-Fluorenyl Acetamide                                  | 53-96-3    | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 90.1               | 58                  | 114  |

(Preliminary Report)

Page : 19 of 26  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



| Sub-Matrix: SOIL                                                       |                     |      |       | Method Blank (MB)<br>Report | Laboratory Control Spike (LCS) Report |                    |                     |      |
|------------------------------------------------------------------------|---------------------|------|-------|-----------------------------|---------------------------------------|--------------------|---------------------|------|
|                                                                        |                     |      |       |                             | Spike<br>Concentration                | Spike Recovery (%) | Recovery Limits (%) |      |
|                                                                        |                     |      |       |                             |                                       | LCS                | Low                 | High |
| Method: Compound                                                       | CAS Number          | LOR  | Unit  | Result                      |                                       |                    |                     |      |
| EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 2503656) - continued |                     |      |       |                             |                                       |                    |                     |      |
| EP075: 7.12-Dimethylbenz(a)anthracene                                  | 57-97-6             | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 100                | 48                  | 106  |
| EP075: 3-Methylcholanthrene                                            | 56-49-5             | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 87.8               | 50                  | 116  |
| EP075C: Phthalate Esters (QCLot: 2503656)                              |                     |      |       |                             |                                       |                    |                     |      |
| EP075: Dimethyl phthalate                                              | 131-11-3            | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 111                | 60                  | 118  |
| EP075: Diethyl phthalate                                               | 84-66-2             | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 88.4               | 65                  | 115  |
| EP075: Di-n-butyl phthalate                                            | 84-74-2             | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 87.4               | 65                  | 121  |
| EP075: Butyl benzyl phthalate                                          | 85-68-7             | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 90.5               | 62                  | 116  |
| EP075: bis(2-ethylhexyl) phthalate                                     | 117-81-7            | ---- | mg/kg | ----                        | 1.5 mg/kg                             | 82.5               | 69                  | 133  |
| EP075: Di-n-octylphthalate                                             | 117-84-0            | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 81.9               | 62                  | 124  |
| EP075D: Nitrosamines (QCLot: 2503656)                                  |                     |      |       |                             |                                       |                    |                     |      |
| EP075: N-Nitrosomethylethylamine                                       | 10595-95-6          | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 63.6               | 39                  | 124  |
| EP075: N-Nitrosodiethylamine                                           | 55-18-5             | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 82.2               | 59                  | 117  |
| EP075: N-Nitrosopyrrolidine                                            | 930-55-2            | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 78.9               | 53                  | 125  |
| EP075: N-Nitrosomorpholine                                             | 59-89-2             | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 85.9               | 65                  | 121  |
| EP075: N-Nitrosodi-n-propylamine                                       | 621-64-7            | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 81.1               | 59                  | 123  |
| EP075: N-Nitrosopiperidine                                             | 100-75-4            | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 75.4               | 57                  | 115  |
| EP075: N-Nitrosodibutylamine                                           | 924-16-3            | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 94.2               | 57                  | 119  |
| EP075: N-Nitrosodiphenyl & Diphenylamine                               | 86-30-6<br>122-39-4 | 0.5  | mg/kg | <0.6                        | 3 mg/kg                               | 94.2               | 42                  | 112  |
| EP075: Methapyrilene                                                   | 91-80-5             | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 62.4               | 16                  | 123  |
| EP075E: Nitroaromatics and Ketones (QCLot: 2503656)                    |                     |      |       |                             |                                       |                    |                     |      |
| EP075: 2-Picoline                                                      | 109-06-8            | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 51.6               | 27                  | 129  |
| EP075: Acetophenone                                                    | 98-86-2             | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 80.7               | 60                  | 116  |
| EP075: Nitrobenzene                                                    | 98-95-3             | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 99.4               | 65                  | 119  |
| EP075: Isophorone                                                      | 78-59-1             | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 84.1               | 62                  | 116  |
| EP075: 2,6-Dinitrotoluene                                              | 606-20-2            | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 107                | 58                  | 118  |
| EP075: 2,4-Dinitrotoluene                                              | 121-14-2            | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 98.1               | 59                  | 115  |
| EP075: 1-Naphthylamine                                                 | 134-32-7            | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 53.8               | 18                  | 112  |
| EP075: 4-Nitroquinoline-N-oxide                                        | 56-57-5             | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 74.5               | 10                  | 87   |
| EP075: 5-Nitro-o-toluidine                                             | 99-55-8             | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 77.4               | 48                  | 99   |
| EP075: Azobenzene                                                      | 103-33-3            | 1    | mg/kg | <1                          | 1.5 mg/kg                             | 85.6               | 62                  | 118  |
| EP075: 1,3,5-Trinitrobenzene                                           | 99-35-4             | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 79.3               | 36                  | 114  |
| EP075: Phenacetin                                                      | 62-44-2             | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 95.7               | 62                  | 114  |
| EP075: 4-Aminobiphenyl                                                 | 92-67-1             | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 56.2               | 36                  | 102  |
| EP075: Pentachloronitrobenzene                                         | 82-68-8             | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 97.8               | 56                  | 110  |
| EP075: Pronamide                                                       | 23950-58-5          | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 96.8               | 54                  | 110  |
| EP075: Dimethylaminoazobenzene                                         | 60-11-7             | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 93.7               | 48                  | 108  |
| EP075: Chlorobenzilate                                                 | 510-15-6            | 0.5  | mg/kg | <0.5                        | 1.5 mg/kg                             | 101                | 57                  | 112  |

(Preliminary Report)

Page : 20 of 26  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



| Sub-Matrix: SOIL                                   |            |     |       | Method Blank (MB)<br>Report | Laboratory Control Spike (LCS) Report |                    |                     |      |
|----------------------------------------------------|------------|-----|-------|-----------------------------|---------------------------------------|--------------------|---------------------|------|
|                                                    |            |     |       |                             | Spike<br>Concentration                | Spike Recovery (%) | Recovery Limits (%) |      |
|                                                    |            |     |       |                             |                                       | LCS                | Low                 | High |
| Method: Compound                                   | CAS Number | LOR | Unit  | Result                      |                                       |                    |                     |      |
| EP075F: Haloethers (QCLot: 2503656)                |            |     |       |                             |                                       |                    |                     |      |
| EP075: Bis(2-chloroethyl) ether                    | 111-44-4   | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 92.7               | 63                  | 121  |
| EP075: Bis(2-chloroethoxy) methane                 | 111-91-1   | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 83.0               | 59                  | 115  |
| EP075: 4-Chlorophenyl phenyl ether                 | 7005-72-3  | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 98.7               | 58                  | 112  |
| EP075: 4-Bromophenyl phenyl ether                  | 101-55-3   | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 108                | 58                  | 110  |
| EP075G: Chlorinated Hydrocarbons (QCLot: 2503656)  |            |     |       |                             |                                       |                    |                     |      |
| EP075: 1,3-Dichlorobenzene                         | 541-73-1   | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 92.0               | 58                  | 112  |
| EP075: 1,4-Dichlorobenzene                         | 106-46-7   | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 88.3               | 58                  | 116  |
| EP075: 1,2-Dichlorobenzene                         | 95-50-1    | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 96.6               | 57                  | 115  |
| EP075: Hexachloroethane                            | 67-72-1    | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 93.4               | 54                  | 116  |
| EP075: 1,2,4-Trichlorobenzene                      | 120-82-1   | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 104                | 63                  | 108  |
| EP075: Hexachloropropylene                         | 1888-71-7  | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | # 114              | 39                  | 110  |
| EP075: Hexachlorobutadiene                         | 87-68-3    | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | # 118              | 59                  | 117  |
| EP075: Hexachlorocyclopentadiene                   | 77-47-4    | 2.5 | mg/kg | <2.5                        | 1.5 mg/kg                             | 60.6               | 24                  | 108  |
| EP075: Pentachlorobenzene                          | 608-93-5   | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 107                | 57                  | 109  |
| EP075: Hexachlorobenzene (HCB)                     | 118-74-1   | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 111                | 59                  | 111  |
| EP075H: Anilines and Benzidines (QCLot: 2503656)   |            |     |       |                             |                                       |                    |                     |      |
| EP075: Aniline                                     | 62-53-3    | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 84.2               | 13                  | 108  |
| EP075: 4-Chloroaniline                             | 106-47-8   | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 59.6               | 21                  | 99   |
| EP075: 2-Nitroaniline                              | 88-74-4    | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 99.7               | 52                  | 112  |
| EP075: 3-Nitroaniline                              | 99-09-2    | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 68.3               | 32                  | 94   |
| EP075: Dibenzofuran                                | 132-64-9   | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 101                | 60                  | 110  |
| EP075: 4-Nitroaniline                              | 100-01-6   | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 86.0               | 42                  | 112  |
| EP075: Carbazole                                   | 86-74-8    | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 87.9               | 59                  | 111  |
| EP075: 3,3'-Dichlorobenzidine                      | 91-94-1    | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 75.6               | 23                  | 113  |
| EP075I: Organochlorine Pesticides (QCLot: 2503656) |            |     |       |                             |                                       |                    |                     |      |
| EP075: alpha-BHC                                   | 319-84-6   | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 103                | 63                  | 113  |
| EP075: beta-BHC                                    | 319-85-7   | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 79.2               | 57                  | 113  |
| EP075: gamma-BHC                                   | 58-89-9    | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 104                | 61                  | 117  |
| EP075: delta-BHC                                   | 319-86-8   | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 94.5               | 64                  | 118  |
| EP075: Heptachlor                                  | 76-44-8    | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 102                | 55                  | 115  |
| EP075: Aldrin                                      | 309-00-2   | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 95.5               | 61                  | 115  |
| EP075: Heptachlor epoxide                          | 1024-57-3  | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 112                | 56                  | 118  |
| EP075: alpha-Endosulfan                            | 959-98-8   | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 106                | 65                  | 125  |
| EP075: 4,4'-DDE                                    | 72-55-9    | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 97.8               | 60                  | 116  |
| EP075: Dieldrin                                    | 60-57-1    | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 105                | 64                  | 118  |
| EP075: Endrin                                      | 72-20-8    | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 101                | 53                  | 117  |
| EP075: beta-Endosulfan                             | 33213-65-9 | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 108                | 65                  | 115  |
| EP075: 4,4'-DDD                                    | 72-54-8    | 0.5 | mg/kg | <0.5                        | 1.5 mg/kg                             | 111                | 62                  | 118  |

(Preliminary Report)

Page : 21 of 26  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Sub-Matrix: SOIL

| Method Blank (MB) Report                                                         |            |        |       | Laboratory Control Spike (LCS) Report |                    |       |                     |      |
|----------------------------------------------------------------------------------|------------|--------|-------|---------------------------------------|--------------------|-------|---------------------|------|
|                                                                                  |            |        |       | Spike Concentration                   | Spike Recovery (%) |       | Recovery Limits (%) |      |
|                                                                                  |            |        |       |                                       | LCS                |       | Low                 | High |
| Method: Compound                                                                 | CAS Number | LOR    | Unit  | Result                                |                    |       |                     |      |
| EP075I: Organochlorine Pesticides (QCLot: 2503656) - continued                   |            |        |       |                                       |                    |       |                     |      |
| EP075: Endosulfan sulfate                                                        | 1031-07-8  | 0.5    | mg/kg | <0.5                                  | 1.5 mg/kg          | 102   | 63                  | 129  |
| EP075: 4,4'-DDT                                                                  | 50-29-3    | 0.5    | mg/kg | <0.5                                  | 1.5 mg/kg          | 104   | 46                  | 122  |
| EP075J: Organophosphorus Pesticides (QCLot: 2503656)                             |            |        |       |                                       |                    |       |                     |      |
| EP075: Dichlorvos                                                                | 62-73-7    | 0.5    | mg/kg | <0.5                                  | 1.5 mg/kg          | 66.5  | 46                  | 112  |
| EP075: Dimethoate                                                                | 60-51-5    | 0.5    | mg/kg | <0.5                                  | 1.5 mg/kg          | 104   | 63                  | 119  |
| EP075: Diazinon                                                                  | 333-41-5   | 0.5    | mg/kg | <0.5                                  | 1.5 mg/kg          | 94.3  | 68                  | 134  |
| EP075: Chlorpyrifos-methyl                                                       | 5598-13-0  | 0.5    | mg/kg | <0.5                                  | 1.5 mg/kg          | 108   | 60                  | 130  |
| EP075: Malathion                                                                 | 121-75-5   | 0.5    | mg/kg | <0.5                                  | 1.5 mg/kg          | 100   | 65                  | 127  |
| EP075: Fenthion                                                                  | 55-38-9    | 0.5    | mg/kg | <0.5                                  | 1.5 mg/kg          | 97.1  | 60                  | 116  |
| EP075: Chlorpyrifos                                                              | 2921-88-2  | 0.5    | mg/kg | <0.5                                  | 1.5 mg/kg          | 82.3  | 63                  | 113  |
| EP075: Pirimphos-ethyl                                                           | 23505-41-1 | 0.5    | mg/kg | <0.5                                  | 1.5 mg/kg          | 88.7  | 65                  | 115  |
| EP075: Chlorfenvinphos                                                           | 470-90-6   | 0.5    | mg/kg | <0.5                                  | 1.5 mg/kg          | 93.7  | 59                  | 103  |
| EP075: Prothiofos                                                                | 34643-46-4 | 0.5    | mg/kg | <0.5                                  | 1.5 mg/kg          | 94.3  | 59                  | 119  |
| EP075: Ethion                                                                    | 563-12-2   | 0.5    | mg/kg | <0.5                                  | 1.5 mg/kg          | 115   | 62                  | 118  |
| EP080/071: Total Petroleum Hydrocarbons (QCLot: 2503657)                         |            |        |       |                                       |                    |       |                     |      |
| EP071: C10 - C14 Fraction                                                        | ----       | 50     | mg/kg | <50                                   | 300 mg/kg          | 90.4  | 75                  | 129  |
| EP071: C15 - C28 Fraction                                                        | ----       | 100    | mg/kg | <100                                  | 450 mg/kg          | 105   | 77                  | 131  |
| EP071: C29 - C36 Fraction                                                        | ----       | 100    | mg/kg | <100                                  | 300 mg/kg          | 86.5  | 71                  | 129  |
| EP080/071: Total Petroleum Hydrocarbons (QCLot: 2503951)                         |            |        |       |                                       |                    |       |                     |      |
| EP080: C6 - C9 Fraction                                                          | ----       | 10     | mg/kg | <10                                   | 26 mg/kg           | 81.6  | 68                  | 128  |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2503657) |            |        |       |                                       |                    |       |                     |      |
| EP071: >C10 - C16 Fraction                                                       | ----       | 50     | mg/kg | <50                                   | 375 mg/kg          | 100.0 | 77                  | 125  |
| EP071: >C16 - C34 Fraction                                                       | ----       | 100    | mg/kg | <100                                  | 525 mg/kg          | 104   | 74                  | 138  |
| EP071: >C34 - C40 Fraction                                                       | ----       | 100    | mg/kg | <100                                  | 225 mg/kg          | 79.0  | 63                  | 131  |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2503951) |            |        |       |                                       |                    |       |                     |      |
| EP080: C6 - C10 Fraction                                                         | C6_C10     | 10     | mg/kg | <10                                   | 31 mg/kg           | 83.3  | 68                  | 128  |
| EP080: BTEXN (QCLot: 2503951)                                                    |            |        |       |                                       |                    |       |                     |      |
| EP080: Benzene                                                                   | 71-43-2    | 0.2    | mg/kg | <0.2                                  | 1 mg/kg            | 84.4  | 62                  | 116  |
| EP080: Toluene                                                                   | 108-88-3   | 0.5    | mg/kg | <0.5                                  | 1 mg/kg            | 89.3  | 67                  | 121  |
| EP080: Ethylbenzene                                                              | 100-41-4   | 0.5    | mg/kg | <0.5                                  | 1 mg/kg            | 88.0  | 65                  | 117  |
| EP080: meta- & para-Xylene                                                       | 108-38-3   | 0.5    | mg/kg | <0.5                                  | 2 mg/kg            | 91.7  | 66                  | 118  |
|                                                                                  | 106-42-3   |        |       |                                       |                    |       |                     |      |
| EP080: ortho-Xylene                                                              | 95-47-6    | 0.5    | mg/kg | <0.5                                  | 1 mg/kg            | 89.3  | 68                  | 120  |
| EP080: Naphthalene                                                               | 91-20-3    | 1      | mg/kg | <1                                    | 1 mg/kg            | 90.6  | 63                  | 119  |
| EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 2504604)                           |            |        |       |                                       |                    |       |                     |      |
| EP231X: Perfluorobutane sulfonic acid (PFBS)                                     | 375-73-5   | 0.0002 | mg/kg | <0.0002                               | 0.00125 mg/kg      | 62.0  | 57                  | 121  |
| EP231X: Perfluoropentane sulfonic acid (PFPeS)                                   | 2706-91-4  | 0.0002 | mg/kg | <0.0002                               | 0.00125 mg/kg      | 66.8  | 55                  | 125  |
| EP231X: Perfluorohexane sulfonic acid (PFHxS)                                    | 355-46-4   | 0.0002 | mg/kg | <0.0002                               | 0.00125 mg/kg      | 64.4  | 52                  | 126  |

(Preliminary Report)

Page : 22 of 26  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



| Sub-Matrix: SOIL                                                   |             |        |       | Method Blank (MB)<br>Report | Laboratory Control Spike (LCS) Report |                           |                                 |     |
|--------------------------------------------------------------------|-------------|--------|-------|-----------------------------|---------------------------------------|---------------------------|---------------------------------|-----|
|                                                                    |             |        |       |                             | Spike<br>Concentration                | Spike Recovery (%)<br>LCS | Recovery Limits (%)<br>Low High |     |
| Method: Compound                                                   | CAS Number  | LOR    | Unit  | Result                      |                                       |                           |                                 |     |
| EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 2504604) - continued |             |        |       |                             |                                       |                           |                                 |     |
| EP231X: Perfluoroheptane sulfonic acid (PFHpS)                     | 375-92-8    | 0.0002 | mg/kg | <0.0002                     | 0.00125 mg/kg                         | 80.0                      | 54                              | 123 |
| EP231X: Perfluorooctane sulfonic acid (PFOS)                       | 1763-23-1   | 0.0002 | mg/kg | <0.0002                     | 0.00125 mg/kg                         | 71.2                      | 55                              | 127 |
| EP231X: Perfluorodecane sulfonic acid (PFDS)                       | 335-77-3    | 0.0002 | mg/kg | <0.0002                     | 0.00125 mg/kg                         | 78.8                      | 54                              | 125 |
| EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 2504604)           |             |        |       |                             |                                       |                           |                                 |     |
| EP231X: Perfluorobutanoic acid (PFBA)                              | 375-22-4    | 0.001  | mg/kg | <0.001                      | 0.00625 mg/kg                         | 57.2                      | 52                              | 128 |
| EP231X: Perfluoropentanoic acid (PFPeA)                            | 2706-90-3   | 0.0002 | mg/kg | <0.0002                     | 0.00125 mg/kg                         | 62.0                      | 54                              | 129 |
| EP231X: Perfluorohexanoic acid (PFHxA)                             | 307-24-4    | 0.0002 | mg/kg | <0.0002                     | 0.00125 mg/kg                         | 71.2                      | 58                              | 127 |
| EP231X: Perfluoroheptanoic acid (PFHpA)                            | 375-85-9    | 0.0002 | mg/kg | <0.0002                     | 0.00125 mg/kg                         | 70.0                      | 57                              | 128 |
| EP231X: Perfluorooctanoic acid (PFOA)                              | 335-67-1    | 0.0002 | mg/kg | <0.0002                     | 0.00125 mg/kg                         | 74.0                      | 60                              | 134 |
| EP231X: Perfluorononanoic acid (PFNA)                              | 375-95-1    | 0.0002 | mg/kg | <0.0002                     | 0.00125 mg/kg                         | 65.2                      | 63                              | 130 |
| EP231X: Perfluorodecanoic acid (PFDA)                              | 335-76-2    | 0.0002 | mg/kg | <0.0002                     | 0.00125 mg/kg                         | 69.6                      | 55                              | 130 |
| EP231X: Perfluoroundecanoic acid (PFUnDA)                          | 2058-94-8   | 0.0002 | mg/kg | <0.0002                     | 0.00125 mg/kg                         | 114                       | 62                              | 130 |
| EP231X: Perfluorododecanoic acid (PFDoDA)                          | 307-55-1    | 0.0002 | mg/kg | <0.0002                     | 0.00125 mg/kg                         | 74.0                      | 53                              | 134 |
| EP231X: Perfluorotridecanoic acid (PFTrDA)                         | 72629-94-8  | 0.0002 | mg/kg | <0.0002                     | 0.00125 mg/kg                         | 72.0                      | 49                              | 129 |
| EP231X: Perfluorotetradecanoic acid (PFTeDA)                       | 376-06-7    | 0.0005 | mg/kg | <0.0005                     | 0.00312 mg/kg                         | 74.2                      | 59                              | 129 |
| EP231C: Perfluoroalkyl Sulfonamides (QCLot: 2504604)               |             |        |       |                             |                                       |                           |                                 |     |
| EP231X: Perfluorooctane sulfonamide (FOSA)                         | 754-91-6    | 0.0002 | mg/kg | <0.0002                     | 0.00125 mg/kg                         | 74.4                      | 52                              | 132 |
| EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)              | 31506-32-8  | 0.0005 | mg/kg | <0.0005                     | 0.00312 mg/kg                         | 83.6                      | 65                              | 126 |
| EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)               | 4151-50-2   | 0.0005 | mg/kg | <0.0005                     | 0.00312 mg/kg                         | 66.0                      | 64                              | 126 |
| EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)       | 24448-09-7  | 0.0005 | mg/kg | <0.0005                     | 0.00312 mg/kg                         | 78.0                      | 63                              | 124 |
| EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)        | 1691-99-2   | 0.0005 | mg/kg | <0.0005                     | 0.00312 mg/kg                         | 66.2                      | 58                              | 125 |
| EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)  | 2355-31-9   | 0.0002 | mg/kg | <0.0002                     | 0.00125 mg/kg                         | 78.8                      | 61                              | 130 |
| EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)   | 2991-50-6   | 0.0002 | mg/kg | <0.0002                     | 0.00125 mg/kg                         | 72.0                      | 55                              | 130 |
| EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 2504604)        |             |        |       |                             |                                       |                           |                                 |     |
| EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)                  | 757124-72-4 | 0.0005 | mg/kg | <0.0005                     | 0.00125 mg/kg                         | 70.8                      | 54                              | 130 |
| EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)                  | 27619-97-2  | 0.0005 | mg/kg | <0.0005                     | 0.00125 mg/kg                         | 67.2                      | 61                              | 130 |
| EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)                  | 39108-34-4  | 0.0005 | mg/kg | <0.0005                     | 0.00125 mg/kg                         | 106                       | 62                              | 130 |
| EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)                | 120226-60-0 | 0.0005 | mg/kg | <0.0005                     | 0.00125 mg/kg                         | 75.6                      | 60                              | 130 |
| Sub-Matrix: WATER                                                  |             |        |       | Method Blank (MB)<br>Report | Laboratory Control Spike (LCS) Report |                           |                                 |     |
|                                                                    |             |        |       |                             | Spike<br>Concentration                | Spike Recovery (%)<br>LCS | Recovery Limits (%)<br>Low High |     |
| Method: Compound                                                   | CAS Number  | LOR    | Unit  | Result                      |                                       |                           |                                 |     |
| EG005(ED093)C: Leachable Metals by ICPAES (QCLot: 2509309)         |             |        |       |                             |                                       |                           |                                 |     |
| EG005C: Arsenic                                                    | 7440-38-2   | 0.1    | mg/L  | <0.1                        | 0.1 mg/L                              | 105                       | 80                              | 124 |
| EG005C: Cadmium                                                    | 7440-43-9   | 0.05   | mg/L  | <0.05                       | 0.1 mg/L                              | 99.4                      | 80                              | 118 |

(Preliminary Report)

Page : 23 of 26  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Sub-Matrix: **WATER**

| Sub-Matrix: WATER                                                      |            |        |      | Method Blank (MB) Report | Laboratory Control Spike (LCS) Report |                    |                     |      |
|------------------------------------------------------------------------|------------|--------|------|--------------------------|---------------------------------------|--------------------|---------------------|------|
|                                                                        |            |        |      |                          | Spike Concentration                   | Spike Recovery (%) | Recovery Limits (%) |      |
| Method: Compound                                                       | CAS Number | LOR    | Unit | Result                   |                                       | LCS                | Low                 | High |
| EG005(ED093)C: Leachable Metals by ICPAES (QCLot: 2509309) - continued |            |        |      |                          |                                       |                    |                     |      |
| EG005C: Chromium                                                       | 7440-47-3  | 0.1    | mg/L | <0.1                     | 0.1 mg/L                              | 99.1               | 88                  | 114  |
| EG005C: Copper                                                         | 7440-50-8  | 0.1    | mg/L | <0.1                     | 0.1 mg/L                              | 99.5               | 86                  | 114  |
| EG005C: Lead                                                           | 7439-92-1  | 0.1    | mg/L | <0.1                     | 0.1 mg/L                              | 97.8               | 80                  | 118  |
| EG005C: Nickel                                                         | 7440-02-0  | 0.1    | mg/L | <0.1                     | 0.1 mg/L                              | 99.6               | 83                  | 115  |
| EG005C: Zinc                                                           | 7440-66-6  | 0.1    | mg/L | <0.1                     | 0.1 mg/L                              | 102                | 79                  | 123  |
| EG035C: Leachable Mercury by FIMS (QCLot: 2508869)                     |            |        |      |                          |                                       |                    |                     |      |
| EG035C: Mercury                                                        | 7439-97-6  | 0.0001 | mg/L | <0.0001                  | 0.01 mg/L                             | 100                | 79                  | 109  |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2508863)        |            |        |      |                          |                                       |                    |                     |      |
| EP075(SIM): Naphthalene                                                | 91-20-3    | 1      | µg/L | <1.0                     | 5 µg/L                                | 75.2               | 50                  | 94   |
| EP075(SIM): Acenaphthylene                                             | 208-96-8   | 1      | µg/L | <1.0                     | 5 µg/L                                | 87.4               | 64                  | 114  |
| EP075(SIM): Acenaphthene                                               | 83-32-9    | 1      | µg/L | <1.0                     | 5 µg/L                                | 89.0               | 62                  | 113  |
| EP075(SIM): Fluorene                                                   | 86-73-7    | 1      | µg/L | <1.0                     | 5 µg/L                                | 86.9               | 64                  | 115  |
| EP075(SIM): Phenanthrene                                               | 85-01-8    | 1      | µg/L | <1.0                     | 5 µg/L                                | 102                | 63                  | 116  |
| EP075(SIM): Anthracene                                                 | 120-12-7   | 1      | µg/L | <1.0                     | 5 µg/L                                | 96.2               | 64                  | 116  |
| EP075(SIM): Fluoranthene                                               | 206-44-0   | 1      | µg/L | <1.0                     | 5 µg/L                                | 98.8               | 64                  | 118  |
| EP075(SIM): Pyrene                                                     | 129-00-0   | 1      | µg/L | <1.0                     | 5 µg/L                                | 95.2               | 63                  | 118  |
| EP075(SIM): Benz(a)anthracene                                          | 56-55-3    | 1      | µg/L | <1.0                     | 5 µg/L                                | 88.4               | 64                  | 117  |
| EP075(SIM): Chrysene                                                   | 218-01-9   | 1      | µg/L | <1.0                     | 5 µg/L                                | 93.9               | 63                  | 116  |
| EP075(SIM): Benzo(b+j)fluoranthene                                     | 205-99-2   | 1      | µg/L | <1.0                     | 5 µg/L                                | 88.5               | 62                  | 119  |
|                                                                        | 205-82-3   |        |      |                          |                                       |                    |                     |      |
| EP075(SIM): Benzo(k)fluoranthene                                       | 207-08-9   | 1      | µg/L | <1.0                     | 5 µg/L                                | 92.5               | 63                  | 115  |
| EP075(SIM): Benzo(a)pyrene                                             | 50-32-8    | 0.5    | µg/L | <0.5                     | 5 µg/L                                | 93.9               | 63                  | 117  |
| EP075(SIM): Indeno(1.2.3.cd)pyrene                                     | 193-39-5   | 1      | µg/L | <1.0                     | 5 µg/L                                | 97.1               | 60                  | 118  |
| EP075(SIM): Dibenz(a,h)anthracene                                      | 53-70-3    | 1      | µg/L | <1.0                     | 5 µg/L                                | 94.7               | 61                  | 117  |
| EP075(SIM): Benzo(g,h,i)perylene                                       | 191-24-2   | 1      | µg/L | <1.0                     | 5 µg/L                                | 91.0               | 59                  | 118  |

### Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

| Sub-Matrix: SOIL                                        |                  |                  |            | Matrix Spike (MS) Report |                  |                     |      |
|---------------------------------------------------------|------------------|------------------|------------|--------------------------|------------------|---------------------|------|
|                                                         |                  |                  |            | Spike                    | SpikeRecovery(%) | Recovery Limits (%) |      |
| Laboratory sample ID                                    | Client sample ID | Method: Compound | CAS Number | Concentration            | MS               | Low                 | High |
| EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2504267) |                  |                  |            |                          |                  |                     |      |
| ES1923655-002                                           | Anonymous        | EG005T: Arsenic  | 7440-38-2  | 50 mg/kg                 | 94.3             | 70                  | 130  |
|                                                         |                  | EG005T: Cadmium  | 7440-43-9  | 50 mg/kg                 | 104              | 70                  | 130  |
|                                                         |                  | EG005T: Chromium | 7440-47-3  | 50 mg/kg                 | 95.2             | 70                  | 130  |
|                                                         |                  | EG005T: Copper   | 7440-50-8  | 250 mg/kg                | 110              | 70                  | 130  |

Page : 24 of 26  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



| Sub-Matrix: SOIL                                                                 |                  |                                        |            | Matrix Spike (MS) Report |                  |                     |      |
|----------------------------------------------------------------------------------|------------------|----------------------------------------|------------|--------------------------|------------------|---------------------|------|
|                                                                                  |                  |                                        |            | Spike                    | SpikeRecovery(%) | Recovery Limits (%) |      |
| Laboratory sample ID                                                             | Client sample ID | Method: Compound                       | CAS Number | Concentration            | MS               | Low                 | High |
| EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2504267) - continued              |                  |                                        |            |                          |                  |                     |      |
| ES1923655-002                                                                    | Anonymous        | EG005T: Lead                           | 7439-92-1  | 250 mg/kg                | 95.6             | 70                  | 130  |
|                                                                                  |                  | EG005T: Nickel                         | 7440-02-0  | 50 mg/kg                 | 98.6             | 70                  | 130  |
|                                                                                  |                  | EG005T: Zinc                           | 7440-66-6  | 250 mg/kg                | 100              | 70                  | 130  |
| EG035T: Total Recoverable Mercury by FIMS (QCLot: 2504266)                       |                  |                                        |            |                          |                  |                     |      |
| ES1923655-002                                                                    | Anonymous        | EG035T: Mercury                        | 7439-97-6  | 5 mg/kg                  | 111              | 70                  | 130  |
| EP066: Polychlorinated Biphenyls (PCB) (QCLot: 2503659)                          |                  |                                        |            |                          |                  |                     |      |
| ES1924021-001                                                                    | BH301 / 0.15E    | EP066: Total Polychlorinated biphenyls | ----       | 1 mg/kg                  | 103              | 70                  | 130  |
| EP074E: Halogenated Aliphatic Compounds (QCLot: 2503952)                         |                  |                                        |            |                          |                  |                     |      |
| ES1924021-001                                                                    | BH301 / 0.15E    | EP074: 1,1-Dichloroethene              | 75-35-4    | 2.5 mg/kg                | 95.9             | 70                  | 130  |
|                                                                                  |                  | EP074: Trichloroethene                 | 79-01-6    | 2.5 mg/kg                | 83.4             | 70                  | 130  |
| EP074F: Halogenated Aromatic Compounds (QCLot: 2503952)                          |                  |                                        |            |                          |                  |                     |      |
| ES1924021-001                                                                    | BH301 / 0.15E    | EP074: Chlorobenzene                   | 108-90-7   | 2.5 mg/kg                | 101              | 70                  | 130  |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2503658)                  |                  |                                        |            |                          |                  |                     |      |
| ES1924021-001                                                                    | BH301 / 0.15E    | EP075(SIM): Acenaphthene               | 83-32-9    | 10 mg/kg                 | 109              | 70                  | 130  |
|                                                                                  |                  | EP075(SIM): Pyrene                     | 129-00-0   | 10 mg/kg                 | 114              | 70                  | 130  |
| EP075A: Phenolic Compounds (QCLot: 2503656)                                      |                  |                                        |            |                          |                  |                     |      |
| ES1924021-001                                                                    | BH301 / 0.15E    | EP075: Phenol                          | 108-95-2   | 10 mg/kg                 | 91.5             | 60                  | 130  |
|                                                                                  |                  | EP075: 2-Chlorophenol                  | 95-57-8    | 10 mg/kg                 | 94.3             | 60                  | 130  |
|                                                                                  |                  | EP075: 2-Nitrophenol                   | 88-75-5    | 10 mg/kg                 | 102              | 50                  | 130  |
|                                                                                  |                  | EP075: 4-Chloro-3-methylphenol         | 59-50-7    | 10 mg/kg                 | 109              | 50                  | 130  |
|                                                                                  |                  | EP075: Pentachlorophenol               | 87-86-5    | 10 mg/kg                 | 46.8             | 10                  | 130  |
| EP075D: Nitrosamines (QCLot: 2503656)                                            |                  |                                        |            |                          |                  |                     |      |
| ES1924021-001                                                                    | BH301 / 0.15E    | EP075: N-Nitrosodi-n-propylamine       | 621-64-7   | 10 mg/kg                 | 98.9             | 50                  | 130  |
| EP075E: Nitroaromatics and Ketones (QCLot: 2503656)                              |                  |                                        |            |                          |                  |                     |      |
| ES1924021-001                                                                    | BH301 / 0.15E    | EP075: 2,4-Dinitrotoluene              | 121-14-2   | 10 mg/kg                 | 101              | 40                  | 130  |
| EP075G: Chlorinated Hydrocarbons (QCLot: 2503656)                                |                  |                                        |            |                          |                  |                     |      |
| ES1924021-001                                                                    | BH301 / 0.15E    | EP075: 1,4-Dichlorobenzene             | 106-46-7   | 10 mg/kg                 | 105              | 60                  | 130  |
|                                                                                  |                  | EP075: 1,2,4-Trichlorobenzene          | 120-82-1   | 10 mg/kg                 | 106              | 50                  | 130  |
| EP080/071: Total Petroleum Hydrocarbons (QCLot: 2503657)                         |                  |                                        |            |                          |                  |                     |      |
| ES1924021-001                                                                    | BH301 / 0.15E    | EP071: C10 - C14 Fraction              | ----       | 523 mg/kg                | 99.2             | 73                  | 137  |
|                                                                                  |                  | EP071: C15 - C28 Fraction              | ----       | 2319 mg/kg               | 110              | 53                  | 131  |
|                                                                                  |                  | EP071: C29 - C36 Fraction              | ----       | 1714 mg/kg               | 113              | 52                  | 132  |
| EP080/071: Total Petroleum Hydrocarbons (QCLot: 2503951)                         |                  |                                        |            |                          |                  |                     |      |
| ES1924021-001                                                                    | BH301 / 0.15E    | EP080: C6 - C9 Fraction                | ----       | 32.5 mg/kg               | 89.1             | 70                  | 130  |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2503657) |                  |                                        |            |                          |                  |                     |      |

(Preliminary Report)

Page : 25 of 26  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Sub-Matrix: SOIL

| Sub-Matrix: SOIL                                                                             |                    |                                                       |            | Matrix Spike (MS) Report |                  |                     |      |
|----------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------|------------|--------------------------|------------------|---------------------|------|
|                                                                                              |                    |                                                       |            | Spike                    | SpikeRecovery(%) | Recovery Limits (%) |      |
| Laboratory sample ID                                                                         | Client sample ID   | Method: Compound                                      | CAS Number | Concentration            | MS               | Low                 | High |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2503657) - continued |                    |                                                       |            |                          |                  |                     |      |
| ES1924021-001                                                                                | BH301 / 0.15E      | EP071: >C10 - C16 Fraction                            | ----       | 860 mg/kg                | 105              | 73                  | 137  |
|                                                                                              |                    | EP071: >C16 - C34 Fraction                            | ----       | 3223 mg/kg               | 114              | 53                  | 131  |
|                                                                                              |                    | EP071: >C34 - C40 Fraction                            | ----       | 1058 mg/kg               | 105              | 52                  | 132  |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2503951)             |                    |                                                       |            |                          |                  |                     |      |
| ES1924021-001                                                                                | BH301 / 0.15E      | EP080: C6 - C10 Fraction                              | C6_C10     | 37.5 mg/kg               | 88.3             | 70                  | 130  |
| EP080: BTEXN (QCLot: 2503951)                                                                |                    |                                                       |            |                          |                  |                     |      |
| ES1924021-001                                                                                | BH301 / 0.15E      | EP080: Benzene                                        | 71-43-2    | 2.5 mg/kg                | 87.1             | 70                  | 130  |
|                                                                                              |                    | EP080: Toluene                                        | 108-88-3   | 2.5 mg/kg                | 92.2             | 70                  | 130  |
|                                                                                              |                    | EP080: Ethylbenzene                                   | 100-41-4   | 2.5 mg/kg                | 93.7             | 70                  | 130  |
|                                                                                              |                    | EP080: meta- & para-Xylene                            | 108-38-3   | 2.5 mg/kg                | 94.8             | 70                  | 130  |
|                                                                                              |                    |                                                       | 106-42-3   |                          |                  |                     |      |
|                                                                                              |                    | EP080: ortho-Xylene                                   | 95-47-6    | 2.5 mg/kg                | 95.0             | 70                  | 130  |
|                                                                                              | EP080: Naphthalene | 91-20-3                                               | 2.5 mg/kg  | 83.3                     | 70               | 130                 |      |
| EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 2504604)                                       |                    |                                                       |            |                          |                  |                     |      |
| ES1924021-012                                                                                | BH305 / 0.4E       | EP231X: Perfluorobutane sulfonic acid (PFBS)          | 375-73-5   | 0.00125 mg/kg            | 77.2             | 50                  | 130  |
|                                                                                              |                    | EP231X: Perfluoropentane sulfonic acid (PFPeS)        | 2706-91-4  | 0.00125 mg/kg            | 82.8             | 50                  | 130  |
|                                                                                              |                    | EP231X: Perfluorohexane sulfonic acid (PFHxS)         | 355-46-4   | 0.00125 mg/kg            | 76.0             | 50                  | 130  |
|                                                                                              |                    | EP231X: Perfluoroheptane sulfonic acid (PFHpS)        | 375-92-8   | 0.00125 mg/kg            | 88.4             | 50                  | 130  |
|                                                                                              |                    | EP231X: Perfluorooctane sulfonic acid (PFOS)          | 1763-23-1  | 0.00125 mg/kg            | 74.0             | 50                  | 130  |
|                                                                                              |                    | EP231X: Perfluorodecane sulfonic acid (PFDS)          | 335-77-3   | 0.00125 mg/kg            | 74.4             | 50                  | 130  |
| EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 2504604)                                     |                    |                                                       |            |                          |                  |                     |      |
| ES1924021-012                                                                                | BH305 / 0.4E       | EP231X: Perfluorobutanoic acid (PFBA)                 | 375-22-4   | 0.00625 mg/kg            | 68.0             | 30                  | 130  |
|                                                                                              |                    | EP231X: Perfluoropentanoic acid (PFPeA)               | 2706-90-3  | 0.00125 mg/kg            | 66.8             | 50                  | 130  |
|                                                                                              |                    | EP231X: Perfluorohexanoic acid (PFHxA)                | 307-24-4   | 0.00125 mg/kg            | 87.6             | 50                  | 130  |
|                                                                                              |                    | EP231X: Perfluoroheptanoic acid (PFHpA)               | 375-85-9   | 0.00125 mg/kg            | 80.8             | 50                  | 130  |
|                                                                                              |                    | EP231X: Perfluorooctanoic acid (PFOA)                 | 335-67-1   | 0.00125 mg/kg            | 85.6             | 50                  | 130  |
|                                                                                              |                    | EP231X: Perfluorononanoic acid (PFNA)                 | 375-95-1   | 0.00125 mg/kg            | 70.4             | 50                  | 130  |
|                                                                                              |                    | EP231X: Perfluorodecanoic acid (PFDA)                 | 335-76-2   | 0.00125 mg/kg            | 74.8             | 50                  | 130  |
|                                                                                              |                    | EP231X: Perfluoroundecanoic acid (PFUnDA)             | 2058-94-8  | 0.00125 mg/kg            | 85.6             | 50                  | 130  |
|                                                                                              |                    | EP231X: Perfluorododecanoic acid (PFDoDA)             | 307-55-1   | 0.00125 mg/kg            | 90.8             | 50                  | 130  |
|                                                                                              |                    | EP231X: Perfluorotridecanoic acid (PFTTrDA)           | 72629-94-8 | 0.00125 mg/kg            | 75.6             | 30                  | 130  |
|                                                                                              |                    | EP231X: Perfluorotetradecanoic acid (PFTeDA)          | 376-06-7   | 0.00312 mg/kg            | 75.5             | 30                  | 130  |
| EP231C: Perfluoroalkyl Sulfonamides (QCLot: 2504604)                                         |                    |                                                       |            |                          |                  |                     |      |
| ES1924021-012                                                                                | BH305 / 0.4E       | EP231X: Perfluorooctane sulfonamide (FOSA)            | 754-91-6   | 0.00125 mg/kg            | 74.4             | 50                  | 130  |
|                                                                                              |                    | EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA) | 31506-32-8 | 0.00312 mg/kg            | 61.4             | 30                  | 130  |
|                                                                                              |                    | EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)  | 4151-50-2  | 0.00312 mg/kg            | 72.6             | 30                  | 130  |

(Preliminary Report)

Page : 26 of 26  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



| Sub-Matrix: SOIL                                                 |                  |                                                                   |             | Matrix Spike (MS) Report |                  |                     |      |
|------------------------------------------------------------------|------------------|-------------------------------------------------------------------|-------------|--------------------------|------------------|---------------------|------|
|                                                                  |                  |                                                                   |             | Spike                    | SpikeRecovery(%) | Recovery Limits (%) |      |
| Laboratory sample ID                                             | Client sample ID | Method: Compound                                                  | CAS Number  | Concentration            | MS               | Low                 | High |
| EP231C: Perfluoroalkyl Sulfonamides (QCLot: 2504604) - continued |                  |                                                                   |             |                          |                  |                     |      |
| ES1924021-012                                                    | BH305 / 0.4E     | EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)      | 24448-09-7  | 0.00312 mg/kg            | 94.9             | 30                  | 130  |
|                                                                  |                  | EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)       | 1691-99-2   | 0.00312 mg/kg            | 65.9             | 30                  | 130  |
|                                                                  |                  | EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA) | 2355-31-9   | 0.00125 mg/kg            | 102              | 30                  | 130  |
|                                                                  |                  | EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)  | 2991-50-6   | 0.00125 mg/kg            | 86.8             | 30                  | 130  |
| EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 2504604)      |                  |                                                                   |             |                          |                  |                     |      |
| ES1924021-012                                                    | BH305 / 0.4E     | EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)                 | 757124-72-4 | 0.00125 mg/kg            | 76.0             | 50                  | 130  |
|                                                                  |                  | EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)                 | 27619-97-2  | 0.00125 mg/kg            | 74.4             | 50                  | 130  |
|                                                                  |                  | EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)                 | 39108-34-4  | 0.00125 mg/kg            | 69.6             | 50                  | 130  |
|                                                                  |                  | EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)               | 120226-60-0 | 0.00125 mg/kg            | 83.6             | 50                  | 130  |
| Sub-Matrix: WATER                                                |                  |                                                                   |             | Matrix Spike (MS) Report |                  |                     |      |
|                                                                  |                  |                                                                   |             | Spike                    | SpikeRecovery(%) | Recovery Limits (%) |      |
| Laboratory sample ID                                             | Client sample ID | Method: Compound                                                  | CAS Number  | Concentration            | MS               | Low                 | High |
| EG005(ED093)C: Leachable Metals by ICPAES (QCLot: 2509309)       |                  |                                                                   |             |                          |                  |                     |      |
| ES1922293-004                                                    | Anonymous        | EG005C: Arsenic                                                   | 7440-38-2   | 1 mg/L                   | 97.6             | 70                  | 130  |
|                                                                  |                  | EG005C: Cadmium                                                   | 7440-43-9   | 0.25 mg/L                | 97.5             | 70                  | 130  |
|                                                                  |                  | EG005C: Chromium                                                  | 7440-47-3   | 1 mg/L                   | 97.2             | 70                  | 130  |
|                                                                  |                  | EG005C: Copper                                                    | 7440-50-8   | 1 mg/L                   | 94.5             | 70                  | 130  |
|                                                                  |                  | EG005C: Lead                                                      | 7439-92-1   | 1 mg/L                   | 98.7             | 70                  | 130  |
|                                                                  |                  | EG005C: Nickel                                                    | 7440-02-0   | 1 mg/L                   | 97.7             | 70                  | 130  |
|                                                                  |                  | EG005C: Zinc                                                      | 7440-66-6   | 1 mg/L                   | 102              | 70                  | 130  |
| EG035C: Leachable Mercury by FIMS (QCLot: 2508869)               |                  |                                                                   |             |                          |                  |                     |      |
| ES1924021-011                                                    | BH305 / 0.4E     | EG035C: Mercury                                                   | 7439-97-6   | 0.01 mg/L                | 93.7             | 70                  | 130  |

## QA/QC Compliance Assessment to assist with Quality Review

|              |                        |                         |                                 |
|--------------|------------------------|-------------------------|---------------------------------|
| Work Order   | : ES1924021            | Page                    | : 1 of 35                       |
| Amendment    | : (Preliminary Report) |                         |                                 |
| Client       | : GOLDER ASSOCIATES    | Laboratory              | : Environmental Division Sydney |
| Contact      | : ERIC WON             | Telephone               | : +61-2-8784 8555               |
| Project      | : 19125312             | Date Samples Received   | : 31-Jul-2019                   |
| Site         | : ----                 | Issue Date              | : 07-Aug-2019                   |
| Sampler      | : ----                 | No. of samples received | : 33                            |
| Order number | : 19125312             | No. of samples analysed | : 33                            |

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

### Summary of Outliers

#### Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank** value outliers occur.
- **NO Duplicate** outliers occur.
- **NO Matrix Spike** outliers occur.
- Laboratory Control outliers exist - please see following pages for full details.
- Surrogate recovery outliers exist for all regular sample matrices - please see following pages for full details.

#### Outliers : Analysis Holding Time Compliance

- Analysis Holding Time Outliers exist - please see following pages for full details.

#### Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.

## (Preliminary Report)

Page : 2 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



### Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

| Compound Group Name                              | Laboratory Sample ID | Client Sample ID | Analyte             | CAS Number | Data  | Limits  | Comment                                   |
|--------------------------------------------------|----------------------|------------------|---------------------|------------|-------|---------|-------------------------------------------|
| <b>Laboratory Control Spike (LCS) Recoveries</b> |                      |                  |                     |            |       |         |                                           |
| EP075G: Chlorinated Hydrocarbons                 | QC-2503656-002       | ----             | Hexachloropropylene | 1888-71-7  | 114 % | 39-110% | Recovery greater than upper control limit |
| EP075G: Chlorinated Hydrocarbons                 | QC-2503656-002       | ----             | Hexachlorobutadiene | 87-68-3    | 118 % | 59-117% | Recovery greater than upper control limit |

### Regular Sample Surrogates

Sub-Matrix: **SOIL**

| Compound Group Name                         | Laboratory Sample ID | Client Sample ID | Analyte          | CAS Number | Data  | Limits   | Comment                                            |
|---------------------------------------------|----------------------|------------------|------------------|------------|-------|----------|----------------------------------------------------|
| <b>Samples Submitted</b>                    |                      |                  |                  |            |       |          |                                                    |
| EP075T: Base/Neutral Extractable Surrogates | ES1924021-001        | BH301 / 0.15E    | 2-Fluorobiphenyl | 321-60-8   | 124 % | 35-121 % | Recovery greater than upper data quality objective |
| EP075T: Base/Neutral Extractable Surrogates | ES1924021-004        | BH303 / 0.2E     | 2-Fluorobiphenyl | 321-60-8   | 125 % | 35-121 % | Recovery greater than upper data quality objective |
| EP075T: Base/Neutral Extractable Surrogates | ES1924021-020        | BH307 / 0.5E     | 2-Fluorobiphenyl | 321-60-8   | 125 % | 35-121 % | Recovery greater than upper data quality objective |
| EP075T: Base/Neutral Extractable Surrogates | ES1924021-024        | BH309 / 0.4E     | 2-Fluorobiphenyl | 321-60-8   | 122 % | 35-121 % | Recovery greater than upper data quality objective |

### Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

| Method                                                        |               | Extraction / Preparation |                    |              | Analysis      |                  |              |
|---------------------------------------------------------------|---------------|--------------------------|--------------------|--------------|---------------|------------------|--------------|
| Container / Client Sample ID(s)                               |               | Date extracted           | Due for extraction | Days overdue | Date analysed | Due for analysis | Days overdue |
| EA055: Moisture Content (Dried @ 105-110°C)                   |               |                          |                    |              |               |                  |              |
| HDPE Soil Jar<br>BH306 / 0.5E,                                | BH306 / 1.5E  | ----                     | ----               | ----         | 05-Aug-2019   | 23-Jul-2019      | 13           |
| HDPE Soil Jar<br>BH403 / 0.2E,<br>BH404 / 0.5E                | BH404 / 0.1E, | ----                     | ----               | ----         | 05-Aug-2019   | 24-Jul-2019      | 12           |
| HDPE Soil Jar<br>BH304 / 0.7E                                 |               | ----                     | ----               | ----         | 05-Aug-2019   | 25-Jul-2019      | 11           |
| HDPE Soil Jar<br>BH307 / 0.5E                                 |               | ----                     | ----               | ----         | 05-Aug-2019   | 01-Aug-2019      | 4            |
| HDPE Soil Jar<br>BH305 / 0.4E                                 |               | ----                     | ----               | ----         | 05-Aug-2019   | 03-Aug-2019      | 2            |
| Soil Glass Jar - Unpreserved<br>BH306 / 0.5E,                 | BH306 / 1.5E  | ----                     | ----               | ----         | 02-Aug-2019   | 23-Jul-2019      | 10           |
| Soil Glass Jar - Unpreserved<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | ----                     | ----               | ----         | 02-Aug-2019   | 24-Jul-2019      | 9            |

# (Preliminary Report)

Page : 3 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

| Method                                                                                | Extraction / Preparation |                    |              | Analysis      |                  |              |
|---------------------------------------------------------------------------------------|--------------------------|--------------------|--------------|---------------|------------------|--------------|
|                                                                                       | Date extracted           | Due for extraction | Days overdue | Date analysed | Due for analysis | Days overdue |
| Container / Client Sample ID(s)                                                       |                          |                    |              |               |                  |              |
| <b>EA055: Moisture Content (Dried @ 105-110°C) - Analysis Holding Time Compliance</b> |                          |                    |              |               |                  |              |
| Soil Glass Jar - Unpreserved<br>BH304 / 0.7E                                          | ----                     | ----               | ----         | 02-Aug-2019   | 25-Jul-2019      | 8            |
| Soil Glass Jar - Unpreserved<br>BH303 / 0.2E                                          | ----                     | ----               | ----         | 02-Aug-2019   | 29-Jul-2019      | 4            |
| Soil Glass Jar - Unpreserved<br>BH307 / 0.5E                                          | ----                     | ----               | ----         | 02-Aug-2019   | 01-Aug-2019      | 1            |
| <b>EN33: TCLP Leach</b>                                                               |                          |                    |              |               |                  |              |
| Non-Volatile Leach: 14 day HT(e.g. SV organics)<br>BH307 / 0.5E                       | 05-Aug-2019              | 01-Aug-2019        | 4            | ----          | ----             | ----         |
| Non-Volatile Leach: 14 day HT(e.g. SV organics)<br>BH305 / 0.4E                       | 05-Aug-2019              | 03-Aug-2019        | 2            | ----          | ----             | ----         |
| <b>EP066: Polychlorinated Biphenyls (PCB)</b>                                         |                          |                    |              |               |                  |              |
| Soil Glass Jar - Unpreserved<br>BH306 / 0.5E, BH306 / 1.5E                            | 03-Aug-2019              | 23-Jul-2019        | 11           | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH403 / 0.2E, BH404 / 0.1E,<br>BH404 / 0.5E           | 03-Aug-2019              | 24-Jul-2019        | 10           | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH304 / 0.7E                                          | 03-Aug-2019              | 25-Jul-2019        | 9            | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH303 / 0.2E                                          | 03-Aug-2019              | 29-Jul-2019        | 5            | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH307 / 0.5E                                          | 03-Aug-2019              | 01-Aug-2019        | 2            | ----          | ----             | ----         |
| <b>EP074A: Monocyclic Aromatic Hydrocarbons</b>                                       |                          |                    |              |               |                  |              |
| Soil Glass Jar - Unpreserved<br>BH306 / 0.5E, BH306 / 1.5E                            | 02-Aug-2019              | 16-Jul-2019        | 17           | 02-Aug-2019   | 16-Jul-2019      | 17           |
| Soil Glass Jar - Unpreserved<br>BH403 / 0.2E, BH404 / 0.1E,<br>BH404 / 0.5E           | 02-Aug-2019              | 17-Jul-2019        | 16           | 02-Aug-2019   | 17-Jul-2019      | 16           |
| Soil Glass Jar - Unpreserved<br>BH304 / 0.7E                                          | 02-Aug-2019              | 18-Jul-2019        | 15           | 02-Aug-2019   | 18-Jul-2019      | 15           |
| Soil Glass Jar - Unpreserved<br>BH303 / 0.2E                                          | 02-Aug-2019              | 22-Jul-2019        | 11           | 02-Aug-2019   | 22-Jul-2019      | 11           |
| Soil Glass Jar - Unpreserved<br>BH307 / 0.5E                                          | 02-Aug-2019              | 25-Jul-2019        | 8            | 02-Aug-2019   | 25-Jul-2019      | 8            |
| Soil Glass Jar - Unpreserved<br>BH305 / 0.4E                                          | 02-Aug-2019              | 27-Jul-2019        | 6            | 02-Aug-2019   | 27-Jul-2019      | 6            |
| Soil Glass Jar - Unpreserved<br>BH309 / 0.4E                                          | 02-Aug-2019              | 30-Jul-2019        | 3            | 02-Aug-2019   | 30-Jul-2019      | 3            |

**(Preliminary Report)**

Page : 4 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

| Method                                                                      | Extraction / Preparation |                    |              | Analysis      |                  |              |
|-----------------------------------------------------------------------------|--------------------------|--------------------|--------------|---------------|------------------|--------------|
| Container / Client Sample ID(s)                                             | Date extracted           | Due for extraction | Days overdue | Date analysed | Due for analysis | Days overdue |
| EP074A: Monocyclic Aromatic Hydrocarbons - Analysis Holding Time Compliance |                          |                    |              |               |                  |              |
| Soil Glass Jar - Unpreserved<br>BH301 / 0.15E                               | 02-Aug-2019              | 31-Jul-2019        | 2            | 02-Aug-2019   | 31-Jul-2019      | 2            |
| EP074B: Oxygenated Compounds                                                |                          |                    |              |               |                  |              |
| Soil Glass Jar - Unpreserved<br>BH306 / 0.5E, BH306 / 1.5E                  | 02-Aug-2019              | 16-Jul-2019        | 17           | 02-Aug-2019   | 16-Jul-2019      | 17           |
| Soil Glass Jar - Unpreserved<br>BH403 / 0.2E, BH404 / 0.5E, BH404 / 0.1E,   | 02-Aug-2019              | 17-Jul-2019        | 16           | 02-Aug-2019   | 17-Jul-2019      | 16           |
| Soil Glass Jar - Unpreserved<br>BH304 / 0.7E                                | 02-Aug-2019              | 18-Jul-2019        | 15           | 02-Aug-2019   | 18-Jul-2019      | 15           |
| Soil Glass Jar - Unpreserved<br>BH303 / 0.2E                                | 02-Aug-2019              | 22-Jul-2019        | 11           | 02-Aug-2019   | 22-Jul-2019      | 11           |
| Soil Glass Jar - Unpreserved<br>BH307 / 0.5E                                | 02-Aug-2019              | 25-Jul-2019        | 8            | 02-Aug-2019   | 25-Jul-2019      | 8            |
| Soil Glass Jar - Unpreserved<br>BH305 / 0.4E                                | 02-Aug-2019              | 27-Jul-2019        | 6            | 02-Aug-2019   | 27-Jul-2019      | 6            |
| Soil Glass Jar - Unpreserved<br>BH309 / 0.4E                                | 02-Aug-2019              | 30-Jul-2019        | 3            | 02-Aug-2019   | 30-Jul-2019      | 3            |
| Soil Glass Jar - Unpreserved<br>BH301 / 0.15E                               | 02-Aug-2019              | 31-Jul-2019        | 2            | 02-Aug-2019   | 31-Jul-2019      | 2            |
| EP074C: Sulfonated Compounds                                                |                          |                    |              |               |                  |              |
| Soil Glass Jar - Unpreserved<br>BH306 / 0.5E, BH306 / 1.5E                  | 02-Aug-2019              | 16-Jul-2019        | 17           | 02-Aug-2019   | 16-Jul-2019      | 17           |
| Soil Glass Jar - Unpreserved<br>BH403 / 0.2E, BH404 / 0.5E, BH404 / 0.1E,   | 02-Aug-2019              | 17-Jul-2019        | 16           | 02-Aug-2019   | 17-Jul-2019      | 16           |
| Soil Glass Jar - Unpreserved<br>BH304 / 0.7E                                | 02-Aug-2019              | 18-Jul-2019        | 15           | 02-Aug-2019   | 18-Jul-2019      | 15           |
| Soil Glass Jar - Unpreserved<br>BH303 / 0.2E                                | 02-Aug-2019              | 22-Jul-2019        | 11           | 02-Aug-2019   | 22-Jul-2019      | 11           |
| Soil Glass Jar - Unpreserved<br>BH307 / 0.5E                                | 02-Aug-2019              | 25-Jul-2019        | 8            | 02-Aug-2019   | 25-Jul-2019      | 8            |
| Soil Glass Jar - Unpreserved<br>BH305 / 0.4E                                | 02-Aug-2019              | 27-Jul-2019        | 6            | 02-Aug-2019   | 27-Jul-2019      | 6            |
| Soil Glass Jar - Unpreserved<br>BH309 / 0.4E                                | 02-Aug-2019              | 30-Jul-2019        | 3            | 02-Aug-2019   | 30-Jul-2019      | 3            |
| Soil Glass Jar - Unpreserved<br>BH301 / 0.15E                               | 02-Aug-2019              | 31-Jul-2019        | 2            | 02-Aug-2019   | 31-Jul-2019      | 2            |
| EP074D: Fumigants                                                           |                          |                    |              |               |                  |              |

(Preliminary Report)

Page : 5 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

| Method                                                        |               | Extraction / Preparation |                    |              | Analysis      |                  |              |
|---------------------------------------------------------------|---------------|--------------------------|--------------------|--------------|---------------|------------------|--------------|
| Container / Client Sample ID(s)                               |               | Date extracted           | Due for extraction | Days overdue | Date analysed | Due for analysis | Days overdue |
| EP074D: Fumigants - Analysis Holding Time Compliance          |               |                          |                    |              |               |                  |              |
| Soil Glass Jar - Unpreserved<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 02-Aug-2019              | 16-Jul-2019        | 17           | 02-Aug-2019   | 16-Jul-2019      | 17           |
| Soil Glass Jar - Unpreserved<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 02-Aug-2019              | 17-Jul-2019        | 16           | 02-Aug-2019   | 17-Jul-2019      | 16           |
| Soil Glass Jar - Unpreserved<br>BH304 / 0.7E                  |               | 02-Aug-2019              | 18-Jul-2019        | 15           | 02-Aug-2019   | 18-Jul-2019      | 15           |
| Soil Glass Jar - Unpreserved<br>BH303 / 0.2E                  |               | 02-Aug-2019              | 22-Jul-2019        | 11           | 02-Aug-2019   | 22-Jul-2019      | 11           |
| Soil Glass Jar - Unpreserved<br>BH307 / 0.5E                  |               | 02-Aug-2019              | 25-Jul-2019        | 8            | 02-Aug-2019   | 25-Jul-2019      | 8            |
| Soil Glass Jar - Unpreserved<br>BH305 / 0.4E                  |               | 02-Aug-2019              | 27-Jul-2019        | 6            | 02-Aug-2019   | 27-Jul-2019      | 6            |
| Soil Glass Jar - Unpreserved<br>BH309 / 0.4E                  |               | 02-Aug-2019              | 30-Jul-2019        | 3            | 02-Aug-2019   | 30-Jul-2019      | 3            |
| Soil Glass Jar - Unpreserved<br>BH301 / 0.15E                 |               | 02-Aug-2019              | 31-Jul-2019        | 2            | 02-Aug-2019   | 31-Jul-2019      | 2            |
| EP074E: Halogenated Aliphatic Compounds                       |               |                          |                    |              |               |                  |              |
| Soil Glass Jar - Unpreserved<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 02-Aug-2019              | 16-Jul-2019        | 17           | 02-Aug-2019   | 16-Jul-2019      | 17           |
| Soil Glass Jar - Unpreserved<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 02-Aug-2019              | 17-Jul-2019        | 16           | 02-Aug-2019   | 17-Jul-2019      | 16           |
| Soil Glass Jar - Unpreserved<br>BH304 / 0.7E                  |               | 02-Aug-2019              | 18-Jul-2019        | 15           | 02-Aug-2019   | 18-Jul-2019      | 15           |
| Soil Glass Jar - Unpreserved<br>BH303 / 0.2E                  |               | 02-Aug-2019              | 22-Jul-2019        | 11           | 02-Aug-2019   | 22-Jul-2019      | 11           |
| Soil Glass Jar - Unpreserved<br>BH307 / 0.5E                  |               | 02-Aug-2019              | 25-Jul-2019        | 8            | 02-Aug-2019   | 25-Jul-2019      | 8            |
| Soil Glass Jar - Unpreserved<br>BH305 / 0.4E                  |               | 02-Aug-2019              | 27-Jul-2019        | 6            | 02-Aug-2019   | 27-Jul-2019      | 6            |
| Soil Glass Jar - Unpreserved<br>BH309 / 0.4E                  |               | 02-Aug-2019              | 30-Jul-2019        | 3            | 02-Aug-2019   | 30-Jul-2019      | 3            |
| Soil Glass Jar - Unpreserved<br>BH301 / 0.15E                 |               | 02-Aug-2019              | 31-Jul-2019        | 2            | 02-Aug-2019   | 31-Jul-2019      | 2            |
| EP074F: Halogenated Aromatic Compounds                        |               |                          |                    |              |               |                  |              |
| Soil Glass Jar - Unpreserved<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 02-Aug-2019              | 16-Jul-2019        | 17           | 02-Aug-2019   | 16-Jul-2019      | 17           |
| Soil Glass Jar - Unpreserved<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 02-Aug-2019              | 17-Jul-2019        | 16           | 02-Aug-2019   | 17-Jul-2019      | 16           |

(Preliminary Report)

Page : 6 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

| Method                                                                           | Extraction / Preparation |                    |              | Analysis      |                  |              |
|----------------------------------------------------------------------------------|--------------------------|--------------------|--------------|---------------|------------------|--------------|
|                                                                                  | Date extracted           | Due for extraction | Days overdue | Date analysed | Due for analysis | Days overdue |
| Container / Client Sample ID(s)                                                  |                          |                    |              |               |                  |              |
| <b>EP074F: Halogenated Aromatic Compounds - Analysis Holding Time Compliance</b> |                          |                    |              |               |                  |              |
| Soil Glass Jar - Unpreserved<br>BH304 / 0.7E                                     | 02-Aug-2019              | 18-Jul-2019        | 15           | 02-Aug-2019   | 18-Jul-2019      | 15           |
| Soil Glass Jar - Unpreserved<br>BH303 / 0.2E                                     | 02-Aug-2019              | 22-Jul-2019        | 11           | 02-Aug-2019   | 22-Jul-2019      | 11           |
| Soil Glass Jar - Unpreserved<br>BH307 / 0.5E                                     | 02-Aug-2019              | 25-Jul-2019        | 8            | 02-Aug-2019   | 25-Jul-2019      | 8            |
| Soil Glass Jar - Unpreserved<br>BH305 / 0.4E                                     | 02-Aug-2019              | 27-Jul-2019        | 6            | 02-Aug-2019   | 27-Jul-2019      | 6            |
| Soil Glass Jar - Unpreserved<br>BH309 / 0.4E                                     | 02-Aug-2019              | 30-Jul-2019        | 3            | 02-Aug-2019   | 30-Jul-2019      | 3            |
| Soil Glass Jar - Unpreserved<br>BH301 / 0.15E                                    | 02-Aug-2019              | 31-Jul-2019        | 2            | 02-Aug-2019   | 31-Jul-2019      | 2            |
| <b>EP074G: Trihalomethanes</b>                                                   |                          |                    |              |               |                  |              |
| Soil Glass Jar - Unpreserved<br>BH306 / 0.5E, BH306 / 1.5E                       | 02-Aug-2019              | 16-Jul-2019        | 17           | 02-Aug-2019   | 16-Jul-2019      | 17           |
| Soil Glass Jar - Unpreserved<br>BH403 / 0.2E, BH404 / 0.5E, BH404 / 0.1E,        | 02-Aug-2019              | 17-Jul-2019        | 16           | 02-Aug-2019   | 17-Jul-2019      | 16           |
| Soil Glass Jar - Unpreserved<br>BH304 / 0.7E                                     | 02-Aug-2019              | 18-Jul-2019        | 15           | 02-Aug-2019   | 18-Jul-2019      | 15           |
| Soil Glass Jar - Unpreserved<br>BH303 / 0.2E                                     | 02-Aug-2019              | 22-Jul-2019        | 11           | 02-Aug-2019   | 22-Jul-2019      | 11           |
| Soil Glass Jar - Unpreserved<br>BH307 / 0.5E                                     | 02-Aug-2019              | 25-Jul-2019        | 8            | 02-Aug-2019   | 25-Jul-2019      | 8            |
| Soil Glass Jar - Unpreserved<br>BH305 / 0.4E                                     | 02-Aug-2019              | 27-Jul-2019        | 6            | 02-Aug-2019   | 27-Jul-2019      | 6            |
| Soil Glass Jar - Unpreserved<br>BH309 / 0.4E                                     | 02-Aug-2019              | 30-Jul-2019        | 3            | 02-Aug-2019   | 30-Jul-2019      | 3            |
| Soil Glass Jar - Unpreserved<br>BH301 / 0.15E                                    | 02-Aug-2019              | 31-Jul-2019        | 2            | 02-Aug-2019   | 31-Jul-2019      | 2            |
| <b>EP075(SIM)B: Polynuclear Aromatic Hydrocarbons</b>                            |                          |                    |              |               |                  |              |
| Soil Glass Jar - Unpreserved<br>BH306 / 0.5E, BH306 / 1.5E                       | 03-Aug-2019              | 23-Jul-2019        | 11           | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH403 / 0.2E, BH404 / 0.5E, BH404 / 0.1E,        | 03-Aug-2019              | 24-Jul-2019        | 10           | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH304 / 0.7E                                     | 03-Aug-2019              | 25-Jul-2019        | 9            | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH303 / 0.2E                                     | 03-Aug-2019              | 29-Jul-2019        | 5            | ----          | ----             | ----         |

Matrix: SOIL

| Method                                                                            | Extraction / Preparation |                    |              | Analysis      |                  |              |
|-----------------------------------------------------------------------------------|--------------------------|--------------------|--------------|---------------|------------------|--------------|
| Container / Client Sample ID(s)                                                   | Date extracted           | Due for extraction | Days overdue | Date analysed | Due for analysis | Days overdue |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Analysis Holding Time Compliance |                          |                    |              |               |                  |              |
| Soil Glass Jar - Unpreserved<br>BH307 / 0.5E                                      | 03-Aug-2019              | 01-Aug-2019        | 2            | ----          | ----             | ----         |
| EP075A: Phenolic Compounds                                                        |                          |                    |              |               |                  |              |
| Soil Glass Jar - Unpreserved<br>BH306 / 0.5E, BH306 / 1.5E                        | 03-Aug-2019              | 23-Jul-2019        | 11           | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH403 / 0.2E, BH404 / 0.5E, BH404 / 0.1E,         | 03-Aug-2019              | 24-Jul-2019        | 10           | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH304 / 0.7E                                      | 03-Aug-2019              | 25-Jul-2019        | 9            | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH303 / 0.2E                                      | 03-Aug-2019              | 29-Jul-2019        | 5            | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH307 / 0.5E                                      | 03-Aug-2019              | 01-Aug-2019        | 2            | ----          | ----             | ----         |
| EP075B: Polynuclear Aromatic Hydrocarbons                                         |                          |                    |              |               |                  |              |
| Soil Glass Jar - Unpreserved<br>BH306 / 0.5E, BH306 / 1.5E                        | 03-Aug-2019              | 23-Jul-2019        | 11           | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH403 / 0.2E, BH404 / 0.5E, BH404 / 0.1E,         | 03-Aug-2019              | 24-Jul-2019        | 10           | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH304 / 0.7E                                      | 03-Aug-2019              | 25-Jul-2019        | 9            | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH303 / 0.2E                                      | 03-Aug-2019              | 29-Jul-2019        | 5            | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH307 / 0.5E                                      | 03-Aug-2019              | 01-Aug-2019        | 2            | ----          | ----             | ----         |
| EP075C: Phthalate Esters                                                          |                          |                    |              |               |                  |              |
| Soil Glass Jar - Unpreserved<br>BH306 / 0.5E, BH306 / 1.5E                        | 03-Aug-2019              | 23-Jul-2019        | 11           | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH403 / 0.2E, BH404 / 0.5E, BH404 / 0.1E,         | 03-Aug-2019              | 24-Jul-2019        | 10           | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH304 / 0.7E                                      | 03-Aug-2019              | 25-Jul-2019        | 9            | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH303 / 0.2E                                      | 03-Aug-2019              | 29-Jul-2019        | 5            | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH307 / 0.5E                                      | 03-Aug-2019              | 01-Aug-2019        | 2            | ----          | ----             | ----         |
| EP075D: Nitrosamines                                                              |                          |                    |              |               |                  |              |

(Preliminary Report)

Page : 8 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

| Method                                                         |               | Extraction / Preparation |                    |              | Analysis      |                  |              |
|----------------------------------------------------------------|---------------|--------------------------|--------------------|--------------|---------------|------------------|--------------|
| Container / Client Sample ID(s)                                |               | Date extracted           | Due for extraction | Days overdue | Date analysed | Due for analysis | Days overdue |
| <b>EP075D: Nitrosamines - Analysis Holding Time Compliance</b> |               |                          |                    |              |               |                  |              |
| Soil Glass Jar - Unpreserved<br>BH306 / 0.5E,                  | BH306 / 1.5E  | 03-Aug-2019              | 23-Jul-2019        | 11           | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH403 / 0.2E,<br>BH404 / 0.5E  | BH404 / 0.1E, | 03-Aug-2019              | 24-Jul-2019        | 10           | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH304 / 0.7E                   |               | 03-Aug-2019              | 25-Jul-2019        | 9            | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH303 / 0.2E                   |               | 03-Aug-2019              | 29-Jul-2019        | 5            | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH307 / 0.5E                   |               | 03-Aug-2019              | 01-Aug-2019        | 2            | ----          | ----             | ----         |
| <b>EP075E: Nitroaromatics and Ketones</b>                      |               |                          |                    |              |               |                  |              |
| Soil Glass Jar - Unpreserved<br>BH306 / 0.5E,                  | BH306 / 1.5E  | 03-Aug-2019              | 23-Jul-2019        | 11           | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH403 / 0.2E,<br>BH404 / 0.5E  | BH404 / 0.1E, | 03-Aug-2019              | 24-Jul-2019        | 10           | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH304 / 0.7E                   |               | 03-Aug-2019              | 25-Jul-2019        | 9            | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH303 / 0.2E                   |               | 03-Aug-2019              | 29-Jul-2019        | 5            | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH307 / 0.5E                   |               | 03-Aug-2019              | 01-Aug-2019        | 2            | ----          | ----             | ----         |
| <b>EP075F: Haloethers</b>                                      |               |                          |                    |              |               |                  |              |
| Soil Glass Jar - Unpreserved<br>BH306 / 0.5E,                  | BH306 / 1.5E  | 03-Aug-2019              | 23-Jul-2019        | 11           | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH403 / 0.2E,<br>BH404 / 0.5E  | BH404 / 0.1E, | 03-Aug-2019              | 24-Jul-2019        | 10           | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH304 / 0.7E                   |               | 03-Aug-2019              | 25-Jul-2019        | 9            | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH303 / 0.2E                   |               | 03-Aug-2019              | 29-Jul-2019        | 5            | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH307 / 0.5E                   |               | 03-Aug-2019              | 01-Aug-2019        | 2            | ----          | ----             | ----         |
| <b>EP075G: Chlorinated Hydrocarbons</b>                        |               |                          |                    |              |               |                  |              |
| Soil Glass Jar - Unpreserved<br>BH306 / 0.5E,                  | BH306 / 1.5E  | 03-Aug-2019              | 23-Jul-2019        | 11           | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH403 / 0.2E,<br>BH404 / 0.5E  | BH404 / 0.1E, | 03-Aug-2019              | 24-Jul-2019        | 10           | ----          | ----             | ----         |

(Preliminary Report)

Page : 9 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

| Method<br>Container / Client Sample ID(s)                                  | Extraction / Preparation |                    |                 | Analysis      |                  |                 |
|----------------------------------------------------------------------------|--------------------------|--------------------|-----------------|---------------|------------------|-----------------|
|                                                                            | Date extracted           | Due for extraction | Days<br>overdue | Date analysed | Due for analysis | Days<br>overdue |
| <b>EP075G: Chlorinated Hydrocarbons - Analysis Holding Time Compliance</b> |                          |                    |                 |               |                  |                 |
| Soil Glass Jar - Unpreserved<br>BH304 / 0.7E                               | 03-Aug-2019              | 25-Jul-2019        | 9               | ----          | ----             | ----            |
| Soil Glass Jar - Unpreserved<br>BH303 / 0.2E                               | 03-Aug-2019              | 29-Jul-2019        | 5               | ----          | ----             | ----            |
| Soil Glass Jar - Unpreserved<br>BH307 / 0.5E                               | 03-Aug-2019              | 01-Aug-2019        | 2               | ----          | ----             | ----            |
| <b>EP075H: Anilines and Benzidines</b>                                     |                          |                    |                 |               |                  |                 |
| Soil Glass Jar - Unpreserved<br>BH306 / 0.5E, BH306 / 1.5E                 | 03-Aug-2019              | 23-Jul-2019        | 11              | ----          | ----             | ----            |
| Soil Glass Jar - Unpreserved<br>BH403 / 0.2E, BH404 / 0.5E, BH404 / 0.1E,  | 03-Aug-2019              | 24-Jul-2019        | 10              | ----          | ----             | ----            |
| Soil Glass Jar - Unpreserved<br>BH304 / 0.7E                               | 03-Aug-2019              | 25-Jul-2019        | 9               | ----          | ----             | ----            |
| Soil Glass Jar - Unpreserved<br>BH303 / 0.2E                               | 03-Aug-2019              | 29-Jul-2019        | 5               | ----          | ----             | ----            |
| Soil Glass Jar - Unpreserved<br>BH307 / 0.5E                               | 03-Aug-2019              | 01-Aug-2019        | 2               | ----          | ----             | ----            |
| <b>EP075I: Organochlorine Pesticides</b>                                   |                          |                    |                 |               |                  |                 |
| Soil Glass Jar - Unpreserved<br>BH306 / 0.5E, BH306 / 1.5E                 | 03-Aug-2019              | 23-Jul-2019        | 11              | ----          | ----             | ----            |
| Soil Glass Jar - Unpreserved<br>BH403 / 0.2E, BH404 / 0.5E, BH404 / 0.1E,  | 03-Aug-2019              | 24-Jul-2019        | 10              | ----          | ----             | ----            |
| Soil Glass Jar - Unpreserved<br>BH304 / 0.7E                               | 03-Aug-2019              | 25-Jul-2019        | 9               | ----          | ----             | ----            |
| Soil Glass Jar - Unpreserved<br>BH303 / 0.2E                               | 03-Aug-2019              | 29-Jul-2019        | 5               | ----          | ----             | ----            |
| Soil Glass Jar - Unpreserved<br>BH307 / 0.5E                               | 03-Aug-2019              | 01-Aug-2019        | 2               | ----          | ----             | ----            |
| <b>EP075J: Organophosphorus Pesticides</b>                                 |                          |                    |                 |               |                  |                 |
| Soil Glass Jar - Unpreserved<br>BH306 / 0.5E, BH306 / 1.5E                 | 03-Aug-2019              | 23-Jul-2019        | 11              | ----          | ----             | ----            |
| Soil Glass Jar - Unpreserved<br>BH403 / 0.2E, BH404 / 0.5E, BH404 / 0.1E,  | 03-Aug-2019              | 24-Jul-2019        | 10              | ----          | ----             | ----            |
| Soil Glass Jar - Unpreserved<br>BH304 / 0.7E                               | 03-Aug-2019              | 25-Jul-2019        | 9               | ----          | ----             | ----            |
| Soil Glass Jar - Unpreserved<br>BH303 / 0.2E                               | 03-Aug-2019              | 29-Jul-2019        | 5               | ----          | ----             | ----            |

(Preliminary Report)

Page : 10 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

| Method                                                                        |  | Extraction / Preparation |                    |              | Analysis      |                  |              |
|-------------------------------------------------------------------------------|--|--------------------------|--------------------|--------------|---------------|------------------|--------------|
| Container / Client Sample ID(s)                                               |  | Date extracted           | Due for extraction | Days overdue | Date analysed | Due for analysis | Days overdue |
| <b>EP075J: Organophosphorus Pesticides - Analysis Holding Time Compliance</b> |  |                          |                    |              |               |                  |              |
| <b>Soil Glass Jar - Unpreserved</b><br>BH307 / 0.5E                           |  | 03-Aug-2019              | 01-Aug-2019        | 2            | ----          | ----             | ----         |
| <b>EP080/071: Total Petroleum Hydrocarbons</b>                                |  |                          |                    |              |               |                  |              |
| <b>Soil Glass Jar - Unpreserved</b><br>BH306 / 0.5E, BH306 / 1.5E             |  | 02-Aug-2019              | 23-Jul-2019        | 10           | 02-Aug-2019   | 23-Jul-2019      | 10           |
| <b>Soil Glass Jar - Unpreserved</b><br>BH306 / 0.5E, BH306 / 1.5E             |  | 03-Aug-2019              | 23-Jul-2019        | 11           | ----          | ----             | ----         |
| <b>Soil Glass Jar - Unpreserved</b><br>BH403 / 0.2E, BH404 / 0.5E             |  | 02-Aug-2019              | 24-Jul-2019        | 9            | 02-Aug-2019   | 24-Jul-2019      | 9            |
| <b>Soil Glass Jar - Unpreserved</b><br>BH403 / 0.2E, BH404 / 0.5E             |  | 03-Aug-2019              | 24-Jul-2019        | 10           | ----          | ----             | ----         |
| <b>Soil Glass Jar - Unpreserved</b><br>BH304 / 0.7E                           |  | 02-Aug-2019              | 25-Jul-2019        | 8            | 02-Aug-2019   | 25-Jul-2019      | 8            |
| <b>Soil Glass Jar - Unpreserved</b><br>BH304 / 0.7E                           |  | 03-Aug-2019              | 25-Jul-2019        | 9            | ----          | ----             | ----         |
| <b>Soil Glass Jar - Unpreserved</b><br>BH303 / 0.2E                           |  | 02-Aug-2019              | 29-Jul-2019        | 4            | 02-Aug-2019   | 29-Jul-2019      | 4            |
| <b>Soil Glass Jar - Unpreserved</b><br>BH303 / 0.2E                           |  | 03-Aug-2019              | 29-Jul-2019        | 5            | ----          | ----             | ----         |
| <b>Soil Glass Jar - Unpreserved</b><br>BH307 / 0.5E                           |  | 02-Aug-2019              | 01-Aug-2019        | 1            | 02-Aug-2019   | 01-Aug-2019      | 1            |
| <b>Soil Glass Jar - Unpreserved</b><br>BH307 / 0.5E                           |  | 03-Aug-2019              | 01-Aug-2019        | 2            | ----          | ----             | ----         |
| <b>EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions</b>        |  |                          |                    |              |               |                  |              |
| <b>Soil Glass Jar - Unpreserved</b><br>BH306 / 0.5E, BH306 / 1.5E             |  | 02-Aug-2019              | 23-Jul-2019        | 10           | 02-Aug-2019   | 23-Jul-2019      | 10           |
| <b>Soil Glass Jar - Unpreserved</b><br>BH306 / 0.5E, BH306 / 1.5E             |  | 03-Aug-2019              | 23-Jul-2019        | 11           | ----          | ----             | ----         |
| <b>Soil Glass Jar - Unpreserved</b><br>BH403 / 0.2E, BH404 / 0.5E             |  | 02-Aug-2019              | 24-Jul-2019        | 9            | 02-Aug-2019   | 24-Jul-2019      | 9            |
| <b>Soil Glass Jar - Unpreserved</b><br>BH403 / 0.2E, BH404 / 0.5E             |  | 03-Aug-2019              | 24-Jul-2019        | 10           | ----          | ----             | ----         |
| <b>Soil Glass Jar - Unpreserved</b><br>BH304 / 0.7E                           |  | 02-Aug-2019              | 25-Jul-2019        | 8            | 02-Aug-2019   | 25-Jul-2019      | 8            |
| <b>Soil Glass Jar - Unpreserved</b><br>BH304 / 0.7E                           |  | 03-Aug-2019              | 25-Jul-2019        | 9            | ----          | ----             | ----         |

## (Preliminary Report)

Page : 11 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

| Method                                                                                  | Extraction / Preparation |                    |              | Analysis      |                  |              |
|-----------------------------------------------------------------------------------------|--------------------------|--------------------|--------------|---------------|------------------|--------------|
|                                                                                         | Date extracted           | Due for extraction | Days overdue | Date analysed | Due for analysis | Days overdue |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Analysis Holding Time |                          |                    |              |               |                  |              |
| Soil Glass Jar - Unpreserved<br>BH303 / 0.2E                                            | 02-Aug-2019              | 29-Jul-2019        | 4            | 02-Aug-2019   | 29-Jul-2019      | 4            |
| Soil Glass Jar - Unpreserved<br>BH303 / 0.2E                                            | 03-Aug-2019              | 29-Jul-2019        | 5            | ----          | ----             | ----         |
| Soil Glass Jar - Unpreserved<br>BH307 / 0.5E                                            | 02-Aug-2019              | 01-Aug-2019        | 1            | 02-Aug-2019   | 01-Aug-2019      | 1            |
| Soil Glass Jar - Unpreserved<br>BH307 / 0.5E                                            | 03-Aug-2019              | 01-Aug-2019        | 2            | ----          | ----             | ----         |
| EP080: BTEXN                                                                            |                          |                    |              |               |                  |              |
| Soil Glass Jar - Unpreserved<br>BH306 / 0.5E, BH306 / 1.5E                              | 02-Aug-2019              | 23-Jul-2019        | 10           | 02-Aug-2019   | 23-Jul-2019      | 10           |
| Soil Glass Jar - Unpreserved<br>BH403 / 0.2E, BH404 / 0.5E, BH404 / 0.1E,               | 02-Aug-2019              | 24-Jul-2019        | 9            | 02-Aug-2019   | 24-Jul-2019      | 9            |
| Soil Glass Jar - Unpreserved<br>BH304 / 0.7E                                            | 02-Aug-2019              | 25-Jul-2019        | 8            | 02-Aug-2019   | 25-Jul-2019      | 8            |
| Soil Glass Jar - Unpreserved<br>BH303 / 0.2E                                            | 02-Aug-2019              | 29-Jul-2019        | 4            | 02-Aug-2019   | 29-Jul-2019      | 4            |
| Soil Glass Jar - Unpreserved<br>BH307 / 0.5E                                            | 02-Aug-2019              | 01-Aug-2019        | 1            | 02-Aug-2019   | 01-Aug-2019      | 1            |

### Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

| Quality Control Sample Type | Count |         | Rate (%) |          | Quality Control Specification  |
|-----------------------------|-------|---------|----------|----------|--------------------------------|
|                             | QC    | Regular | Actual   | Expected |                                |
| Laboratory Duplicates (DUP) |       |         |          |          |                                |
| PAH/Phenols (GC/MS - SIM)   | 0     | 12      | 0.00     | 10.00    | NEPM 2013 B3 & ALS QC Standard |
| Matrix Spikes (MS)          |       |         |          |          |                                |
| PAH/Phenols (GC/MS - SIM)   | 0     | 12      | 0.00     | 5.00     | NEPM 2013 B3 & ALS QC Standard |

### Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

# (Preliminary Report)

Page : 12 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method                                                           | Sample Date | Extraction / Preparation |                    |            | Analysis       |                  |            |
|------------------------------------------------------------------|-------------|--------------------------|--------------------|------------|----------------|------------------|------------|
| Container / Client Sample ID(s)                                  |             | Date extracted           | Due for extraction | Evaluation | Date analysed  | Due for analysis | Evaluation |
| EA029-A: pH Measurements                                         |             |                          |                    |            |                |                  |            |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH306 / 1.5E | 09-Jul-2019 | ----                     | 03-Apr-2022        | ----       | Not Authorised | 02-Jul-2022      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH304 / 0.7E | 11-Jul-2019 | ----                     | 05-Apr-2022        | ----       | Not Authorised | 04-Jul-2022      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH307 / 0.5E | 18-Jul-2019 | ----                     | 12-Apr-2022        | ----       | Not Authorised | 11-Jul-2022      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH309 / 0.4E | 23-Jul-2019 | ----                     | 17-Apr-2022        | ----       | Not Authorised | 16-Jul-2022      | ----       |
| EA029-B: Acidity Trail                                           |             |                          |                    |            |                |                  |            |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH306 / 1.5E | 09-Jul-2019 | ----                     | 03-Apr-2022        | ----       | Not Authorised | 02-Jul-2022      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH304 / 0.7E | 11-Jul-2019 | ----                     | 05-Apr-2022        | ----       | Not Authorised | 04-Jul-2022      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH307 / 0.5E | 18-Jul-2019 | ----                     | 12-Apr-2022        | ----       | Not Authorised | 11-Jul-2022      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH309 / 0.4E | 23-Jul-2019 | ----                     | 17-Apr-2022        | ----       | Not Authorised | 16-Jul-2022      | ----       |
| EA029-C: Sulfur Trail                                            |             |                          |                    |            |                |                  |            |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH306 / 1.5E | 09-Jul-2019 | ----                     | 03-Apr-2022        | ----       | Not Authorised | 02-Jul-2022      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH304 / 0.7E | 11-Jul-2019 | ----                     | 05-Apr-2022        | ----       | Not Authorised | 04-Jul-2022      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH307 / 0.5E | 18-Jul-2019 | ----                     | 12-Apr-2022        | ----       | Not Authorised | 11-Jul-2022      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH309 / 0.4E | 23-Jul-2019 | ----                     | 17-Apr-2022        | ----       | Not Authorised | 16-Jul-2022      | ----       |
| EA029-D: Calcium Values                                          |             |                          |                    |            |                |                  |            |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH306 / 1.5E | 09-Jul-2019 | ----                     | 03-Apr-2022        | ----       | Not Authorised | 02-Jul-2022      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH304 / 0.7E | 11-Jul-2019 | ----                     | 05-Apr-2022        | ----       | Not Authorised | 04-Jul-2022      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH307 / 0.5E | 18-Jul-2019 | ----                     | 12-Apr-2022        | ----       | Not Authorised | 11-Jul-2022      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH309 / 0.4E | 23-Jul-2019 | ----                     | 17-Apr-2022        | ----       | Not Authorised | 16-Jul-2022      | ----       |

(Preliminary Report)

Page : 13 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method                                                           | Sample Date | Extraction / Preparation |                    |            | Analysis       |                  |            |
|------------------------------------------------------------------|-------------|--------------------------|--------------------|------------|----------------|------------------|------------|
| Container / Client Sample ID(s)                                  |             | Date extracted           | Due for extraction | Evaluation | Date analysed  | Due for analysis | Evaluation |
| EA029-E: Magnesium Values                                        |             |                          |                    |            |                |                  |            |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH306 / 1.5E | 09-Jul-2019 | ----                     | 03-Apr-2022        | ----       | Not Authorised | 02-Jul-2022      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH304 / 0.7E | 11-Jul-2019 | ----                     | 05-Apr-2022        | ----       | Not Authorised | 04-Jul-2022      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH307 / 0.5E | 18-Jul-2019 | ----                     | 12-Apr-2022        | ----       | Not Authorised | 11-Jul-2022      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH309 / 0.4E | 23-Jul-2019 | ----                     | 17-Apr-2022        | ----       | Not Authorised | 16-Jul-2022      | ----       |
| EA029-F: Excess Acid Neutralising Capacity                       |             |                          |                    |            |                |                  |            |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH306 / 1.5E | 09-Jul-2019 | ----                     | 03-Apr-2022        | ----       | Not Authorised | 02-Jul-2022      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH304 / 0.7E | 11-Jul-2019 | ----                     | 05-Apr-2022        | ----       | Not Authorised | 04-Jul-2022      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH307 / 0.5E | 18-Jul-2019 | ----                     | 12-Apr-2022        | ----       | Not Authorised | 11-Jul-2022      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH309 / 0.4E | 23-Jul-2019 | ----                     | 17-Apr-2022        | ----       | Not Authorised | 16-Jul-2022      | ----       |
| EA029-G: Retained Acidity                                        |             |                          |                    |            |                |                  |            |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH306 / 1.5E | 09-Jul-2019 | ----                     | 03-Apr-2022        | ----       | Not Authorised | 02-Jul-2022      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH304 / 0.7E | 11-Jul-2019 | ----                     | 05-Apr-2022        | ----       | Not Authorised | 04-Jul-2022      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH307 / 0.5E | 18-Jul-2019 | ----                     | 12-Apr-2022        | ----       | Not Authorised | 11-Jul-2022      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH309 / 0.4E | 23-Jul-2019 | ----                     | 17-Apr-2022        | ----       | Not Authorised | 16-Jul-2022      | ----       |
| EA029-H: Acid Base Accounting                                    |             |                          |                    |            |                |                  |            |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH306 / 1.5E | 09-Jul-2019 | ----                     | 03-Apr-2022        | ----       | Not Authorised | 02-Jul-2022      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH304 / 0.7E | 11-Jul-2019 | ----                     | 05-Apr-2022        | ----       | Not Authorised | 04-Jul-2022      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH307 / 0.5E | 18-Jul-2019 | ----                     | 12-Apr-2022        | ----       | Not Authorised | 11-Jul-2022      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA029)<br>BH309 / 0.4E | 23-Jul-2019 | ----                     | 17-Apr-2022        | ----       | Not Authorised | 16-Jul-2022      | ----       |

# (Preliminary Report)

Page : 14 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method                                                                |               | Sample Date | Extraction / Preparation |                    |            | Analysis       |                  |            |
|-----------------------------------------------------------------------|---------------|-------------|--------------------------|--------------------|------------|----------------|------------------|------------|
| Container / Client Sample ID(s)                                       |               |             | Date extracted           | Due for extraction | Evaluation | Date analysed  | Due for analysis | Evaluation |
| EA037: Ass Field Screening Analysis                                   |               |             |                          |                    |            |                |                  |            |
| Snap Lock Bag - frozen on receipt at ALS (EA037)<br>BH306 / 1.5E      |               | 09-Jul-2019 | 07-Aug-2019              | 05-Jan-2020        | ✓          | Not Authorised | 05-Jan-2020      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA037)<br>BH304 / 0.7E      |               | 11-Jul-2019 | 07-Aug-2019              | 07-Jan-2020        | ✓          | Not Authorised | 07-Jan-2020      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA037)<br>BH307 / 0.5E      |               | 18-Jul-2019 | 07-Aug-2019              | 14-Jan-2020        | ✓          | Not Authorised | 14-Jan-2020      | ----       |
| Snap Lock Bag - frozen on receipt at ALS (EA037)<br>BH309 / 0.4E      |               | 23-Jul-2019 | 07-Aug-2019              | 19-Jan-2020        | ✓          | Not Authorised | 19-Jan-2020      | ----       |
| EA055: Moisture Content (Dried @ 105-110°C)                           |               |             |                          |                    |            |                |                  |            |
| HDPE Soil Jar (EA055)<br>BH306 / 0.5E,                                | BH306 / 1.5E  | 09-Jul-2019 | ----                     | ----               | ----       | 05-Aug-2019    | 23-Jul-2019      | ✗          |
| HDPE Soil Jar (EA055)<br>BH403 / 0.2E,<br>BH404 / 0.5E                | BH404 / 0.1E, | 10-Jul-2019 | ----                     | ----               | ----       | 05-Aug-2019    | 24-Jul-2019      | ✗          |
| HDPE Soil Jar (EA055)<br>BH304 / 0.7E                                 |               | 11-Jul-2019 | ----                     | ----               | ----       | 05-Aug-2019    | 25-Jul-2019      | ✗          |
| HDPE Soil Jar (EA055)<br>BH307 / 0.5E                                 |               | 18-Jul-2019 | ----                     | ----               | ----       | 05-Aug-2019    | 01-Aug-2019      | ✗          |
| HDPE Soil Jar (EA055)<br>BH305 / 0.4E                                 |               | 20-Jul-2019 | ----                     | ----               | ----       | 05-Aug-2019    | 03-Aug-2019      | ✗          |
| HDPE Soil Jar (EA055)<br>BH301 / 0.15E                                |               | 24-Jul-2019 | ----                     | ----               | ----       | 05-Aug-2019    | 07-Aug-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EA055)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | ----                     | ----               | ----       | 02-Aug-2019    | 23-Jul-2019      | ✗          |
| Soil Glass Jar - Unpreserved (EA055)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | ----                     | ----               | ----       | 02-Aug-2019    | 24-Jul-2019      | ✗          |
| Soil Glass Jar - Unpreserved (EA055)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | ----                     | ----               | ----       | 02-Aug-2019    | 25-Jul-2019      | ✗          |
| Soil Glass Jar - Unpreserved (EA055)<br>BH303 / 0.2E                  |               | 15-Jul-2019 | ----                     | ----               | ----       | 02-Aug-2019    | 29-Jul-2019      | ✗          |
| Soil Glass Jar - Unpreserved (EA055)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | ----                     | ----               | ----       | 02-Aug-2019    | 01-Aug-2019      | ✗          |
| Soil Glass Jar - Unpreserved (EA055)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | ----                     | ----               | ----       | 02-Aug-2019    | 03-Aug-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EA055)<br>BH309 / 0.4E                  |               | 23-Jul-2019 | ----                     | ----               | ----       | 02-Aug-2019    | 06-Aug-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EA055)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | ----                     | ----               | ----       | 02-Aug-2019    | 07-Aug-2019      | ✓          |

# (Preliminary Report)

Page : 15 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method                                                                            |               | Sample Date | Extraction / Preparation |                    |            | Analysis      |                  |            |
|-----------------------------------------------------------------------------------|---------------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s)                                                   |               |             | Date extracted           | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EA200: AS 4964 - 2004 Identification of Asbestos in Soils                         |               |             |                          |                    |            |               |                  |            |
| Snap Lock Bag - ACM/Asbestos Grab Bag (EA200)<br>BH305 / 0.4E                     |               | 20-Jul-2019 | ----                     | ----               | ----       | 05-Aug-2019   | 16-Jan-2020      | ✓          |
| Snap Lock Bag - Friable Asbestos/PSD Bag (EA200)<br>BH306 / 0.5E                  |               | 09-Jul-2019 | ----                     | ----               | ----       | 05-Aug-2019   | 05-Jan-2020      | ✓          |
| Snap Lock Bag - Friable Asbestos/PSD Bag (EA200)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | ----                     | ----               | ----       | 05-Aug-2019   | 06-Jan-2020      | ✓          |
| Snap Lock Bag - Friable Asbestos/PSD Bag (EA200)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | ----                     | ----               | ----       | 05-Aug-2019   | 07-Jan-2020      | ✓          |
| Snap Lock Bag - Friable Asbestos/PSD Bag (EA200)<br>BH303 / 0.2E                  |               | 15-Jul-2019 | ----                     | ----               | ----       | 05-Aug-2019   | 11-Jan-2020      | ✓          |
| Snap Lock Bag - Friable Asbestos/PSD Bag (EA200)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | ----                     | ----               | ----       | 05-Aug-2019   | 14-Jan-2020      | ✓          |
| Snap Lock Bag - Friable Asbestos/PSD Bag (EA200)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | ----                     | ----               | ----       | 05-Aug-2019   | 20-Jan-2020      | ✓          |
| EG005(ED093)T: Total Metals by ICP-AES                                            |               |             |                          |                    |            |               |                  |            |
| Soil Glass Jar - Unpreserved (EG005T)<br>BH306 / 0.5E,                            | BH306 / 1.5E  | 09-Jul-2019 | 02-Aug-2019              | 05-Jan-2020        | ✓          | 05-Aug-2019   | 05-Jan-2020      | ✓          |
| Soil Glass Jar - Unpreserved (EG005T)<br>BH403 / 0.2E,<br>BH404 / 0.5E            | BH404 / 0.1E, | 10-Jul-2019 | 02-Aug-2019              | 06-Jan-2020        | ✓          | 05-Aug-2019   | 06-Jan-2020      | ✓          |
| Soil Glass Jar - Unpreserved (EG005T)<br>BH304 / 0.7E                             |               | 11-Jul-2019 | 02-Aug-2019              | 07-Jan-2020        | ✓          | 05-Aug-2019   | 07-Jan-2020      | ✓          |
| Soil Glass Jar - Unpreserved (EG005T)<br>BH303 / 0.2E                             |               | 15-Jul-2019 | 02-Aug-2019              | 11-Jan-2020        | ✓          | 05-Aug-2019   | 11-Jan-2020      | ✓          |
| Soil Glass Jar - Unpreserved (EG005T)<br>BH307 / 0.5E                             |               | 18-Jul-2019 | 02-Aug-2019              | 14-Jan-2020        | ✓          | 05-Aug-2019   | 14-Jan-2020      | ✓          |
| Soil Glass Jar - Unpreserved (EG005T)<br>BH305 / 0.4E                             |               | 20-Jul-2019 | 02-Aug-2019              | 16-Jan-2020        | ✓          | 05-Aug-2019   | 16-Jan-2020      | ✓          |
| Soil Glass Jar - Unpreserved (EG005T)<br>BH309 / 0.4E                             |               | 23-Jul-2019 | 02-Aug-2019              | 19-Jan-2020        | ✓          | 05-Aug-2019   | 19-Jan-2020      | ✓          |
| Soil Glass Jar - Unpreserved (EG005T)<br>BH301 / 0.15E                            |               | 24-Jul-2019 | 02-Aug-2019              | 20-Jan-2020        | ✓          | 05-Aug-2019   | 20-Jan-2020      | ✓          |

# (Preliminary Report)

Page : 16 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method                                                                   |               | Sample Date | Extraction / Preparation |                    |            | Analysis      |                  |            |
|--------------------------------------------------------------------------|---------------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s)                                          |               |             | Date extracted           | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EG035T: Total Recoverable Mercury by FIMS                                |               |             |                          |                    |            |               |                  |            |
| Soil Glass Jar - Unpreserved (EG035T)<br>BH306 / 0.5E,                   | BH306 / 1.5E  | 09-Jul-2019 | 02-Aug-2019              | 06-Aug-2019        | ✓          | 05-Aug-2019   | 06-Aug-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EG035T)<br>BH403 / 0.2E,<br>BH404 / 0.5E   | BH404 / 0.1E, | 10-Jul-2019 | 02-Aug-2019              | 07-Aug-2019        | ✓          | 05-Aug-2019   | 07-Aug-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EG035T)<br>BH304 / 0.7E                    |               | 11-Jul-2019 | 02-Aug-2019              | 08-Aug-2019        | ✓          | 05-Aug-2019   | 08-Aug-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EG035T)<br>BH303 / 0.2E                    |               | 15-Jul-2019 | 02-Aug-2019              | 12-Aug-2019        | ✓          | 05-Aug-2019   | 12-Aug-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EG035T)<br>BH307 / 0.5E                    |               | 18-Jul-2019 | 02-Aug-2019              | 15-Aug-2019        | ✓          | 05-Aug-2019   | 15-Aug-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EG035T)<br>BH305 / 0.4E                    |               | 20-Jul-2019 | 02-Aug-2019              | 17-Aug-2019        | ✓          | 05-Aug-2019   | 17-Aug-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EG035T)<br>BH309 / 0.4E                    |               | 23-Jul-2019 | 02-Aug-2019              | 20-Aug-2019        | ✓          | 05-Aug-2019   | 20-Aug-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EG035T)<br>BH301 / 0.15E                   |               | 24-Jul-2019 | 02-Aug-2019              | 21-Aug-2019        | ✓          | 05-Aug-2019   | 21-Aug-2019      | ✓          |
| EN33: TCLP Leach                                                         |               |             |                          |                    |            |               |                  |            |
| Non-Volatile Leach: 14 day HT(e.g. SV organics) (EN33a)<br>BH307 / 0.5E  |               | 18-Jul-2019 | 05-Aug-2019              | 01-Aug-2019        | ✗          | ----          | ----             | ----       |
| Non-Volatile Leach: 14 day HT(e.g. SV organics) (EN33a)<br>BH305 / 0.4E  |               | 20-Jul-2019 | 05-Aug-2019              | 03-Aug-2019        | ✗          | ----          | ----             | ----       |
| Non-Volatile Leach: 14 day HT(e.g. SV organics) (EN33a)<br>BH301 / 0.15E |               | 24-Jul-2019 | 05-Aug-2019              | 07-Aug-2019        | ✓          | ----          | ----             | ----       |
| EP066: Polychlorinated Biphenyls (PCB)                                   |               |             |                          |                    |            |               |                  |            |
| Soil Glass Jar - Unpreserved (EP066)<br>BH306 / 0.5E,                    | BH306 / 1.5E  | 09-Jul-2019 | 03-Aug-2019              | 23-Jul-2019        | ✗          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP066)<br>BH403 / 0.2E,<br>BH404 / 0.5E    | BH404 / 0.1E, | 10-Jul-2019 | 03-Aug-2019              | 24-Jul-2019        | ✗          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP066)<br>BH304 / 0.7E                     |               | 11-Jul-2019 | 03-Aug-2019              | 25-Jul-2019        | ✗          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP066)<br>BH303 / 0.2E                     |               | 15-Jul-2019 | 03-Aug-2019              | 29-Jul-2019        | ✗          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP066)<br>BH307 / 0.5E                     |               | 18-Jul-2019 | 03-Aug-2019              | 01-Aug-2019        | ✗          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP066)<br>BH305 / 0.4E                     |               | 20-Jul-2019 | 03-Aug-2019              | 03-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP066)<br>BH309 / 0.4E                     |               | 23-Jul-2019 | 03-Aug-2019              | 06-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP066)<br>BH301 / 0.15E                    |               | 24-Jul-2019 | 03-Aug-2019              | 07-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |

# (Preliminary Report)

Page : 17 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method                                                                |               | Sample Date | Extraction / Preparation |                    |            | Analysis      |                  |            |
|-----------------------------------------------------------------------|---------------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s)                                       |               |             | Date extracted           | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EP074A: Monocyclic Aromatic Hydrocarbons                              |               |             |                          |                    |            |               |                  |            |
| Soil Glass Jar - Unpreserved (EP074)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 02-Aug-2019              | 16-Jul-2019        | ✖          | 02-Aug-2019   | 16-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 02-Aug-2019              | 17-Jul-2019        | ✖          | 02-Aug-2019   | 17-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 02-Aug-2019              | 18-Jul-2019        | ✖          | 02-Aug-2019   | 18-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH303 / 0.2E                  |               | 15-Jul-2019 | 02-Aug-2019              | 22-Jul-2019        | ✖          | 02-Aug-2019   | 22-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 02-Aug-2019              | 25-Jul-2019        | ✖          | 02-Aug-2019   | 25-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 02-Aug-2019              | 27-Jul-2019        | ✖          | 02-Aug-2019   | 27-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH309 / 0.4E                  |               | 23-Jul-2019 | 02-Aug-2019              | 30-Jul-2019        | ✖          | 02-Aug-2019   | 30-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 02-Aug-2019              | 31-Jul-2019        | ✖          | 02-Aug-2019   | 31-Jul-2019      | ✖          |
| EP074B: Oxygenated Compounds                                          |               |             |                          |                    |            |               |                  |            |
| Soil Glass Jar - Unpreserved (EP074)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 02-Aug-2019              | 16-Jul-2019        | ✖          | 02-Aug-2019   | 16-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 02-Aug-2019              | 17-Jul-2019        | ✖          | 02-Aug-2019   | 17-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 02-Aug-2019              | 18-Jul-2019        | ✖          | 02-Aug-2019   | 18-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH303 / 0.2E                  |               | 15-Jul-2019 | 02-Aug-2019              | 22-Jul-2019        | ✖          | 02-Aug-2019   | 22-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 02-Aug-2019              | 25-Jul-2019        | ✖          | 02-Aug-2019   | 25-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 02-Aug-2019              | 27-Jul-2019        | ✖          | 02-Aug-2019   | 27-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH309 / 0.4E                  |               | 23-Jul-2019 | 02-Aug-2019              | 30-Jul-2019        | ✖          | 02-Aug-2019   | 30-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 02-Aug-2019              | 31-Jul-2019        | ✖          | 02-Aug-2019   | 31-Jul-2019      | ✖          |

# (Preliminary Report)

Page : 18 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method                                                                |               | Sample Date | Extraction / Preparation |                    |            | Analysis      |                  |            |
|-----------------------------------------------------------------------|---------------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s)                                       |               |             | Date extracted           | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EP074C: Sulfonated Compounds                                          |               |             |                          |                    |            |               |                  |            |
| Soil Glass Jar - Unpreserved (EP074)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 02-Aug-2019              | 16-Jul-2019        | ✖          | 02-Aug-2019   | 16-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 02-Aug-2019              | 17-Jul-2019        | ✖          | 02-Aug-2019   | 17-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 02-Aug-2019              | 18-Jul-2019        | ✖          | 02-Aug-2019   | 18-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH303 / 0.2E                  |               | 15-Jul-2019 | 02-Aug-2019              | 22-Jul-2019        | ✖          | 02-Aug-2019   | 22-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 02-Aug-2019              | 25-Jul-2019        | ✖          | 02-Aug-2019   | 25-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 02-Aug-2019              | 27-Jul-2019        | ✖          | 02-Aug-2019   | 27-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH309 / 0.4E                  |               | 23-Jul-2019 | 02-Aug-2019              | 30-Jul-2019        | ✖          | 02-Aug-2019   | 30-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 02-Aug-2019              | 31-Jul-2019        | ✖          | 02-Aug-2019   | 31-Jul-2019      | ✖          |
| EP074D: Fumigants                                                     |               |             |                          |                    |            |               |                  |            |
| Soil Glass Jar - Unpreserved (EP074)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 02-Aug-2019              | 16-Jul-2019        | ✖          | 02-Aug-2019   | 16-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 02-Aug-2019              | 17-Jul-2019        | ✖          | 02-Aug-2019   | 17-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 02-Aug-2019              | 18-Jul-2019        | ✖          | 02-Aug-2019   | 18-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH303 / 0.2E                  |               | 15-Jul-2019 | 02-Aug-2019              | 22-Jul-2019        | ✖          | 02-Aug-2019   | 22-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 02-Aug-2019              | 25-Jul-2019        | ✖          | 02-Aug-2019   | 25-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 02-Aug-2019              | 27-Jul-2019        | ✖          | 02-Aug-2019   | 27-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH309 / 0.4E                  |               | 23-Jul-2019 | 02-Aug-2019              | 30-Jul-2019        | ✖          | 02-Aug-2019   | 30-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 02-Aug-2019              | 31-Jul-2019        | ✖          | 02-Aug-2019   | 31-Jul-2019      | ✖          |

# (Preliminary Report)

Page : 19 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method                                                                |               | Sample Date | Extraction / Preparation |                    |            | Analysis      |                  |            |
|-----------------------------------------------------------------------|---------------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s)                                       |               |             | Date extracted           | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EP074E: Halogenated Aliphatic Compounds                               |               |             |                          |                    |            |               |                  |            |
| Soil Glass Jar - Unpreserved (EP074)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 02-Aug-2019              | 16-Jul-2019        | ✖          | 02-Aug-2019   | 16-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 02-Aug-2019              | 17-Jul-2019        | ✖          | 02-Aug-2019   | 17-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 02-Aug-2019              | 18-Jul-2019        | ✖          | 02-Aug-2019   | 18-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH303 / 0.2E                  |               | 15-Jul-2019 | 02-Aug-2019              | 22-Jul-2019        | ✖          | 02-Aug-2019   | 22-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 02-Aug-2019              | 25-Jul-2019        | ✖          | 02-Aug-2019   | 25-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 02-Aug-2019              | 27-Jul-2019        | ✖          | 02-Aug-2019   | 27-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH309 / 0.4E                  |               | 23-Jul-2019 | 02-Aug-2019              | 30-Jul-2019        | ✖          | 02-Aug-2019   | 30-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 02-Aug-2019              | 31-Jul-2019        | ✖          | 02-Aug-2019   | 31-Jul-2019      | ✖          |
| EP074F: Halogenated Aromatic Compounds                                |               |             |                          |                    |            |               |                  |            |
| Soil Glass Jar - Unpreserved (EP074)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 02-Aug-2019              | 16-Jul-2019        | ✖          | 02-Aug-2019   | 16-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 02-Aug-2019              | 17-Jul-2019        | ✖          | 02-Aug-2019   | 17-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 02-Aug-2019              | 18-Jul-2019        | ✖          | 02-Aug-2019   | 18-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH303 / 0.2E                  |               | 15-Jul-2019 | 02-Aug-2019              | 22-Jul-2019        | ✖          | 02-Aug-2019   | 22-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 02-Aug-2019              | 25-Jul-2019        | ✖          | 02-Aug-2019   | 25-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 02-Aug-2019              | 27-Jul-2019        | ✖          | 02-Aug-2019   | 27-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH309 / 0.4E                  |               | 23-Jul-2019 | 02-Aug-2019              | 30-Jul-2019        | ✖          | 02-Aug-2019   | 30-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 02-Aug-2019              | 31-Jul-2019        | ✖          | 02-Aug-2019   | 31-Jul-2019      | ✖          |

# (Preliminary Report)

Page : 20 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method                                                                     |               | Sample Date | Extraction / Preparation |                    |            | Analysis      |                  |            |
|----------------------------------------------------------------------------|---------------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s)                                            |               |             | Date extracted           | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EP074G: Trihalomethanes                                                    |               |             |                          |                    |            |               |                  |            |
| Soil Glass Jar - Unpreserved (EP074)<br>BH306 / 0.5E,                      | BH306 / 1.5E  | 09-Jul-2019 | 02-Aug-2019              | 16-Jul-2019        | ✖          | 02-Aug-2019   | 16-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH403 / 0.2E,<br>BH404 / 0.5E      | BH404 / 0.1E, | 10-Jul-2019 | 02-Aug-2019              | 17-Jul-2019        | ✖          | 02-Aug-2019   | 17-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH304 / 0.7E                       |               | 11-Jul-2019 | 02-Aug-2019              | 18-Jul-2019        | ✖          | 02-Aug-2019   | 18-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH303 / 0.2E                       |               | 15-Jul-2019 | 02-Aug-2019              | 22-Jul-2019        | ✖          | 02-Aug-2019   | 22-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH307 / 0.5E                       |               | 18-Jul-2019 | 02-Aug-2019              | 25-Jul-2019        | ✖          | 02-Aug-2019   | 25-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH305 / 0.4E                       |               | 20-Jul-2019 | 02-Aug-2019              | 27-Jul-2019        | ✖          | 02-Aug-2019   | 27-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH309 / 0.4E                       |               | 23-Jul-2019 | 02-Aug-2019              | 30-Jul-2019        | ✖          | 02-Aug-2019   | 30-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP074)<br>BH301 / 0.15E                      |               | 24-Jul-2019 | 02-Aug-2019              | 31-Jul-2019        | ✖          | 02-Aug-2019   | 31-Jul-2019      | ✖          |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons                             |               |             |                          |                    |            |               |                  |            |
| Soil Glass Jar - Unpreserved (EP075(SIM))<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 03-Aug-2019              | 23-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP075(SIM))<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 03-Aug-2019              | 24-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP075(SIM))<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 03-Aug-2019              | 25-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP075(SIM))<br>BH303 / 0.2E                  |               | 15-Jul-2019 | 03-Aug-2019              | 29-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP075(SIM))<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 03-Aug-2019              | 01-Aug-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP075(SIM))<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 03-Aug-2019              | 03-Aug-2019        | ✔          | 06-Aug-2019   | 12-Sep-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP075(SIM))<br>BH309 / 0.4E                  |               | 23-Jul-2019 | 03-Aug-2019              | 06-Aug-2019        | ✔          | 06-Aug-2019   | 12-Sep-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP075(SIM))<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 03-Aug-2019              | 07-Aug-2019        | ✔          | 06-Aug-2019   | 12-Sep-2019      | ✔          |

# (Preliminary Report)

Page : 21 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method                                                                |               | Sample Date | Extraction / Preparation |                    |            | Analysis      |                  |            |
|-----------------------------------------------------------------------|---------------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s)                                       |               |             | Date extracted           | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EP075A: Phenolic Compounds                                            |               |             |                          |                    |            |               |                  |            |
| Soil Glass Jar - Unpreserved (EP075)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 03-Aug-2019              | 23-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 03-Aug-2019              | 24-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 03-Aug-2019              | 25-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH303 / 0.2E                  |               | 15-Jul-2019 | 03-Aug-2019              | 29-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 03-Aug-2019              | 01-Aug-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 03-Aug-2019              | 03-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH309 / 0.4E                  |               | 23-Jul-2019 | 03-Aug-2019              | 06-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 03-Aug-2019              | 07-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| EP075B: Polynuclear Aromatic Hydrocarbons                             |               |             |                          |                    |            |               |                  |            |
| Soil Glass Jar - Unpreserved (EP075)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 03-Aug-2019              | 23-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 03-Aug-2019              | 24-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 03-Aug-2019              | 25-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH303 / 0.2E                  |               | 15-Jul-2019 | 03-Aug-2019              | 29-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 03-Aug-2019              | 01-Aug-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 03-Aug-2019              | 03-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH309 / 0.4E                  |               | 23-Jul-2019 | 03-Aug-2019              | 06-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 03-Aug-2019              | 07-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |

# (Preliminary Report)

Page : 22 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method                                                                |               | Sample Date | Extraction / Preparation |                    |            | Analysis      |                  |            |
|-----------------------------------------------------------------------|---------------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s)                                       |               |             | Date extracted           | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EP075C: Phthalate Esters                                              |               |             |                          |                    |            |               |                  |            |
| Soil Glass Jar - Unpreserved (EP075)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 03-Aug-2019              | 23-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 03-Aug-2019              | 24-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 03-Aug-2019              | 25-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH303 / 0.2E                  |               | 15-Jul-2019 | 03-Aug-2019              | 29-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 03-Aug-2019              | 01-Aug-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 03-Aug-2019              | 03-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH309 / 0.4E                  |               | 23-Jul-2019 | 03-Aug-2019              | 06-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 03-Aug-2019              | 07-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| EP075D: Nitrosamines                                                  |               |             |                          |                    |            |               |                  |            |
| Soil Glass Jar - Unpreserved (EP075)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 03-Aug-2019              | 23-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 03-Aug-2019              | 24-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 03-Aug-2019              | 25-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH303 / 0.2E                  |               | 15-Jul-2019 | 03-Aug-2019              | 29-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 03-Aug-2019              | 01-Aug-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 03-Aug-2019              | 03-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH309 / 0.4E                  |               | 23-Jul-2019 | 03-Aug-2019              | 06-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 03-Aug-2019              | 07-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |

# (Preliminary Report)

Page : 23 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method                                                                |               | Sample Date | Extraction / Preparation |                    |            | Analysis      |                  |            |
|-----------------------------------------------------------------------|---------------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s)                                       |               |             | Date extracted           | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EP075E: Nitroaromatics and Ketones                                    |               |             |                          |                    |            |               |                  |            |
| Soil Glass Jar - Unpreserved (EP075)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 03-Aug-2019              | 23-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 03-Aug-2019              | 24-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 03-Aug-2019              | 25-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH303 / 0.2E                  |               | 15-Jul-2019 | 03-Aug-2019              | 29-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 03-Aug-2019              | 01-Aug-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 03-Aug-2019              | 03-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH309 / 0.4E                  |               | 23-Jul-2019 | 03-Aug-2019              | 06-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 03-Aug-2019              | 07-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| EP075F: Haloethers                                                    |               |             |                          |                    |            |               |                  |            |
| Soil Glass Jar - Unpreserved (EP075)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 03-Aug-2019              | 23-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 03-Aug-2019              | 24-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 03-Aug-2019              | 25-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH303 / 0.2E                  |               | 15-Jul-2019 | 03-Aug-2019              | 29-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 03-Aug-2019              | 01-Aug-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 03-Aug-2019              | 03-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH309 / 0.4E                  |               | 23-Jul-2019 | 03-Aug-2019              | 06-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 03-Aug-2019              | 07-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |

# (Preliminary Report)

Page : 24 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method                                                                |               | Sample Date | Extraction / Preparation |                    |            | Analysis      |                  |            |
|-----------------------------------------------------------------------|---------------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s)                                       |               |             | Date extracted           | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EP075G: Chlorinated Hydrocarbons                                      |               |             |                          |                    |            |               |                  |            |
| Soil Glass Jar - Unpreserved (EP075)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 03-Aug-2019              | 23-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 03-Aug-2019              | 24-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 03-Aug-2019              | 25-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH303 / 0.2E                  |               | 15-Jul-2019 | 03-Aug-2019              | 29-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 03-Aug-2019              | 01-Aug-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 03-Aug-2019              | 03-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH309 / 0.4E                  |               | 23-Jul-2019 | 03-Aug-2019              | 06-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 03-Aug-2019              | 07-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| EP075H: Anilines and Benzidines                                       |               |             |                          |                    |            |               |                  |            |
| Soil Glass Jar - Unpreserved (EP075)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 03-Aug-2019              | 23-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 03-Aug-2019              | 24-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 03-Aug-2019              | 25-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH303 / 0.2E                  |               | 15-Jul-2019 | 03-Aug-2019              | 29-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 03-Aug-2019              | 01-Aug-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 03-Aug-2019              | 03-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH309 / 0.4E                  |               | 23-Jul-2019 | 03-Aug-2019              | 06-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 03-Aug-2019              | 07-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |

# (Preliminary Report)

Page : 25 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method                                                                |               | Sample Date | Extraction / Preparation |                    |            | Analysis      |                  |            |
|-----------------------------------------------------------------------|---------------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s)                                       |               |             | Date extracted           | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EP075I: Organochlorine Pesticides                                     |               |             |                          |                    |            |               |                  |            |
| Soil Glass Jar - Unpreserved (EP075)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 03-Aug-2019              | 23-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 03-Aug-2019              | 24-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 03-Aug-2019              | 25-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH303 / 0.2E                  |               | 15-Jul-2019 | 03-Aug-2019              | 29-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 03-Aug-2019              | 01-Aug-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 03-Aug-2019              | 03-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH309 / 0.4E                  |               | 23-Jul-2019 | 03-Aug-2019              | 06-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 03-Aug-2019              | 07-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| EP075J: Organophosphorus Pesticides                                   |               |             |                          |                    |            |               |                  |            |
| Soil Glass Jar - Unpreserved (EP075)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 03-Aug-2019              | 23-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 03-Aug-2019              | 24-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 03-Aug-2019              | 25-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH303 / 0.2E                  |               | 15-Jul-2019 | 03-Aug-2019              | 29-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 03-Aug-2019              | 01-Aug-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 03-Aug-2019              | 03-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH309 / 0.4E                  |               | 23-Jul-2019 | 03-Aug-2019              | 06-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |
| Soil Glass Jar - Unpreserved (EP075)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 03-Aug-2019              | 07-Aug-2019        | ✓          | 06-Aug-2019   | 12-Sep-2019      | ✓          |

# (Preliminary Report)

Page : 26 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method                                                                |               | Sample Date | Extraction / Preparation |                    |            | Analysis      |                  |            |
|-----------------------------------------------------------------------|---------------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s)                                       |               |             | Date extracted           | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EP080/071: Total Petroleum Hydrocarbons                               |               |             |                          |                    |            |               |                  |            |
| Soil Glass Jar - Unpreserved (EP080)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 02-Aug-2019              | 23-Jul-2019        | ✖          | 02-Aug-2019   | 23-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP071)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 03-Aug-2019              | 23-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP080)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 02-Aug-2019              | 24-Jul-2019        | ✖          | 02-Aug-2019   | 24-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP071)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 03-Aug-2019              | 24-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP080)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 02-Aug-2019              | 25-Jul-2019        | ✖          | 02-Aug-2019   | 25-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP071)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 03-Aug-2019              | 25-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP080)<br>BH303 / 0.2E                  |               | 15-Jul-2019 | 02-Aug-2019              | 29-Jul-2019        | ✖          | 02-Aug-2019   | 29-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP071)<br>BH303 / 0.2E                  |               | 15-Jul-2019 | 03-Aug-2019              | 29-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP080)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 02-Aug-2019              | 01-Aug-2019        | ✖          | 02-Aug-2019   | 01-Aug-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP071)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 03-Aug-2019              | 01-Aug-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP080)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 02-Aug-2019              | 03-Aug-2019        | ✔          | 02-Aug-2019   | 03-Aug-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP071)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 03-Aug-2019              | 03-Aug-2019        | ✔          | 06-Aug-2019   | 12-Sep-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP080)<br>BH309 / 0.4E                  |               | 23-Jul-2019 | 02-Aug-2019              | 06-Aug-2019        | ✔          | 02-Aug-2019   | 06-Aug-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP071)<br>BH309 / 0.4E                  |               | 23-Jul-2019 | 03-Aug-2019              | 06-Aug-2019        | ✔          | 06-Aug-2019   | 12-Sep-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP080)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 02-Aug-2019              | 07-Aug-2019        | ✔          | 02-Aug-2019   | 07-Aug-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP071)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 03-Aug-2019              | 07-Aug-2019        | ✔          | 06-Aug-2019   | 12-Sep-2019      | ✔          |

# (Preliminary Report)

Page : 27 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method                                                                |               | Sample Date | Extraction / Preparation |                    |            | Analysis      |                  |            |
|-----------------------------------------------------------------------|---------------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s)                                       |               |             | Date extracted           | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions       |               |             |                          |                    |            |               |                  |            |
| Soil Glass Jar - Unpreserved (EP080)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 02-Aug-2019              | 23-Jul-2019        | ✖          | 02-Aug-2019   | 23-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP071)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 03-Aug-2019              | 23-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP080)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 02-Aug-2019              | 24-Jul-2019        | ✖          | 02-Aug-2019   | 24-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP071)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 03-Aug-2019              | 24-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP080)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 02-Aug-2019              | 25-Jul-2019        | ✖          | 02-Aug-2019   | 25-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP071)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 03-Aug-2019              | 25-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP080)<br>BH303 / 0.2E                  |               | 15-Jul-2019 | 02-Aug-2019              | 29-Jul-2019        | ✖          | 02-Aug-2019   | 29-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP071)<br>BH303 / 0.2E                  |               | 15-Jul-2019 | 03-Aug-2019              | 29-Jul-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP080)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 02-Aug-2019              | 01-Aug-2019        | ✖          | 02-Aug-2019   | 01-Aug-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP071)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 03-Aug-2019              | 01-Aug-2019        | ✖          | 06-Aug-2019   | 12-Sep-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP080)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 02-Aug-2019              | 03-Aug-2019        | ✔          | 02-Aug-2019   | 03-Aug-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP071)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 03-Aug-2019              | 03-Aug-2019        | ✔          | 06-Aug-2019   | 12-Sep-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP080)<br>BH309 / 0.4E                  |               | 23-Jul-2019 | 02-Aug-2019              | 06-Aug-2019        | ✔          | 02-Aug-2019   | 06-Aug-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP071)<br>BH309 / 0.4E                  |               | 23-Jul-2019 | 03-Aug-2019              | 06-Aug-2019        | ✔          | 06-Aug-2019   | 12-Sep-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP080)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 02-Aug-2019              | 07-Aug-2019        | ✔          | 02-Aug-2019   | 07-Aug-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP071)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 03-Aug-2019              | 07-Aug-2019        | ✔          | 06-Aug-2019   | 12-Sep-2019      | ✔          |

# (Preliminary Report)

Page : 28 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method                                                                |               | Sample Date | Extraction / Preparation |                    |            | Analysis      |                  |            |
|-----------------------------------------------------------------------|---------------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s)                                       |               |             | Date extracted           | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EP080: BTEXN                                                          |               |             |                          |                    |            |               |                  |            |
| Soil Glass Jar - Unpreserved (EP080)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 02-Aug-2019              | 23-Jul-2019        | ✖          | 02-Aug-2019   | 23-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP080)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 02-Aug-2019              | 24-Jul-2019        | ✖          | 02-Aug-2019   | 24-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP080)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 02-Aug-2019              | 25-Jul-2019        | ✖          | 02-Aug-2019   | 25-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP080)<br>BH303 / 0.2E                  |               | 15-Jul-2019 | 02-Aug-2019              | 29-Jul-2019        | ✖          | 02-Aug-2019   | 29-Jul-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP080)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 02-Aug-2019              | 01-Aug-2019        | ✖          | 02-Aug-2019   | 01-Aug-2019      | ✖          |
| Soil Glass Jar - Unpreserved (EP080)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 02-Aug-2019              | 03-Aug-2019        | ✔          | 02-Aug-2019   | 03-Aug-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP080)<br>BH309 / 0.4E                  |               | 23-Jul-2019 | 02-Aug-2019              | 06-Aug-2019        | ✔          | 02-Aug-2019   | 06-Aug-2019      | ✔          |
| Soil Glass Jar - Unpreserved (EP080)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 02-Aug-2019              | 07-Aug-2019        | ✔          | 02-Aug-2019   | 07-Aug-2019      | ✔          |
| EP231A: Perfluoroalkyl Sulfonic Acids                                 |               |             |                          |                    |            |               |                  |            |
| HDPE Soil Jar (EP231X)<br>BH306 / 0.5E,                               | BH306 / 1.5E  | 09-Jul-2019 | 04-Aug-2019              | 05-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |
| HDPE Soil Jar (EP231X)<br>BH403 / 0.2E,<br>BH404 / 0.5E               | BH404 / 0.1E, | 10-Jul-2019 | 04-Aug-2019              | 06-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |
| HDPE Soil Jar (EP231X)<br>BH304 / 0.7E                                |               | 11-Jul-2019 | 04-Aug-2019              | 07-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |
| HDPE Soil Jar (EP231X)<br>BH307 / 0.5E                                |               | 18-Jul-2019 | 04-Aug-2019              | 14-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |
| HDPE Soil Jar (EP231X)<br>BH305 / 0.4E                                |               | 20-Jul-2019 | 04-Aug-2019              | 16-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |
| HDPE Soil Jar (EP231X)<br>BH301 / 0.15E                               |               | 24-Jul-2019 | 04-Aug-2019              | 20-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |

# (Preliminary Report)

Page : 29 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: SOIL

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method                                                  |               | Sample Date | Extraction / Preparation |                    |            | Analysis      |                  |            |
|---------------------------------------------------------|---------------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s)                         |               |             | Date extracted           | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EP231B: Perfluoroalkyl Carboxylic Acids                 |               |             |                          |                    |            |               |                  |            |
| HDPE Soil Jar (EP231X)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 04-Aug-2019              | 05-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |
| HDPE Soil Jar (EP231X)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 04-Aug-2019              | 06-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |
| HDPE Soil Jar (EP231X)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 04-Aug-2019              | 07-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |
| HDPE Soil Jar (EP231X)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 04-Aug-2019              | 14-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |
| HDPE Soil Jar (EP231X)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 04-Aug-2019              | 16-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |
| HDPE Soil Jar (EP231X)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 04-Aug-2019              | 20-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |
| EP231C: Perfluoroalkyl Sulfonamides                     |               |             |                          |                    |            |               |                  |            |
| HDPE Soil Jar (EP231X)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 04-Aug-2019              | 05-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |
| HDPE Soil Jar (EP231X)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 04-Aug-2019              | 06-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |
| HDPE Soil Jar (EP231X)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 04-Aug-2019              | 07-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |
| HDPE Soil Jar (EP231X)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 04-Aug-2019              | 14-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |
| HDPE Soil Jar (EP231X)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 04-Aug-2019              | 16-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |
| HDPE Soil Jar (EP231X)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 04-Aug-2019              | 20-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |
| EP231D: (n:2) Fluorotelomer Sulfonic Acids              |               |             |                          |                    |            |               |                  |            |
| HDPE Soil Jar (EP231X)<br>BH306 / 0.5E,                 | BH306 / 1.5E  | 09-Jul-2019 | 04-Aug-2019              | 05-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |
| HDPE Soil Jar (EP231X)<br>BH403 / 0.2E,<br>BH404 / 0.5E | BH404 / 0.1E, | 10-Jul-2019 | 04-Aug-2019              | 06-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |
| HDPE Soil Jar (EP231X)<br>BH304 / 0.7E                  |               | 11-Jul-2019 | 04-Aug-2019              | 07-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |
| HDPE Soil Jar (EP231X)<br>BH307 / 0.5E                  |               | 18-Jul-2019 | 04-Aug-2019              | 14-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |
| HDPE Soil Jar (EP231X)<br>BH305 / 0.4E                  |               | 20-Jul-2019 | 04-Aug-2019              | 16-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |
| HDPE Soil Jar (EP231X)<br>BH301 / 0.15E                 |               | 24-Jul-2019 | 04-Aug-2019              | 20-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |

(Preliminary Report)

Page : 30 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method                                                  | Sample Date | Extraction / Preparation |                    |            | Analysis      |                  |            |  |
|---------------------------------------------------------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|--|
| Container / Client Sample ID(s)                         |             | Date extracted           | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |  |
| EP231P: PFAS Sums                                       |             |                          |                    |            |               |                  |            |  |
| HDPE Soil Jar (EP231X)<br>BH306 / 0.5E,<br>BH306 / 1.5E | 09-Jul-2019 | 04-Aug-2019              | 05-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |  |
| HDPE Soil Jar (EP231X)<br>BH403 / 0.2E,<br>BH404 / 0.5E | 10-Jul-2019 | 04-Aug-2019              | 06-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |  |
| HDPE Soil Jar (EP231X)<br>BH304 / 0.7E                  | 11-Jul-2019 | 04-Aug-2019              | 07-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |  |
| HDPE Soil Jar (EP231X)<br>BH307 / 0.5E                  | 18-Jul-2019 | 04-Aug-2019              | 14-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |  |
| HDPE Soil Jar (EP231X)<br>BH305 / 0.4E                  | 20-Jul-2019 | 04-Aug-2019              | 16-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |  |
| HDPE Soil Jar (EP231X)<br>BH301 / 0.15E                 | 24-Jul-2019 | 04-Aug-2019              | 20-Jan-2020        | ✔          | 05-Aug-2019   | 13-Sep-2019      | ✔          |  |

Matrix: **WATER**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method                                                  |               | Sample Date | Extraction / Preparation |                    |            | Analysis      |                  |            |
|---------------------------------------------------------|---------------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s)                         |               |             | Date extracted           | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EG005(ED093)C: Leachable Metals by ICPAES               |               |             |                          |                    |            |               |                  |            |
| Clear Plastic Bottle - Nitric Acid; Unfiltered (EG005C) |               |             |                          |                    |            |               |                  |            |
| BH301 / 0.15E,                                          | BH305 / 0.4E, | 05-Aug-2019 | 06-Aug-2019              | 01-Feb-2020        | ✔          | 06-Aug-2019   | 01-Feb-2020      | ✔          |
| BH307 / 0.5E                                            |               |             |                          |                    |            |               |                  |            |
| EG035C: Leachable Mercury by FIMS                       |               |             |                          |                    |            |               |                  |            |
| Clear Plastic Bottle - Nitric Acid; Unfiltered (EG035C) |               |             |                          |                    |            |               |                  |            |
| BH301 / 0.15E,                                          | BH305 / 0.4E, | 05-Aug-2019 | ----                     | ----               | ----       | 06-Aug-2019   | 02-Sep-2019      | ✔          |
| BH307 / 0.5E                                            |               |             |                          |                    |            |               |                  |            |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons          |               |             |                          |                    |            |               |                  |            |
| Amber Glass Bottle - Unpreserved (EP075(SIM))           |               |             |                          |                    |            |               |                  |            |
| BH301 / 0.15E,                                          | BH305 / 0.4E, | 05-Aug-2019 | 06-Aug-2019              | 12-Aug-2019        | ✔          | 06-Aug-2019   | 15-Sep-2019      | ✔          |
| BH307 / 0.5E                                            |               |             |                          |                    |            |               |                  |            |

## (Preliminary Report)

Page : 31 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



### Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

| Quality Control Sample Type                          |            | Count |         | Rate (%) |          | Quality Control Specification |                                |
|------------------------------------------------------|------------|-------|---------|----------|----------|-------------------------------|--------------------------------|
| Analytical Methods                                   | Method     | QC    | Regular | Actual   | Expected |                               | Evaluation                     |
| Laboratory Duplicates (DUP)                          |            |       |         |          |          |                               |                                |
| Moisture Content                                     | EA055      | 4     | 40      | 10.00    | 10.00    | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| PAH/Phenols (SIM)                                    | EP075(SIM) | 2     | 11      | 18.18    | 10.00    | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS | EP231X     | 2     | 20      | 10.00    | 10.00    | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Polychlorinated Biphenyls (PCB)                      | EP066      | 2     | 11      | 18.18    | 10.00    | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Semivolatile Organic Compounds                       | EP075      | 2     | 11      | 18.18    | 10.00    | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Total Mercury by FIMS                                | EG035T     | 2     | 20      | 10.00    | 10.00    | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Total Metals by ICP-AES                              | EG005T     | 2     | 20      | 10.00    | 10.00    | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction                          | EP071      | 2     | 11      | 18.18    | 10.00    | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX                                   | EP080      | 2     | 20      | 10.00    | 10.00    | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Volatile Organic Compounds                           | EP074      | 2     | 20      | 10.00    | 10.00    | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Laboratory Control Samples (LCS)                     |            |       |         |          |          |                               |                                |
| PAH/Phenols (SIM)                                    | EP075(SIM) | 1     | 11      | 9.09     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS | EP231X     | 1     | 20      | 5.00     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Polychlorinated Biphenyls (PCB)                      | EP066      | 1     | 11      | 9.09     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Semivolatile Organic Compounds                       | EP075      | 1     | 11      | 9.09     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Total Mercury by FIMS                                | EG035T     | 1     | 20      | 5.00     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Total Metals by ICP-AES                              | EG005T     | 1     | 20      | 5.00     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction                          | EP071      | 1     | 11      | 9.09     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX                                   | EP080      | 1     | 20      | 5.00     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Volatile Organic Compounds                           | EP074      | 1     | 20      | 5.00     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Method Blanks (MB)                                   |            |       |         |          |          |                               |                                |
| PAH/Phenols (SIM)                                    | EP075(SIM) | 1     | 11      | 9.09     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS | EP231X     | 1     | 20      | 5.00     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Polychlorinated Biphenyls (PCB)                      | EP066      | 1     | 11      | 9.09     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Semivolatile Organic Compounds                       | EP075      | 1     | 11      | 9.09     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| TCLP for Non & Semivolatile Analytes                 | EN33a      | 1     | 10      | 10.00    | 9.09     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Total Mercury by FIMS                                | EG035T     | 1     | 20      | 5.00     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Total Metals by ICP-AES                              | EG005T     | 1     | 20      | 5.00     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction                          | EP071      | 1     | 11      | 9.09     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX                                   | EP080      | 1     | 20      | 5.00     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Volatile Organic Compounds                           | EP074      | 1     | 20      | 5.00     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Matrix Spikes (MS)                                   |            |       |         |          |          |                               |                                |
| PAH/Phenols (SIM)                                    | EP075(SIM) | 1     | 11      | 9.09     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS | EP231X     | 1     | 20      | 5.00     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Polychlorinated Biphenyls (PCB)                      | EP066      | 1     | 11      | 9.09     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Semivolatile Organic Compounds                       | EP075      | 1     | 11      | 9.09     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |

(Preliminary Report)

Page : 32 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



Matrix: **SOIL** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

| Quality Control Sample Type    |        | Count |         | Rate (%) |          |            | Quality Control Specification  |
|--------------------------------|--------|-------|---------|----------|----------|------------|--------------------------------|
| Analytical Methods             | Method | QC    | Regular | Actual   | Expected | Evaluation |                                |
| Matrix Spikes (MS) - Continued |        |       |         |          |          |            |                                |
| Total Mercury by FIMS          | EG035T | 1     | 20      | 5.00     | 5.00     | ✓          | NEPM 2013 B3 & ALS QC Standard |
| Total Metals by ICP-AES        | EG005T | 1     | 20      | 5.00     | 5.00     | ✓          | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction    | EP071  | 1     | 11      | 9.09     | 5.00     | ✓          | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX             | EP080  | 1     | 20      | 5.00     | 5.00     | ✓          | NEPM 2013 B3 & ALS QC Standard |
| Volatile Organic Compounds     | EP074  | 1     | 20      | 5.00     | 5.00     | ✓          | NEPM 2013 B3 & ALS QC Standard |

Matrix: **WATER** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

| Quality Control Sample Type      |            | Count |         | Rate (%) |          |            | Quality Control Specification  |
|----------------------------------|------------|-------|---------|----------|----------|------------|--------------------------------|
| Analytical Methods               | Method     | QC    | Regular | Actual   | Expected | Evaluation |                                |
| Laboratory Duplicates (DUP)      |            |       |         |          |          |            |                                |
| Leachable Mercury by FIMS        | EG035C     | 1     | 3       | 33.33    | 10.00    | ✓          | NEPM 2013 B3 & ALS QC Standard |
| Leachable Metals by ICPAES       | EG005C     | 2     | 10      | 20.00    | 10.00    | ✓          | NEPM 2013 B3 & ALS QC Standard |
| PAH/Phenols (GC/MS - SIM)        | EP075(SIM) | 0     | 12      | 0.00     | 10.00    | ✗          | NEPM 2013 B3 & ALS QC Standard |
| Laboratory Control Samples (LCS) |            |       |         |          |          |            |                                |
| Leachable Mercury by FIMS        | EG035C     | 1     | 3       | 33.33    | 5.00     | ✓          | NEPM 2013 B3 & ALS QC Standard |
| Leachable Metals by ICPAES       | EG005C     | 1     | 10      | 10.00    | 5.00     | ✓          | NEPM 2013 B3 & ALS QC Standard |
| PAH/Phenols (GC/MS - SIM)        | EP075(SIM) | 1     | 12      | 8.33     | 5.00     | ✓          | NEPM 2013 B3 & ALS QC Standard |
| Method Blanks (MB)               |            |       |         |          |          |            |                                |
| Leachable Mercury by FIMS        | EG035C     | 1     | 3       | 33.33    | 5.00     | ✓          | NEPM 2013 B3 & ALS QC Standard |
| Leachable Metals by ICPAES       | EG005C     | 1     | 10      | 10.00    | 5.00     | ✓          | NEPM 2013 B3 & ALS QC Standard |
| PAH/Phenols (GC/MS - SIM)        | EP075(SIM) | 1     | 12      | 8.33     | 5.00     | ✓          | NEPM 2013 B3 & ALS QC Standard |
| Matrix Spikes (MS)               |            |       |         |          |          |            |                                |
| Leachable Mercury by FIMS        | EG035C     | 1     | 3       | 33.33    | 5.00     | ✓          | NEPM 2013 B3 & ALS QC Standard |
| Leachable Metals by ICPAES       | EG005C     | 1     | 10      | 10.00    | 5.00     | ✓          | NEPM 2013 B3 & ALS QC Standard |
| PAH/Phenols (GC/MS - SIM)        | EP075(SIM) | 0     | 12      | 0.00     | 5.00     | ✗          | NEPM 2013 B3 & ALS QC Standard |

## (Preliminary Report)

Page : 33 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



### Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

| Analytical Methods                                          | Method  | Matrix | Method Descriptions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------|---------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suspension Peroxide Oxidation-Combined Acidity and Sulphate | EA029   | SOIL   | In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.                                                                                                                                           |
| ASS Field Screening Analysis                                | * EA037 | SOIL   | In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines, version 2.1 June 2004. As received samples are tested for pH field and pH fox and assessed for a reaction rating.                                                                                                                                                                                                                                                                                                                                                          |
| Moisture Content                                            | EA055   | SOIL   | In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).                                                                                                                                                                                                                                                                                                                                     |
| Asbestos Identification in Soils                            | EA200   | SOIL   | AS 4964 - 2004 Method for the qualitative identification of asbestos in bulk samples<br>Analysis by Polarised Light Microscopy including dispersion staining                                                                                                                                                                                                                                                                                                                                                                                         |
| Leachable Metals by ICPAES                                  | EG005C  | SOIL   | In house: referenced to APHA 3120; USEPA SW 846 - 6010: The ICPAES technique ionises leachate sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM (2013) Schedule B(3)                                                                                                                                                                                                                                                           |
| Total Metals by ICP-AES                                     | EG005T  | SOIL   | In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3)                                                                                                                                                 |
| Leachable Mercury by FIMS                                   | EG035C  | SOIL   | In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl <sub>2</sub> )(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the TCLP solution. The ionic mercury is reduced online to atomic mercury vapour by SnCl <sub>2</sub> which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3) |
| Total Mercury by FIMS                                       | EG035T  | SOIL   | In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl <sub>2</sub> ) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl <sub>2</sub> which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)                           |
| Polychlorinated Biphenyls (PCB)                             | EP066   | SOIL   | In house: Referenced to USEPA SW 846 - 8270D Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)                                                                                                                                                                                                                                                                                                     |
| TRH - Semivolatile Fraction                                 | EP071   | SOIL   | In house: Referenced to USEPA SW 846 - 8015A Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM amended 2013.                                                                                                                                                                                                                                                                                                                                                    |
| Volatile Organic Compounds                                  | EP074   | SOIL   | In house: Referenced to USEPA SW 846 - 8260B Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 501)                                                                                                                                                                                                                                                                                        |

## (Preliminary Report)

Page : 34 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312



| Analytical Methods                                         | Method     | Matrix | Method Descriptions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------|------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Semivolatile Organic Compounds                             | EP075      | SOIL   | In house: Referenced to USEPA SW 846 - 8270D Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (2013) Schedule B(3) (Method 502)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| PAH/Phenols (SIM)                                          | EP075(SIM) | SOIL   | In house: Referenced to USEPA SW 846 - 8270D. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 502 and 507)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TRH Volatiles/BTEX                                         | EP080      | SOIL   | In house: Referenced to USEPA SW 846 - 8260B. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM amended 2013.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS       | EP231X     | SOIL   | In-House. A portion of soil is extracted with MTBE. The extract is taken to dryness, made up in mobile phase. Analysis is by LC/MSMS, ESI Negative Mode using MRM. Where commercially available, isotopically labelled analogues of the target analytes are used as internal standards for quantification. Where a labelled analogue is not commercially available, the internal standard with similar chemistry and the closest retention time to the target is used for quantification. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. This method complies with the quality control definitions as stated in QSM 5.1. Data is reviewed in line with the DQOs as stated in QSM5.1 |
| Preparation Methods                                        | Method     | Matrix | Method Descriptions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Drying only                                                | EN020D     | SOIL   | In house                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Drying at 85 degrees, bagging and labelling (ASS)          | EN020PR    | SOIL   | In house                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Digestion for Total Recoverable Metals in TCLP Leachate    | EN25C      | SOIL   | In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (2013) Schedule B(3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TCLP for Non & Semivolatile Analytes                       | EN33a      | SOIL   | In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Hot Block Digest for metals in soils sediments and sludges | EN69       | SOIL   | In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (2013) Schedule B(3) (Method 202)                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Sample Extraction for PFAS                                 | EP231-PR   | SOIL   | In house                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Separatory Funnel Extraction of Liquids                    | ORG14      | SOIL   | In house: Referenced to USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Methanolic Extraction of Soils for Purge and Trap          | ORG16      | SOIL   | In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Tumbler Extraction of Solids                               | ORG17      | SOIL   | In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

## (Preliminary Report)

Page : 35 of 35  
Work Order : ES1924021  
Client : GOLDER ASSOCIATES  
Project : 19125312

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Lab / Address: Newcas  
Origin: Asbestos  
Remarks: by / Lab: Brisbane



# CHAIN OF CUSTODY

ALS Laboratory: please tick →

SYDNEY: 277 Victoria Road, Sydney NSW 1570  
Ph: 02 9375 5555 Fax: 02 9375 5556  
E: sales@als.com.au  
M: 02 9375 5557  
Perth: 4855 0433 E: perth@als.com.au

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Ph: 06 4462 0433 E: towamba@als.com.au

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Ph: 08 8333 2155 E: adelaide@als.com.au

Perth: 277 Victoria Road, Perth WA 6000  
Ph: 08 9375 5555 E: perth@als.com.au

|                                                                                              |                   |                                                                       |                                                                      |                                                     |              |
|----------------------------------------------------------------------------------------------|-------------------|-----------------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------|--------------|
| CLIENT:                                                                                      | Golder Associates | TURNAROUND REQUIREMENTS:                                              | <input type="checkbox"/> Standard TAT (List due date):               | FOR LABORATORY USE ONLY (Circle):                   |              |
| OFFICE:                                                                                      | Sydney            | (Standard TAT may be longer for some tests e.g. Micro Trace Elements) | <input type="checkbox"/> Non Standard or urgent TAT (List due date): | Quality Seal intact?                                | Yes No NA    |
| PROJECT:                                                                                     | 19125312          | ALS QUOTE NO.:                                                        | COC SEQUENCE NUMBER (Circle):                                        | Field Test / Home for results present, both marked? | Yes No NA    |
| ORDER NUMBER:                                                                                |                   |                                                                       | COC: 1 2 3 4 5 6 7                                                   | Relinquished Sample Temperature on Receipt          |              |
| PROJECT MANAGER:                                                                             | Eric Woon         | CONTACT PH: 0413 814 815                                              | OF: 1 2 3 4 5 6 7                                                    | Other on Receipt                                    |              |
| SAMPLER:                                                                                     |                   | SAMPLER MODEL:                                                        | RECEIVED BY: <i>[Signature]</i>                                      | RELINQUISHED BY:                                    | RECEIVED BY: |
| COC emailed to ALS? (YES / NO)                                                               |                   | EDD FORMAT (or default):                                              | DATE/TIME: 31/7/19 11:30am                                           | DATE/TIME:                                          | DATE/TIME:   |
| Email Reports to (will default to PM if no other addresses are listed): erwoon@golder.com.au |                   |                                                                       |                                                                      |                                                     |              |
| Email Invoice to (will default to PM if no other addresses are listed): erwoon@golder.com.au |                   |                                                                       |                                                                      |                                                     |              |

| COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:                                                                                                                                                                                                                                                   |               |             |        |                                               |               |                                                                                                                                                                                                                    |      |            |             |           |                                 |                           |                  |              |                                                                                                  |                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------|--------|-----------------------------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------------|-------------|-----------|---------------------------------|---------------------------|------------------|--------------|--------------------------------------------------------------------------------------------------|------------------------|
| All Use Only                                                                                                                                                                                                                                                                                     |               |             |        |                                               |               |                                                                                                                                                                                                                    |      |            |             |           |                                 |                           |                  |              |                                                                                                  |                        |
| SAMPLE DETAILS<br>MATRIX: Solid(S) Water(W)                                                                                                                                                                                                                                                      |               |             |        | CONTAINER INFORMATION                         |               | ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price)<br>Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (0.45µm filtered bottle required) |      |            |             |           |                                 |                           |                  |              |                                                                                                  | Additional Information |
| LAB ID                                                                                                                                                                                                                                                                                           | SAMPLE ID     | DATE / TIME | MATRIX | TYPE & PRESERVATIVE<br>(refer to codes below) | TOTAL BOTTLES | TRH (Cd/Cr) / BTEXN / 8 metals / PAHs                                                                                                                                                                              | PCBs | VOC / SVOC | TCLP Metals | TCLP PAHs | PFAS - Full Suite (28 analytes) | Asbestos presence/absence | ASS Field Screen | SPOCAS Suite | Comments on likely contaminant levels, divisions, or samples requiring specific QC analysis etc. |                        |
| 1                                                                                                                                                                                                                                                                                                | BH301 / 0.15E | 24/07/2019  |        | 250 glass jar                                 | 1             | 1                                                                                                                                                                                                                  | 1    | 1          | 1           | 1         |                                 |                           |                  |              |                                                                                                  |                        |
| 2                                                                                                                                                                                                                                                                                                | BH301 / 0.15E | 24/07/2019  |        | 200 plastic jar                               | 1             |                                                                                                                                                                                                                    |      |            |             |           | 1                               |                           |                  |              |                                                                                                  |                        |
| 3                                                                                                                                                                                                                                                                                                | BH301 / 0.15E | 24/07/2019  |        | 50 ml plastic bag                             | 1             |                                                                                                                                                                                                                    |      |            |             |           |                                 | 1                         |                  |              |                                                                                                  |                        |
| 4                                                                                                                                                                                                                                                                                                | BH303 / 0.2E  | 15/07/2019  |        | 250 glass jar                                 | 1             | 1                                                                                                                                                                                                                  | 1    | 1          | 1           | 1         |                                 |                           |                  |              |                                                                                                  |                        |
| 5                                                                                                                                                                                                                                                                                                | BH303 / 0.2E  | 15/07/2019  |        | 200 plastic jar                               | 1             |                                                                                                                                                                                                                    |      |            |             |           | 1                               |                           |                  |              |                                                                                                  |                        |
| 6                                                                                                                                                                                                                                                                                                | BH303 / 0.2E  | 15/07/2019  |        | 50 ml plastic bag                             | 1             |                                                                                                                                                                                                                    |      |            |             |           |                                 | 1                         |                  |              |                                                                                                  |                        |
| 7                                                                                                                                                                                                                                                                                                | BH304 / 0.7E  | 11/07/2019  |        | 250 glass jar                                 | 1             | 1                                                                                                                                                                                                                  | 1    | 1          | 1           | 1         |                                 |                           |                  |              |                                                                                                  |                        |
| 8                                                                                                                                                                                                                                                                                                | BH304 / 0.7E  | 11/07/2019  |        | 200 plastic jar                               | 1             |                                                                                                                                                                                                                    |      |            |             |           | 1                               |                           |                  |              |                                                                                                  |                        |
| 9                                                                                                                                                                                                                                                                                                | BH304 / 0.7E  | 11/07/2019  |        | 50 ml plastic bag                             | 1             |                                                                                                                                                                                                                    |      |            |             |           |                                 | 1                         |                  |              |                                                                                                  |                        |
| 10                                                                                                                                                                                                                                                                                               | BH304 / 0.7E  | 11/07/2019  |        | 200 ml plastic bag                            | 1             |                                                                                                                                                                                                                    |      |            |             |           |                                 |                           | 1                | 1            |                                                                                                  |                        |
| 11                                                                                                                                                                                                                                                                                               | BH305 / 0.4E  | 20/07/2019  |        | 250 glass jar                                 | 1             | 1                                                                                                                                                                                                                  | 1    | 1          | 1           | 1         |                                 |                           |                  |              |                                                                                                  |                        |
| 12                                                                                                                                                                                                                                                                                               | BH305 / 0.4E  | 20/07/2019  |        | 200 plastic jar                               | 1             |                                                                                                                                                                                                                    |      |            |             |           | 1                               |                           |                  |              |                                                                                                  |                        |
| 13                                                                                                                                                                                                                                                                                               | BH305 / 0.4E  | 20/07/2019  |        | 200 ml plastic bag                            | 1             |                                                                                                                                                                                                                    |      |            |             |           |                                 |                           | 1                | 1            |                                                                                                  |                        |
| 14                                                                                                                                                                                                                                                                                               | BH306 / 0.5E  | 9/07/2019   |        | 250 glass jar                                 | 1             | 1                                                                                                                                                                                                                  | 1    | 1          | 1           | 1         |                                 |                           |                  |              |                                                                                                  |                        |
| 15                                                                                                                                                                                                                                                                                               | BH306 / 0.5E  | 9/07/2019   |        | 200 plastic jar                               | 1             |                                                                                                                                                                                                                    |      |            |             |           | 1                               |                           |                  |              |                                                                                                  |                        |
| 16                                                                                                                                                                                                                                                                                               | BH306 / 0.5E  | 9/07/2019   |        | 50 ml plastic bag                             | 1             |                                                                                                                                                                                                                    |      |            |             |           |                                 | 1                         |                  |              |                                                                                                  |                        |
| 17                                                                                                                                                                                                                                                                                               | BH306 / 1.5E  | 9/07/2019   |        | 250 glass jar                                 | 1             | 1                                                                                                                                                                                                                  | 1    | 1          | 1           | 1         |                                 |                           |                  |              |                                                                                                  |                        |
| 18                                                                                                                                                                                                                                                                                               | BH306 / 1.5E  | 9/07/2019   |        | 200 plastic jar                               | 1             |                                                                                                                                                                                                                    |      |            |             |           | 1                               |                           |                  |              |                                                                                                  |                        |
| 19                                                                                                                                                                                                                                                                                               | BH306 / 1.5E  | 9/07/2019   |        | 50 ml plastic bag                             | 1             |                                                                                                                                                                                                                    |      |            |             |           |                                 | 1                         |                  |              |                                                                                                  |                        |
| 20                                                                                                                                                                                                                                                                                               | BH307 / 0.5E  | 18/07/2019  |        | 250 glass jar                                 | 1             | 1                                                                                                                                                                                                                  | 1    | 1          | 1           | 1         |                                 |                           |                  |              |                                                                                                  |                        |
| 21                                                                                                                                                                                                                                                                                               | BH307 / 0.5E  | 18/07/2019  |        | 200 plastic jar                               | 1             |                                                                                                                                                                                                                    |      |            |             |           | 1                               |                           |                  |              |                                                                                                  |                        |
| 22                                                                                                                                                                                                                                                                                               | BH307 / 0.5E  | 18/07/2019  |        | 50 ml plastic bag                             | 1             |                                                                                                                                                                                                                    |      |            |             |           |                                 | 1                         |                  |              |                                                                                                  |                        |
| 23                                                                                                                                                                                                                                                                                               | BH307 / 0.5E  | 18/07/2019  |        | 200 ml plastic bag                            | 1             |                                                                                                                                                                                                                    |      |            |             |           |                                 |                           | 1                | 1            |                                                                                                  |                        |
| 24                                                                                                                                                                                                                                                                                               | BH309 / 0.4E  | 23/07/2019  |        | 250 glass jar                                 | 1             | 1                                                                                                                                                                                                                  | 1    | 1          | 1           | 1         |                                 |                           |                  |              |                                                                                                  |                        |
| 25                                                                                                                                                                                                                                                                                               | BH309 / 0.4E  | 23/07/2019  |        | 200 ml plastic bag                            | 1             |                                                                                                                                                                                                                    |      |            |             |           |                                 |                           | 1                | 1            |                                                                                                  |                        |
| 26                                                                                                                                                                                                                                                                                               | BH403 / 0.2E  | 10/07/2019  |        | 250 glass jar                                 | 1             | 1                                                                                                                                                                                                                  | 1    | 1          | 1           | 1         |                                 |                           |                  |              |                                                                                                  |                        |
| 27                                                                                                                                                                                                                                                                                               | BH403 / 0.2E  | 10/07/2019  |        | 200 plastic jar                               | 1             |                                                                                                                                                                                                                    |      |            |             |           | 1                               |                           |                  |              |                                                                                                  |                        |
| 28                                                                                                                                                                                                                                                                                               | BH403 / 0.2E  | 10/07/2019  |        | 50 ml plastic bag                             | 1             |                                                                                                                                                                                                                    |      |            |             |           |                                 | 1                         |                  |              |                                                                                                  |                        |
| 29                                                                                                                                                                                                                                                                                               | BH404 / 0.1E  | 10/07/2019  |        | 250 glass jar                                 | 1             | 1                                                                                                                                                                                                                  | 1    | 1          | 1           | 1         |                                 |                           |                  |              |                                                                                                  |                        |
| 30                                                                                                                                                                                                                                                                                               | BH404 / 0.1E  | 10/07/2019  |        | 200 plastic jar                               | 1             |                                                                                                                                                                                                                    |      |            |             |           | 1                               |                           |                  |              |                                                                                                  |                        |
| 31                                                                                                                                                                                                                                                                                               | BH404 / 0.1E  | 10/07/2019  |        | 50 ml plastic bag                             | 1             |                                                                                                                                                                                                                    |      |            |             |           |                                 | 1                         |                  |              |                                                                                                  |                        |
| 32                                                                                                                                                                                                                                                                                               | BH404 / 0.5E  | 10/07/2019  |        | 250 glass jar                                 | 1             | 1                                                                                                                                                                                                                  | 1    | 1          | 1           | 1         |                                 |                           |                  |              |                                                                                                  |                        |
| 33                                                                                                                                                                                                                                                                                               | BH404 / 0.5E  | 10/07/2019  |        | 200 plastic jar                               | 1             |                                                                                                                                                                                                                    |      |            |             |           | 1                               |                           |                  |              |                                                                                                  |                        |
| 34                                                                                                                                                                                                                                                                                               | BH404 / 0.5E  | 10/07/2019  |        | 50 ml plastic bag                             | 1             |                                                                                                                                                                                                                    |      |            |             |           |                                 | 1                         |                  |              |                                                                                                  |                        |
| TOTAL                                                                                                                                                                                                                                                                                            |               |             |        |                                               |               | 11                                                                                                                                                                                                                 | 11   | 11         | 11          | 11        | 10                              | 6                         | 4                | 4            |                                                                                                  |                        |
| Environmental Division<br>Sydney                                                                                                                                                                                                                                                                 |               |             |        |                                               |               |                                                                                                                                                                                                                    |      |            |             |           |                                 |                           |                  |              |                                                                                                  |                        |
| Work Order Reference                                                                                                                                                                                                                                                                             |               |             |        |                                               |               |                                                                                                                                                                                                                    |      |            |             |           |                                 |                           |                  |              |                                                                                                  |                        |
| Preservat: S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Air-tight Unpreserved Plastic<br>HSG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; |               |             |        |                                               |               |                                                                                                                                                                                                                    |      |            |             |           |                                 |                           |                  |              |                                                                                                  |                        |

Water Container Codes: P = Unpreserved Plastic  
V = VOA Vial HCl Preserved; VB = VOA Vial Std  
Z = Zinc Aspartate Preserved Bottle; E = EDTA Pres

Preservative: S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic  
H2SO4 = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;  
nd Reg.

Environmental Division  
Sydney  
Work Order Reference  
ES1924021



Telephone: +61-2-8784 8555

177

[illegible]

| SAMPLE DETAILS<br>(MAXIMUM 300 CHARACTERS) |               |             | CONTAINER INFORMATION |                                               | ANALYSIS REQUIRED INCLUDING DUTIES (N/A: State Codes must be listed to extract data points)<br><small>(Items marked as required, specify "Yes" and unmarked items marked as "Not required" based on material type)</small> |                                        |      |            |             |           |                                 |                           |                  |              | Additional Information                                                                         |  |
|--------------------------------------------|---------------|-------------|-----------------------|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|------|------------|-------------|-----------|---------------------------------|---------------------------|------------------|--------------|------------------------------------------------------------------------------------------------|--|
| LAB ID                                     | SAMPLE ID     | DATE / TIME | MATRIX                | TYPE & PRESERVATIVE<br>(refer to codes below) | TOTAL BOTTLES                                                                                                                                                                                                              | TRI (C9-C40) / BTEXN / 8 metals / PAHs | PCBs | VOC / SVOC | TCDF Metals | TCDF PAHs | PFAS – Full Suite (28 analytes) | Asbestos presence/absence | AES Field Screen | SPOCAS Suite | Comments or other container specific information or remarks required to specify, DO NOT REMOVE |  |
| 1                                          | BH301 / 0.15E | 24-07-19    |                       | 250 glass jar                                 | 1                                                                                                                                                                                                                          | 1                                      | 1    | 1          | 1           | 1         |                                 |                           |                  |              |                                                                                                |  |
| 2                                          | BH301 / 0.15E | 24-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           | 1                               |                           |                  |              |                                                                                                |  |
| 3                                          | BH301 / 0.15E | 24-07-19    |                       | 60 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 4                                          | BH303 / 0.2E  | 16-07-19    |                       | 250 glass jar                                 | 1                                                                                                                                                                                                                          | 1                                      | 1    | 1          |             |           |                                 |                           |                  |              |                                                                                                |  |
| 5                                          | BH303 / 0.2E  | 16-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              | Sample not received - test removed                                                             |  |
| 6                                          | BH303 / 0.2E  | 15-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 | 1                         |                  |              |                                                                                                |  |
| 7                                          | BH304 / 0.7E  | 11-07-19    |                       | 250 glass jar                                 | 1                                                                                                                                                                                                                          | 1                                      | 1    | 1          |             |           |                                 |                           |                  |              |                                                                                                |  |
| 8                                          | BH304 / 0.7E  | 11-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           | 1                               |                           |                  |              |                                                                                                |  |
| 9                                          | BH304 / 0.7E  | 11-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 | 1                         |                  |              |                                                                                                |  |
| 10                                         | BH304 / 0.7E  | 11-07-19    |                       | 200 ml plastic bag                            | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  | 1            |                                                                                                |  |
| 11                                         | BH305 / 0.4E  | 20-07-19    |                       | 250 glass jar                                 | 1                                                                                                                                                                                                                          | 1                                      | 1    | 1          | 1           | 1         |                                 |                           |                  |              |                                                                                                |  |
| 12                                         | BH305 / 0.4E  | 20-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 13                                         | BH305 / 0.4E  | 20-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 | 1                         |                  |              | Received 50ml asbestos bag                                                                     |  |
| 14                                         | BH306 / 0.5E  | 09-07-19    |                       | 250 glass jar                                 | 1                                                                                                                                                                                                                          | 1                                      | 1    | 1          | 1           |           |                                 |                           |                  |              |                                                                                                |  |
| 15                                         | BH306 / 0.5E  | 09-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 | 1                         |                  |              |                                                                                                |  |
| 16                                         | BH306 / 0.5E  | 09-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 17                                         | BH306 / 0.5E  | 09-07-19    |                       | 250 glass jar                                 | 1                                                                                                                                                                                                                          | 1                                      | 1    | 1          | 1           |           |                                 | 1                         |                  |              |                                                                                                |  |
| 18                                         | BH306 / 0.5E  | 09-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 19                                         | BH306 / 0.5E  | 09-07-19    |                       | 200 ml plastic bag                            | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  | 1            | Received 200ml AAS bag (TCDFN)                                                                 |  |
| 20                                         | BH307 / 0.5E  | 18-07-19    |                       | 250 glass jar                                 | 1                                                                                                                                                                                                                          | 1                                      | 1    | 1          | 1           | 1         |                                 |                           |                  |              |                                                                                                |  |
| 21                                         | BH307 / 0.5E  | 18-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 22                                         | BH307 / 0.5E  | 18-07-19    |                       | 60 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 23                                         | BH307 / 0.5E  | 18-07-19    |                       | 200 ml plastic bag                            | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  | 1            |                                                                                                |  |
| 24                                         | BH309 / 0.4E  | 23-07-19    |                       | 250 glass jar                                 | 1                                                                                                                                                                                                                          | 1                                      | 1    | 1          | 1           |           |                                 |                           |                  |              |                                                                                                |  |
| 25                                         | BH309 / 0.4E  | 23-07-19    |                       | 200 ml plastic bag                            | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  | 1            |                                                                                                |  |
| 26                                         | BH403 / 0.2E  | 10-07-19    |                       | 250 glass jar                                 | 1                                                                                                                                                                                                                          | 1                                      | 1    | 1          | 1           |           |                                 |                           |                  |              |                                                                                                |  |
| 27                                         | BH403 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 28                                         | BH403 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 29                                         | BH403 / 0.2E  | 10-07-19    |                       | 250 glass jar                                 | 1                                                                                                                                                                                                                          | 1                                      | 1    | 1          | 1           |           |                                 |                           |                  |              |                                                                                                |  |
| 30                                         | BH404 / 0.1E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 31                                         | BH404 / 0.1E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  | 1            |                                                                                                |  |
| 32                                         | BH404 / 0.2E  | 10-07-19    |                       | 250 glass jar                                 | 1                                                                                                                                                                                                                          | 1                                      | 1    | 1          | 1           |           |                                 |                           |                  |              |                                                                                                |  |
| 33                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 34                                         | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 35                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 36                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 37                                         | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 38                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 39                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 40                                         | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 41                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 42                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 43                                         | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 44                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 45                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 46                                         | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 47                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 48                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 49                                         | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 50                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 51                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 52                                         | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 53                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 54                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 55                                         | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 56                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 57                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 58                                         | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 59                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 60                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 61                                         | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 62                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 63                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 64                                         | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 65                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 66                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 67                                         | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 68                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 69                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 70                                         | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 71                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 72                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 73                                         | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 74                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 75                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 76                                         | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 77                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 78                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 79                                         | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 80                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 81                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 82                                         | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 83                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 84                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 85                                         | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 86                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 87                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 88                                         | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 89                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 90                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 91                                         | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 92                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 93                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 94                                         | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 95                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 96                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 97                                         | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 98                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 99                                         | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 100                                        | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 101                                        | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 102                                        | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 103                                        | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 104                                        | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 105                                        | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 106                                        | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 107                                        | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 108                                        | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 109                                        | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 110                                        | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 111                                        | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 112                                        | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 113                                        | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 114                                        | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 115                                        | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 116                                        | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 117                                        | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 118                                        | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 119                                        | BH404 / 0.2E  | 10-07-19    |                       | 200 glass jar                                 | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 120                                        | BH404 / 0.2E  | 10-07-19    |                       | 200 plastic jar                               | 1                                                                                                                                                                                                                          |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |
| 121                                        | BH404 / 0.2E  | 10-07-19    |                       | 50 ml plastic bag                             |                                                                                                                                                                                                                            |                                        |      |            |             |           |                                 |                           |                  |              |                                                                                                |  |

Environmental Division  
Sydney  
Work Order Reference  
ES1922402

## QUALITY CONTROL REPORT

|                                |                                                                           |                                |                                                              |
|--------------------------------|---------------------------------------------------------------------------|--------------------------------|--------------------------------------------------------------|
| <b>Work Order</b>              | <b>: ES1924476</b>                                                        | <b>Page</b>                    | <b>: 1 of 11</b>                                             |
| <b>Client</b>                  | <b>: GOLDER ASSOCIATES</b>                                                | <b>Laboratory</b>              | <b>: Environmental Division Sydney</b>                       |
| <b>Contact</b>                 | <b>: BERNIE FRANCIS</b>                                                   | <b>Contact</b>                 | <b>: Customer Services ES</b>                                |
| <b>Address</b>                 | <b>: LEVEL 1, 124 PACIFIC HIGHWAY<br/>ST LEONARDS NSW, AUSTRALIA 2065</b> | <b>Address</b>                 | <b>: 277-289 Woodpark Road Smithfield NSW Australia 2164</b> |
| <b>Telephone</b>               | <b>: +61 08 8213 2100</b>                                                 | <b>Telephone</b>               | <b>: +61-2-8784 8555</b>                                     |
| <b>Project</b>                 | <b>: 19125312</b>                                                         | <b>Date Samples Received</b>   | <b>: 02-Aug-2019</b>                                         |
| <b>Order number</b>            | <b>:</b>                                                                  | <b>Date Analysis Commenced</b> | <b>: 02-Aug-2019</b>                                         |
| <b>C-O-C number</b>            | <b>: ----</b>                                                             | <b>Issue Date</b>              | <b>: 08-Aug-2019</b>                                         |
| <b>Sampler</b>                 | <b>: ----</b>                                                             |                                |                                                              |
| <b>Site</b>                    | <b>: Liverpool Civic Place</b>                                            |                                |                                                              |
| <b>Quote number</b>            | <b>: EN/002/18 National BQ</b>                                            |                                |                                                              |
| <b>No. of samples received</b> | <b>: 6</b>                                                                |                                |                                                              |
| <b>No. of samples analysed</b> | <b>: 6</b>                                                                |                                |                                                              |



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| <i>Signatories</i> | <i>Position</i>       | <i>Accreditation Category</i>      |
|--------------------|-----------------------|------------------------------------|
| Ankit Joshi        | Inorganic Chemist     | Sydney Inorganics, Smithfield, NSW |
| Celine Conceicao   | Senior Spectroscopist | Sydney Inorganics, Smithfield, NSW |
| Edwandy Fadjjar    | Organic Coordinator   | Sydney Organics, Smithfield, NSW   |
| Franco Lentini     | LCMS Coordinator      | Sydney Organics, Smithfield, NSW   |



## General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot  
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.  
 LOR = Limit of reporting  
 RPD = Relative Percentage Difference  
 # = Indicates failed QC

## Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

| Sub-Matrix: WATER                                                 |                  |                                          |             | Laboratory Duplicate (DUP) Report |      |                 |                  |         |                     |
|-------------------------------------------------------------------|------------------|------------------------------------------|-------------|-----------------------------------|------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID                                              | Client sample ID | Method: Compound                         | CAS Number  | LOR                               | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| ED037P: Alkalinity by PC Titrator (QC Lot: 2506829)               |                  |                                          |             |                                   |      |                 |                  |         |                     |
| ES1924456-007                                                     | Anonymous        | ED037-P: Hydroxide Alkalinity as CaCO3   | DMO-210-001 | 1                                 | mg/L | <1              | <1               | 0.00    | No Limit            |
|                                                                   |                  | ED037-P: Carbonate Alkalinity as CaCO3   | 3812-32-6   | 1                                 | mg/L | <1              | <1               | 0.00    | No Limit            |
|                                                                   |                  | ED037-P: Bicarbonate Alkalinity as CaCO3 | 71-52-3     | 1                                 | mg/L | 62              | 63               | 0.00    | 0% - 20%            |
|                                                                   |                  | ED037-P: Total Alkalinity as CaCO3       | ----        | 1                                 | mg/L | 62              | 63               | 0.00    | 0% - 20%            |
| ES1924496-014                                                     | Anonymous        | ED037-P: Hydroxide Alkalinity as CaCO3   | DMO-210-001 | 1                                 | mg/L | <1              | <1               | 0.00    | No Limit            |
|                                                                   |                  | ED037-P: Carbonate Alkalinity as CaCO3   | 3812-32-6   | 1                                 | mg/L | <1              | <1               | 0.00    | No Limit            |
|                                                                   |                  | ED037-P: Bicarbonate Alkalinity as CaCO3 | 71-52-3     | 1                                 | mg/L | 14              | 14               | 0.00    | 0% - 50%            |
|                                                                   |                  | ED037-P: Total Alkalinity as CaCO3       | ----        | 1                                 | mg/L | 14              | 14               | 0.00    | 0% - 50%            |
| ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 2504744) |                  |                                          |             |                                   |      |                 |                  |         |                     |
| ES1924439-001                                                     | Anonymous        | ED041G: Sulfate as SO4 - Turbidimetric   | 14808-79-8  | 1                                 | mg/L | 802             | 768              | 4.28    | 0% - 20%            |
| ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 2505116) |                  |                                          |             |                                   |      |                 |                  |         |                     |
| ES1924403-001                                                     | Anonymous        | ED041G: Sulfate as SO4 - Turbidimetric   | 14808-79-8  | 1                                 | mg/L | 33              | 38               | 15.7    | 0% - 20%            |
| ED045G: Chloride by Discrete Analyser (QC Lot: 2504745)           |                  |                                          |             |                                   |      |                 |                  |         |                     |
| ES1924476-002                                                     | BH306            | ED045G: Chloride                         | 16887-00-6  | 1                                 | mg/L | 307             | 310              | 0.990   | 0% - 20%            |
| ED045G: Chloride by Discrete Analyser (QC Lot: 2505115)           |                  |                                          |             |                                   |      |                 |                  |         |                     |
| ME1900978-001                                                     | Anonymous        | ED045G: Chloride                         | 16887-00-6  | 1                                 | mg/L | 73              | 70               | 4.20    | 0% - 20%            |
| ES1924305-001                                                     | Anonymous        | ED045G: Chloride                         | 16887-00-6  | 1                                 | mg/L | 15              | 14               | 0.00    | 0% - 50%            |
| ED093F: Dissolved Major Cations (QC Lot: 2505444)                 |                  |                                          |             |                                   |      |                 |                  |         |                     |
| ES1924413-001                                                     | Anonymous        | ED093F: Calcium                          | 7440-70-2   | 1                                 | mg/L | 13              | 13               | 0.00    | 0% - 50%            |
|                                                                   |                  | ED093F: Magnesium                        | 7439-95-4   | 1                                 | mg/L | 10              | 10               | 0.00    | No Limit            |
|                                                                   |                  | ED093F: Sodium                           | 7440-23-5   | 1                                 | mg/L | 32              | 31               | 0.00    | 0% - 20%            |
|                                                                   |                  | ED093F: Potassium                        | 7440-09-7   | 1                                 | mg/L | 2               | 2                | 0.00    | No Limit            |
| ES1924338-001                                                     | Anonymous        | ED093F: Calcium                          | 7440-70-2   | 1                                 | mg/L | 94              | 99               | 4.88    | 0% - 20%            |
|                                                                   |                  | ED093F: Magnesium                        | 7439-95-4   | 1                                 | mg/L | 35              | 37               | 7.16    | 0% - 20%            |

Page : 3 of 11  
 Work Order : ES1924476  
 Client : GOLDER ASSOCIATES  
 Project : 19125312



Sub-Matrix: **WATER**

| Sub-Matrix: WATER                                             |                  |                     |            | Laboratory Duplicate (DUP) Report |      |                 |                  |         |                     |
|---------------------------------------------------------------|------------------|---------------------|------------|-----------------------------------|------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID                                          | Client sample ID | Method: Compound    | CAS Number | LOR                               | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| ED093F: Dissolved Major Cations (QC Lot: 2505444) - continued |                  |                     |            |                                   |      |                 |                  |         |                     |
| ES1924338-001                                                 | Anonymous        | ED093F: Sodium      | 7440-23-5  | 1                                 | mg/L | 5               | 6                | 0.00    | No Limit            |
|                                                               |                  | ED093F: Potassium   | 7440-09-7  | 1                                 | mg/L | 1               | 1                | 0.00    | No Limit            |
| EG020F: Dissolved Metals by ICP-MS (QC Lot: 2505445)          |                  |                     |            |                                   |      |                 |                  |         |                     |
| ES1924413-001                                                 | Anonymous        | EG020A-F: Cadmium   | 7440-43-9  | 0.0001                            | mg/L | <0.0001         | <0.0001          | 0.00    | No Limit            |
|                                                               |                  | EG020A-F: Arsenic   | 7440-38-2  | 0.001                             | mg/L | <0.001          | <0.001           | 0.00    | No Limit            |
|                                                               |                  | EG020A-F: Chromium  | 7440-47-3  | 0.001                             | mg/L | <0.001          | <0.001           | 0.00    | No Limit            |
|                                                               |                  | EG020A-F: Copper    | 7440-50-8  | 0.001                             | mg/L | 0.001           | 0.001            | 0.00    | No Limit            |
|                                                               |                  | EG020A-F: Lead      | 7439-92-1  | 0.001                             | mg/L | <0.001          | <0.001           | 0.00    | No Limit            |
|                                                               |                  | EG020A-F: Manganese | 7439-96-5  | 0.001                             | mg/L | 0.604           | 0.610            | 1.01    | 0% - 20%            |
|                                                               |                  | EG020A-F: Nickel    | 7440-02-0  | 0.001                             | mg/L | 0.007           | 0.006            | 0.00    | No Limit            |
|                                                               |                  | EG020A-F: Zinc      | 7440-66-6  | 0.005                             | mg/L | 2.47            | 2.50             | 0.938   | 0% - 20%            |
|                                                               |                  | EG020A-F: Aluminium | 7429-90-5  | 0.01                              | mg/L | <0.01           | <0.01            | 0.00    | No Limit            |
|                                                               |                  | EG020A-F: Iron      | 7439-89-6  | 0.05                              | mg/L | 3.90            | 4.03             | 3.15    | 0% - 20%            |
| ES1924338-001                                                 | Anonymous        | EG020A-F: Cadmium   | 7440-43-9  | 0.0001                            | mg/L | <0.0001         | <0.0001          | 0.00    | No Limit            |
|                                                               |                  | EG020A-F: Arsenic   | 7440-38-2  | 0.001                             | mg/L | <0.001          | <0.001           | 0.00    | No Limit            |
|                                                               |                  | EG020A-F: Chromium  | 7440-47-3  | 0.001                             | mg/L | <0.001          | <0.001           | 0.00    | No Limit            |
|                                                               |                  | EG020A-F: Copper    | 7440-50-8  | 0.001                             | mg/L | <0.001          | <0.001           | 0.00    | No Limit            |
|                                                               |                  | EG020A-F: Lead      | 7439-92-1  | 0.001                             | mg/L | <0.001          | <0.001           | 0.00    | No Limit            |
|                                                               |                  | EG020A-F: Manganese | 7439-96-5  | 0.001                             | mg/L | 0.001           | <0.001           | 0.00    | No Limit            |
|                                                               |                  | EG020A-F: Nickel    | 7440-02-0  | 0.001                             | mg/L | <0.001          | <0.001           | 0.00    | No Limit            |
|                                                               |                  | EG020A-F: Zinc      | 7440-66-6  | 0.005                             | mg/L | <0.005          | <0.005           | 0.00    | No Limit            |
|                                                               |                  | EG020A-F: Aluminium | 7429-90-5  | 0.01                              | mg/L | <0.01           | <0.01            | 0.00    | No Limit            |
|                                                               |                  | EG020A-F: Iron      | 7439-89-6  | 0.05                              | mg/L | <0.05           | <0.05            | 0.00    | No Limit            |
| EG020F: Dissolved Metals by ICP-MS (QC Lot: 2505447)          |                  |                     |            |                                   |      |                 |                  |         |                     |
| ES1924476-004                                                 | BH2              | EG020A-F: Cadmium   | 7440-43-9  | 0.0001                            | mg/L | <0.0001         | <0.0001          | 0.00    | No Limit            |
|                                                               |                  | EG020A-F: Arsenic   | 7440-38-2  | 0.001                             | mg/L | 0.004           | 0.004            | 0.00    | No Limit            |
|                                                               |                  | EG020A-F: Chromium  | 7440-47-3  | 0.001                             | mg/L | <0.001          | <0.001           | 0.00    | No Limit            |
|                                                               |                  | EG020A-F: Copper    | 7440-50-8  | 0.001                             | mg/L | 0.003           | 0.003            | 0.00    | No Limit            |
|                                                               |                  | EG020A-F: Lead      | 7439-92-1  | 0.001                             | mg/L | <0.001          | <0.001           | 0.00    | No Limit            |
|                                                               |                  | EG020A-F: Manganese | 7439-96-5  | 0.001                             | mg/L | 0.038           | 0.036            | 0.00    | 0% - 20%            |
|                                                               |                  | EG020A-F: Nickel    | 7440-02-0  | 0.001                             | mg/L | 0.005           | 0.005            | 0.00    | No Limit            |
|                                                               |                  | EG020A-F: Zinc      | 7440-66-6  | 0.005                             | mg/L | <0.005          | <0.005           | 0.00    | No Limit            |
|                                                               |                  | EG020A-F: Aluminium | 7429-90-5  | 0.01                              | mg/L | <0.01           | <0.01            | 0.00    | No Limit            |
|                                                               |                  | EG020A-F: Iron      | 7439-89-6  | 0.05                              | mg/L | <0.05           | <0.05            | 0.00    | No Limit            |
| EG035F: Dissolved Mercury by FIMS (QC Lot: 2505443)           |                  |                     |            |                                   |      |                 |                  |         |                     |
| ES1924429-005                                                 | Anonymous        | EG035F: Mercury     | 7439-97-6  | 0.0001                            | mg/L | <0.0001         | <0.0001          | 0.00    | No Limit            |
| ES1924338-001                                                 | Anonymous        | EG035F: Mercury     | 7439-97-6  | 0.0001                            | mg/L | <0.0001         | <0.0001          | 0.00    | No Limit            |
| EK040P: Fluoride by PC Titrator (QC Lot: 2506827)             |                  |                     |            |                                   |      |                 |                  |         |                     |
| ES1924456-003                                                 | Anonymous        | EK040P: Fluoride    | 16984-48-8 | 0.1                               | mg/L | 0.1             | 0.1              | 0.00    | No Limit            |



| Sub-Matrix: WATER                                                                 |                  |                                                |            | Laboratory Duplicate (DUP) Report |      |                 |                  |         |                     |
|-----------------------------------------------------------------------------------|------------------|------------------------------------------------|------------|-----------------------------------|------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID                                                              | Client sample ID | Method: Compound                               | CAS Number | LOR                               | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EK040P: Fluoride by PC Titrator (QC Lot: 2506827) - continued                     |                  |                                                |            |                                   |      |                 |                  |         |                     |
| ES1924338-001                                                                     | Anonymous        | EK040P: Fluoride                               | 16984-48-8 | 0.1                               | mg/L | 0.2             | 0.2              | 0.00    | No Limit            |
| EK040P: Fluoride by PC Titrator (QC Lot: 2506831)                                 |                  |                                                |            |                                   |      |                 |                  |         |                     |
| ES1924506-001                                                                     | Anonymous        | EK040P: Fluoride                               | 16984-48-8 | 0.1                               | mg/L | <0.1            | <0.1             | 0.00    | No Limit            |
| EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2506938)                         |                  |                                                |            |                                   |      |                 |                  |         |                     |
| ES1924413-001                                                                     | Anonymous        | EP080: C6 - C9 Fraction                        | ----       | 20                                | µg/L | <20             | <20              | 0.00    | No Limit            |
| ES1924476-004                                                                     | BH2              | EP080: C6 - C9 Fraction                        | ----       | 20                                | µg/L | <20             | <20              | 0.00    | No Limit            |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2506938) |                  |                                                |            |                                   |      |                 |                  |         |                     |
| ES1924413-001                                                                     | Anonymous        | EP080: C6 - C10 Fraction                       | C6_C10     | 20                                | µg/L | <20             | <20              | 0.00    | No Limit            |
| ES1924476-004                                                                     | BH2              | EP080: C6 - C10 Fraction                       | C6_C10     | 20                                | µg/L | <20             | <20              | 0.00    | No Limit            |
| EP080: BTEXN (QC Lot: 2506938)                                                    |                  |                                                |            |                                   |      |                 |                  |         |                     |
| ES1924413-001                                                                     | Anonymous        | EP080: Benzene                                 | 71-43-2    | 1                                 | µg/L | <1              | <1               | 0.00    | No Limit            |
|                                                                                   |                  | EP080: Toluene                                 | 108-88-3   | 2                                 | µg/L | 3               | 3                | 0.00    | No Limit            |
|                                                                                   |                  | EP080: Ethylbenzene                            | 100-41-4   | 2                                 | µg/L | <2              | <2               | 0.00    | No Limit            |
|                                                                                   |                  | EP080: meta- & para-Xylene                     | 108-38-3   | 2                                 | µg/L | <2              | <2               | 0.00    | No Limit            |
|                                                                                   |                  |                                                | 106-42-3   |                                   |      |                 |                  |         |                     |
|                                                                                   |                  | EP080: ortho-Xylene                            | 95-47-6    | 2                                 | µg/L | <2              | <2               | 0.00    | No Limit            |
| ES1924476-004                                                                     | BH2              | EP080: Naphthalene                             | 91-20-3    | 5                                 | µg/L | <5              | <5               | 0.00    | No Limit            |
|                                                                                   |                  | EP080: Benzene                                 | 71-43-2    | 1                                 | µg/L | <1              | <1               | 0.00    | No Limit            |
|                                                                                   |                  | EP080: Toluene                                 | 108-88-3   | 2                                 | µg/L | <2              | <2               | 0.00    | No Limit            |
|                                                                                   |                  | EP080: Ethylbenzene                            | 100-41-4   | 2                                 | µg/L | <2              | <2               | 0.00    | No Limit            |
|                                                                                   |                  | EP080: meta- & para-Xylene                     | 108-38-3   | 2                                 | µg/L | <2              | <2               | 0.00    | No Limit            |
|                                                                                   |                  |                                                | 106-42-3   |                                   |      |                 |                  |         |                     |
|                                                                                   |                  | EP080: ortho-Xylene                            | 95-47-6    | 2                                 | µg/L | <2              | <2               | 0.00    | No Limit            |
|                                                                                   |                  | EP080: Naphthalene                             | 91-20-3    | 5                                 | µg/L | <5              | <5               | 0.00    | No Limit            |
| EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 2507624)                           |                  |                                                |            |                                   |      |                 |                  |         |                     |
| EP1907593-001                                                                     | Anonymous        | EP231X: Perfluorooctane sulfonic acid (PFOS)   | 1763-23-1  | 0.01                              | µg/L | <0.01           | <0.01            | 0.00    | No Limit            |
|                                                                                   |                  | EP231X: Perfluorobutane sulfonic acid (PFBS)   | 375-73-5   | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                                   |                  | EP231X: Perfluoropentane sulfonic acid (PFPeS) | 2706-91-4  | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                                   |                  | EP231X: Perfluorohexane sulfonic acid (PFHxS)  | 355-46-4   | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                                   |                  | EP231X: Perfluoroheptane sulfonic acid (PFHpS) | 375-92-8   | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                                   |                  | EP231X: Perfluorodecane sulfonic acid (PFDS)   | 335-77-3   | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
| EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 2507624)                         |                  |                                                |            |                                   |      |                 |                  |         |                     |
| EP1907593-001                                                                     | Anonymous        | EP231X: Perfluorooctanoic acid (PFOA)          | 335-67-1   | 0.01                              | µg/L | <0.01           | <0.01            | 0.00    | No Limit            |
|                                                                                   |                  | EP231X: Perfluoropentanoic acid (PFPeA)        | 2706-90-3  | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                                   |                  | EP231X: Perfluorohexanoic acid (PFHxA)         | 307-24-4   | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                                   |                  | EP231X: Perfluoroheptanoic acid (PFHpA)        | 375-85-9   | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                                   |                  | EP231X: Perfluorononanoic acid (PFNA)          | 375-95-1   | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                                   |                  | EP231X: Perfluorodecanoic acid (PFDA)          | 335-76-2   | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                                   |                  | EP231X: Perfluoroundecanoic acid (PFUnDA)      | 2058-94-8  | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |

Page : 5 of 11  
 Work Order : ES1924476  
 Client : GOLDER ASSOCIATES  
 Project : 19125312



Sub-Matrix: **WATER**

| Sub-Matrix: WATER                                                     |                  |                                                                   |             | Laboratory Duplicate (DUP) Report |      |                 |                  |         |                     |
|-----------------------------------------------------------------------|------------------|-------------------------------------------------------------------|-------------|-----------------------------------|------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID                                                  | Client sample ID | Method: Compound                                                  | CAS Number  | LOR                               | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 2507624) - continued |                  |                                                                   |             |                                   |      |                 |                  |         |                     |
| EP1907593-001                                                         | Anonymous        | EP231X: Perfluorododecanoic acid (PFDoDA)                         | 307-55-1    | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                       |                  | EP231X: Perfluorotridecanoic acid (PFTrDA)                        | 72629-94-8  | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                       |                  | EP231X: Perfluorotetradecanoic acid (PFTeDA)                      | 376-06-7    | 0.05                              | µg/L | <0.05           | <0.05            | 0.00    | No Limit            |
|                                                                       |                  | EP231X: Perfluorobutanoic acid (PFBA)                             | 375-22-4    | 0.1                               | µg/L | <0.1            | <0.1             | 0.00    | No Limit            |
| EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 2507624)                 |                  |                                                                   |             |                                   |      |                 |                  |         |                     |
| EP1907593-001                                                         | Anonymous        | EP231X: Perfluorooctane sulfonamide (FOSA)                        | 754-91-6    | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                       |                  | EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA) | 2355-31-9   | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                       |                  | EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)  | 2991-50-6   | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                       |                  | EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)             | 31506-32-8  | 0.05                              | µg/L | <0.05           | <0.05            | 0.00    | No Limit            |
|                                                                       |                  | EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)              | 4151-50-2   | 0.05                              | µg/L | <0.05           | <0.05            | 0.00    | No Limit            |
|                                                                       |                  | EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)      | 24448-09-7  | 0.05                              | µg/L | <0.05           | <0.05            | 0.00    | No Limit            |
|                                                                       |                  | EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)       | 1691-99-2   | 0.05                              | µg/L | <0.05           | <0.05            | 0.00    | No Limit            |
| EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 2507624)          |                  |                                                                   |             |                                   |      |                 |                  |         |                     |
| EP1907593-001                                                         | Anonymous        | EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)                 | 757124-72-4 | 0.05                              | µg/L | <0.05           | <0.05            | 0.00    | No Limit            |
|                                                                       |                  | EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)                 | 27619-97-2  | 0.05                              | µg/L | <0.05           | <0.05            | 0.00    | No Limit            |
|                                                                       |                  | EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)                 | 39108-34-4  | 0.05                              | µg/L | <0.05           | <0.05            | 0.00    | No Limit            |
|                                                                       |                  | EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)               | 120226-60-0 | 0.05                              | µg/L | <0.05           | <0.05            | 0.00    | No Limit            |
| EP231P: PFAS Sums (QC Lot: 2507624)                                   |                  |                                                                   |             |                                   |      |                 |                  |         |                     |
| EP1907593-001                                                         | Anonymous        | EP231X: Sum of PFAS                                               | ----        | 0.01                              | µg/L | <0.01           | <0.01            | 0.00    | No Limit            |



## Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

| Sub-Matrix: WATER                                                |            |        |      | Method Blank (MB)<br>Report | Laboratory Control Spike (LCS) Report |                           |                                 |     |
|------------------------------------------------------------------|------------|--------|------|-----------------------------|---------------------------------------|---------------------------|---------------------------------|-----|
|                                                                  |            |        |      |                             | Spike<br>Concentration                | Spike Recovery (%)<br>LCS | Recovery Limits (%)<br>Low High |     |
| Method: Compound                                                 | CAS Number | LOR    | Unit | Result                      |                                       |                           |                                 |     |
| ED037P: Alkalinity by PC Titrator (QCLot: 2506829)               |            |        |      |                             |                                       |                           |                                 |     |
| ED037-P: Total Alkalinity as CaCO3                               | ----       | ----   | mg/L | ----                        | 200 mg/L                              | 85.0                      | 81                              | 111 |
|                                                                  |            |        |      | ----                        | 50 mg/L                               | 93.9                      | 70                              | 130 |
| ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 2504744) |            |        |      |                             |                                       |                           |                                 |     |
| ED041G: Sulfate as SO4 - Turbidimetric                           | 14808-79-8 | 1      | mg/L | <1                          | 25 mg/L                               | 108                       | 82                              | 122 |
| ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 2505116) |            |        |      |                             |                                       |                           |                                 |     |
| ED041G: Sulfate as SO4 - Turbidimetric                           | 14808-79-8 | 1      | mg/L | <1                          | 25 mg/L                               | 99.9                      | 82                              | 122 |
| ED045G: Chloride by Discrete Analyser (QCLot: 2504745)           |            |        |      |                             |                                       |                           |                                 |     |
| ED045G: Chloride                                                 | 16887-00-6 | 1      | mg/L | <1                          | 10 mg/L                               | 101                       | 81                              | 127 |
|                                                                  |            |        |      | <1                          | 1000 mg/L                             | 98.1                      | 81                              | 127 |
| ED045G: Chloride by Discrete Analyser (QCLot: 2505115)           |            |        |      |                             |                                       |                           |                                 |     |
| ED045G: Chloride                                                 | 16887-00-6 | 1      | mg/L | <1                          | 10 mg/L                               | 106                       | 81                              | 127 |
|                                                                  |            |        |      | <1                          | 1000 mg/L                             | 94.8                      | 81                              | 127 |
| ED093F: Dissolved Major Cations (QCLot: 2505444)                 |            |        |      |                             |                                       |                           |                                 |     |
| ED093F: Calcium                                                  | 7440-70-2  | 1      | mg/L | <1                          | 50 mg/L                               | 96.8                      | 80                              | 114 |
| ED093F: Magnesium                                                | 7439-95-4  | 1      | mg/L | <1                          | 50 mg/L                               | 98.2                      | 90                              | 116 |
| ED093F: Sodium                                                   | 7440-23-5  | 1      | mg/L | <1                          | 50 mg/L                               | 98.9                      | 82                              | 120 |
| ED093F: Potassium                                                | 7440-09-7  | 1      | mg/L | <1                          | 50 mg/L                               | 96.0                      | 85                              | 113 |
| EG020F: Dissolved Metals by ICP-MS (QCLot: 2505445)              |            |        |      |                             |                                       |                           |                                 |     |
| EG020A-F: Aluminium                                              | 7429-90-5  | 0.01   | mg/L | <0.01                       | 0.5 mg/L                              | 92.6                      | 80                              | 116 |
| EG020A-F: Arsenic                                                | 7440-38-2  | 0.001  | mg/L | <0.001                      | 0.1 mg/L                              | 99.7                      | 85                              | 114 |
| EG020A-F: Cadmium                                                | 7440-43-9  | 0.0001 | mg/L | <0.0001                     | 0.1 mg/L                              | 95.5                      | 84                              | 110 |
| EG020A-F: Chromium                                               | 7440-47-3  | 0.001  | mg/L | <0.001                      | 0.1 mg/L                              | 92.4                      | 85                              | 111 |
| EG020A-F: Copper                                                 | 7440-50-8  | 0.001  | mg/L | <0.001                      | 0.1 mg/L                              | 92.4                      | 81                              | 111 |
| EG020A-F: Lead                                                   | 7439-92-1  | 0.001  | mg/L | <0.001                      | 0.1 mg/L                              | 93.2                      | 83                              | 111 |
| EG020A-F: Manganese                                              | 7439-96-5  | 0.001  | mg/L | <0.001                      | 0.1 mg/L                              | 91.4                      | 82                              | 110 |
| EG020A-F: Nickel                                                 | 7440-02-0  | 0.001  | mg/L | <0.001                      | 0.1 mg/L                              | 93.0                      | 82                              | 112 |
| EG020A-F: Zinc                                                   | 7440-66-6  | 0.005  | mg/L | <0.005                      | 0.1 mg/L                              | 92.8                      | 81                              | 117 |
| EG020A-F: Iron                                                   | 7439-89-6  | 0.05   | mg/L | <0.05                       | 0.5 mg/L                              | 90.9                      | 82                              | 112 |
| EG020F: Dissolved Metals by ICP-MS (QCLot: 2505447)              |            |        |      |                             |                                       |                           |                                 |     |
| EG020A-F: Aluminium                                              | 7429-90-5  | 0.01   | mg/L | <0.01                       | 0.5 mg/L                              | 88.8                      | 80                              | 116 |
| EG020A-F: Arsenic                                                | 7440-38-2  | 0.001  | mg/L | <0.001                      | 0.1 mg/L                              | 93.7                      | 85                              | 114 |
| EG020A-F: Cadmium                                                | 7440-43-9  | 0.0001 | mg/L | <0.0001                     | 0.1 mg/L                              | 91.8                      | 84                              | 110 |
| EG020A-F: Chromium                                               | 7440-47-3  | 0.001  | mg/L | <0.001                      | 0.1 mg/L                              | 87.1                      | 85                              | 111 |
| EG020A-F: Copper                                                 | 7440-50-8  | 0.001  | mg/L | <0.001                      | 0.1 mg/L                              | 85.2                      | 81                              | 111 |



Sub-Matrix: **WATER**

|                                                                                         |            |        |      | Method Blank (MB)<br>Report | Laboratory Control Spike (LCS) Report |                           |                                 |     |
|-----------------------------------------------------------------------------------------|------------|--------|------|-----------------------------|---------------------------------------|---------------------------|---------------------------------|-----|
|                                                                                         |            |        |      |                             | Spike<br>Concentration                | Spike Recovery (%)<br>LCS | Recovery Limits (%)<br>Low High |     |
| Method: Compound                                                                        | CAS Number | LOR    | Unit | Result                      |                                       |                           |                                 |     |
| <b>EG020F: Dissolved Metals by ICP-MS (QCLot: 2505447) - continued</b>                  |            |        |      |                             |                                       |                           |                                 |     |
| EG020A-F: Lead                                                                          | 7439-92-1  | 0.001  | mg/L | <0.001                      | 0.1 mg/L                              | 91.9                      | 83                              | 111 |
| EG020A-F: Manganese                                                                     | 7439-96-5  | 0.001  | mg/L | <0.001                      | 0.1 mg/L                              | 89.6                      | 82                              | 110 |
| EG020A-F: Nickel                                                                        | 7440-02-0  | 0.001  | mg/L | <0.001                      | 0.1 mg/L                              | 83.9                      | 82                              | 112 |
| EG020A-F: Zinc                                                                          | 7440-66-6  | 0.005  | mg/L | <0.005                      | 0.1 mg/L                              | 90.8                      | 81                              | 117 |
| EG020A-F: Iron                                                                          | 7439-89-6  | 0.05   | mg/L | <0.05                       | 0.5 mg/L                              | 87.6                      | 82                              | 112 |
| <b>EG035F: Dissolved Mercury by FIMS (QCLot: 2505443)</b>                               |            |        |      |                             |                                       |                           |                                 |     |
| EG035F: Mercury                                                                         | 7439-97-6  | 0.0001 | mg/L | <0.0001                     | 0.01 mg/L                             | 94.9                      | 83                              | 105 |
| <b>EK040P: Fluoride by PC Titrator (QCLot: 2506827)</b>                                 |            |        |      |                             |                                       |                           |                                 |     |
| EK040P: Fluoride                                                                        | 16984-48-8 | 0.1    | mg/L | <0.1                        | 5 mg/L                                | 105                       | 82                              | 116 |
| <b>EK040P: Fluoride by PC Titrator (QCLot: 2506831)</b>                                 |            |        |      |                             |                                       |                           |                                 |     |
| EK040P: Fluoride                                                                        | 16984-48-8 | 0.1    | mg/L | <0.1                        | 5 mg/L                                | 100                       | 82                              | 116 |
| <b>EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2505004)</b>                  |            |        |      |                             |                                       |                           |                                 |     |
| EP075(SIM): Naphthalene                                                                 | 91-20-3    | 1      | µg/L | <1.0                        | 5 µg/L                                | 74.1                      | 50                              | 94  |
| EP075(SIM): Acenaphthylene                                                              | 208-96-8   | 1      | µg/L | <1.0                        | 5 µg/L                                | 69.7                      | 64                              | 114 |
| EP075(SIM): Acenaphthene                                                                | 83-32-9    | 1      | µg/L | <1.0                        | 5 µg/L                                | 72.4                      | 62                              | 113 |
| EP075(SIM): Fluorene                                                                    | 86-73-7    | 1      | µg/L | <1.0                        | 5 µg/L                                | 71.8                      | 64                              | 115 |
| EP075(SIM): Phenanthrene                                                                | 85-01-8    | 1      | µg/L | <1.0                        | 5 µg/L                                | 79.1                      | 63                              | 116 |
| EP075(SIM): Anthracene                                                                  | 120-12-7   | 1      | µg/L | <1.0                        | 5 µg/L                                | 76.5                      | 64                              | 116 |
| EP075(SIM): Fluoranthene                                                                | 206-44-0   | 1      | µg/L | <1.0                        | 5 µg/L                                | 82.3                      | 64                              | 118 |
| EP075(SIM): Pyrene                                                                      | 129-00-0   | 1      | µg/L | <1.0                        | 5 µg/L                                | 84.0                      | 63                              | 118 |
| EP075(SIM): Benz(a)anthracene                                                           | 56-55-3    | 1      | µg/L | <1.0                        | 5 µg/L                                | 67.6                      | 64                              | 117 |
| EP075(SIM): Chrysene                                                                    | 218-01-9   | 1      | µg/L | <1.0                        | 5 µg/L                                | 74.2                      | 63                              | 116 |
| EP075(SIM): Benzo(b+j)fluoranthene                                                      | 205-99-2   | 1      | µg/L | <1.0                        | 5 µg/L                                | 72.4                      | 62                              | 119 |
|                                                                                         | 205-82-3   |        |      |                             |                                       |                           |                                 |     |
| EP075(SIM): Benzo(k)fluoranthene                                                        | 207-08-9   | 1      | µg/L | <1.0                        | 5 µg/L                                | 76.4                      | 63                              | 115 |
| EP075(SIM): Benzo(a)pyrene                                                              | 50-32-8    | 0.5    | µg/L | <0.5                        | 5 µg/L                                | 71.7                      | 63                              | 117 |
| EP075(SIM): Indeno(1.2.3.cd)pyrene                                                      | 193-39-5   | 1      | µg/L | <1.0                        | 5 µg/L                                | 67.3                      | 60                              | 118 |
| EP075(SIM): Dibenz(a,h)anthracene                                                       | 53-70-3    | 1      | µg/L | <1.0                        | 5 µg/L                                | 69.6                      | 61                              | 117 |
| EP075(SIM): Benzo(g,h,i)perylene                                                        | 191-24-2   | 1      | µg/L | <1.0                        | 5 µg/L                                | 81.6                      | 59                              | 118 |
| <b>EP080/071: Total Petroleum Hydrocarbons (QCLot: 2505005)</b>                         |            |        |      |                             |                                       |                           |                                 |     |
| EP071: C10 - C14 Fraction                                                               | ----       | 50     | µg/L | <50                         | 2000 µg/L                             | 93.8                      | 56                              | 112 |
| EP071: C15 - C28 Fraction                                                               | ----       | 100    | µg/L | <100                        | 3000 µg/L                             | 78.5                      | 72                              | 113 |
| EP071: C29 - C36 Fraction                                                               | ----       | 50     | µg/L | <50                         | 2000 µg/L                             | 63.3                      | 56                              | 121 |
| <b>EP080/071: Total Petroleum Hydrocarbons (QCLot: 2506938)</b>                         |            |        |      |                             |                                       |                           |                                 |     |
| EP080: C6 - C9 Fraction                                                                 | ----       | 20     | µg/L | <20                         | 260 µg/L                              | 95.0                      | 75                              | 127 |
| <b>EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2505005)</b> |            |        |      |                             |                                       |                           |                                 |     |
| EP071: >C10 - C16 Fraction                                                              | ----       | 100    | µg/L | <100                        | 2500 µg/L                             | 64.0                      | 58                              | 119 |
| EP071: >C16 - C34 Fraction                                                              | ----       | 100    | µg/L | <100                        | 3500 µg/L                             | 84.5                      | 63                              | 110 |



Sub-Matrix: **WATER**

|                                                                                                     |            |      |      | Method Blank (MB)<br>Report | Laboratory Control Spike (LCS) Report |                           |                     |      |
|-----------------------------------------------------------------------------------------------------|------------|------|------|-----------------------------|---------------------------------------|---------------------------|---------------------|------|
|                                                                                                     |            |      |      |                             | Spike<br>Concentration                | Spike Recovery (%)<br>LCS | Recovery Limits (%) |      |
| Method: Compound                                                                                    | CAS Number | LOR  | Unit | Result                      |                                       |                           | Low                 | High |
| <b>EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2505005) - continued</b> |            |      |      |                             |                                       |                           |                     |      |
| EP071: >C34 - C40 Fraction                                                                          | ----       | 100  | µg/L | <100                        | 1500 µg/L                             | 102                       | 62                  | 121  |
| <b>EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2506938)</b>             |            |      |      |                             |                                       |                           |                     |      |
| EP080: C6 - C10 Fraction                                                                            | C6_C10     | 20   | µg/L | <20                         | 310 µg/L                              | 97.1                      | 75                  | 127  |
| <b>EP080: BTEXN (QCLot: 2506938)</b>                                                                |            |      |      |                             |                                       |                           |                     |      |
| EP080: Benzene                                                                                      | 71-43-2    | 1    | µg/L | <1                          | 10 µg/L                               | 93.2                      | 70                  | 122  |
| EP080: Toluene                                                                                      | 108-88-3   | 2    | µg/L | <2                          | 10 µg/L                               | 104                       | 69                  | 123  |
| EP080: Ethylbenzene                                                                                 | 100-41-4   | 2    | µg/L | <2                          | 10 µg/L                               | 108                       | 70                  | 120  |
| EP080: meta- & para-Xylene                                                                          | 108-38-3   | 2    | µg/L | <2                          | 10 µg/L                               | 108                       | 69                  | 121  |
|                                                                                                     | 106-42-3   |      |      |                             |                                       |                           |                     |      |
| EP080: ortho-Xylene                                                                                 | 95-47-6    | 2    | µg/L | <2                          | 10 µg/L                               | 111                       | 72                  | 122  |
| EP080: Naphthalene                                                                                  | 91-20-3    | 5    | µg/L | <5                          | 10 µg/L                               | 110                       | 70                  | 120  |
| <b>EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 2507624)</b>                                       |            |      |      |                             |                                       |                           |                     |      |
| EP231X: Perfluorobutane sulfonic acid (PFBS)                                                        | 375-73-5   | 0.02 | µg/L | <0.02                       | 0.5 µg/L                              | 97.4                      | 70                  | 130  |
| EP231X: Perfluoropentane sulfonic acid (PFPeS)                                                      | 2706-91-4  | 0.02 | µg/L | <0.02                       | 0.5 µg/L                              | 111                       | 70                  | 130  |
| EP231X: Perfluorohexane sulfonic acid (PFHxS)                                                       | 355-46-4   | 0.02 | µg/L | <0.02                       | 0.5 µg/L                              | 112                       | 70                  | 130  |
| EP231X: Perfluoroheptane sulfonic acid (PFHpS)                                                      | 375-92-8   | 0.02 | µg/L | <0.02                       | 0.5 µg/L                              | 106                       | 70                  | 130  |
| EP231X: Perfluorooctane sulfonic acid (PFOS)                                                        | 1763-23-1  | 0.01 | µg/L | <0.01                       | 0.5 µg/L                              | 90.0                      | 70                  | 130  |
| EP231X: Perfluorodecane sulfonic acid (PFDS)                                                        | 335-77-3   | 0.02 | µg/L | <0.02                       | 0.5 µg/L                              | 99.2                      | 70                  | 130  |
| <b>EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 2507624)</b>                                     |            |      |      |                             |                                       |                           |                     |      |
| EP231X: Perfluorobutanoic acid (PFBA)                                                               | 375-22-4   | 0.1  | µg/L | <0.1                        | 2.5 µg/L                              | 79.6                      | 70                  | 130  |
| EP231X: Perfluoropentanoic acid (PFPeA)                                                             | 2706-90-3  | 0.02 | µg/L | <0.02                       | 0.5 µg/L                              | 119                       | 70                  | 130  |
| EP231X: Perfluorohexanoic acid (PFHxA)                                                              | 307-24-4   | 0.02 | µg/L | <0.02                       | 0.5 µg/L                              | 93.2                      | 70                  | 130  |
| EP231X: Perfluoroheptanoic acid (PFHpA)                                                             | 375-85-9   | 0.02 | µg/L | <0.02                       | 0.5 µg/L                              | 98.2                      | 70                  | 130  |
| EP231X: Perfluorooctanoic acid (PFOA)                                                               | 335-67-1   | 0.01 | µg/L | <0.01                       | 0.5 µg/L                              | 97.4                      | 70                  | 130  |
| EP231X: Perfluorononanoic acid (PFNA)                                                               | 375-95-1   | 0.02 | µg/L | <0.02                       | 0.5 µg/L                              | 107                       | 70                  | 130  |
| EP231X: Perfluorodecanoic acid (PFDA)                                                               | 335-76-2   | 0.02 | µg/L | <0.02                       | 0.5 µg/L                              | 112                       | 70                  | 130  |
| EP231X: Perfluoroundecanoic acid (PFUnDA)                                                           | 2058-94-8  | 0.02 | µg/L | <0.02                       | 0.5 µg/L                              | 108                       | 70                  | 130  |
| EP231X: Perfluorododecanoic acid (PFDoDA)                                                           | 307-55-1   | 0.02 | µg/L | <0.02                       | 0.5 µg/L                              | 93.0                      | 70                  | 130  |
| EP231X: Perfluorotridecanoic acid (PFTriDA)                                                         | 72629-94-8 | 0.02 | µg/L | <0.02                       | 0.5 µg/L                              | 106                       | 70                  | 130  |
| EP231X: Perfluorotetradecanoic acid (PFTeDA)                                                        | 376-06-7   | 0.05 | µg/L | <0.05                       | 1.25 µg/L                             | 117                       | 70                  | 150  |
| <b>EP231C: Perfluoroalkyl Sulfonamides (QCLot: 2507624)</b>                                         |            |      |      |                             |                                       |                           |                     |      |
| EP231X: Perfluorooctane sulfonamide (FOSA)                                                          | 754-91-6   | 0.02 | µg/L | <0.02                       | 0.5 µg/L                              | 76.6                      | 70                  | 130  |
| EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)                                               | 31506-32-8 | 0.05 | µg/L | <0.05                       | 1.25 µg/L                             | 113                       | 70                  | 150  |
| EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)                                                | 4151-50-2  | 0.05 | µg/L | <0.05                       | 1.25 µg/L                             | 120                       | 70                  | 150  |
| EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)                                        | 24448-09-7 | 0.05 | µg/L | <0.05                       | 1.25 µg/L                             | 103                       | 70                  | 150  |
| EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)                                         | 1691-99-2  | 0.05 | µg/L | <0.05                       | 1.25 µg/L                             | 116                       | 70                  | 150  |



Sub-Matrix: **WATER**

| Method: Compound                                                        |             |      |        | Method Blank (MB) Report | Laboratory Control Spike (LCS) Report |                    |                     |      |
|-------------------------------------------------------------------------|-------------|------|--------|--------------------------|---------------------------------------|--------------------|---------------------|------|
|                                                                         |             |      |        |                          | Spike Concentration                   | Spike Recovery (%) | Recovery Limits (%) |      |
|                                                                         |             |      |        |                          |                                       | LCS                | Low                 | High |
| CAS Number                                                              | LOR         | Unit | Result |                          |                                       |                    |                     |      |
| <b>EP231C: Perfluoroalkyl Sulfonamides (QCLot: 2507624) - continued</b> |             |      |        |                          |                                       |                    |                     |      |
| EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)       | 2355-31-9   | 0.02 | µg/L   | <0.02                    | 0.5 µg/L                              | 116                | 70                  | 130  |
| EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)        | 2991-50-6   | 0.02 | µg/L   | <0.02                    | 0.5 µg/L                              | 117                | 70                  | 130  |
| <b>EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 2507624)</b>      |             |      |        |                          |                                       |                    |                     |      |
| EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)                       | 757124-72-4 | 0.05 | µg/L   | <0.05                    | 0.5 µg/L                              | 108                | 70                  | 130  |
| EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)                       | 27619-97-2  | 0.05 | µg/L   | <0.05                    | 0.5 µg/L                              | 111                | 70                  | 130  |
| EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)                       | 39108-34-4  | 0.05 | µg/L   | <0.05                    | 0.5 µg/L                              | 106                | 70                  | 130  |
| EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)                     | 120226-60-0 | 0.05 | µg/L   | <0.05                    | 0.5 µg/L                              | 118                | 70                  | 130  |

## Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

| Sub-Matrix: WATER                                                |                  |                                        |            | Matrix Spike (MS) Report |                  |                     |      |
|------------------------------------------------------------------|------------------|----------------------------------------|------------|--------------------------|------------------|---------------------|------|
|                                                                  |                  |                                        |            | Spike                    | SpikeRecovery(%) | Recovery Limits (%) |      |
| Laboratory sample ID                                             | Client sample ID | Method: Compound                       | CAS Number | Concentration            | MS               | Low                 | High |
| ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 2504744) |                  |                                        |            |                          |                  |                     |      |
| ES1924439-001                                                    | Anonymous        | ED041G: Sulfate as SO4 - Turbidimetric | 14808-79-8 | 10 mg/L                  | # Not Determined | 70                  | 130  |
| ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 2505116) |                  |                                        |            |                          |                  |                     |      |
| ES1924403-001                                                    | Anonymous        | ED041G: Sulfate as SO4 - Turbidimetric | 14808-79-8 | 10 mg/L                  | 72.8             | 70                  | 130  |
| ED045G: Chloride by Discrete Analyser (QCLot: 2504745)           |                  |                                        |            |                          |                  |                     |      |
| ES1924476-002                                                    | BH306            | ED045G: Chloride                       | 16887-00-6 | 250 mg/L                 | 95.5             | 70                  | 130  |
| ED045G: Chloride by Discrete Analyser (QCLot: 2505115)           |                  |                                        |            |                          |                  |                     |      |
| ES1924305-001                                                    | Anonymous        | ED045G: Chloride                       | 16887-00-6 | 250 mg/L                 | 108              | 70                  | 130  |
| EG020F: Dissolved Metals by ICP-MS (QCLot: 2505445)              |                  |                                        |            |                          |                  |                     |      |
| ES1924344-006                                                    | Anonymous        | EG020A-F: Arsenic                      | 7440-38-2  | 1 mg/L                   | 101              | 70                  | 130  |
|                                                                  |                  | EG020A-F: Cadmium                      | 7440-43-9  | 0.25 mg/L                | 92.8             | 70                  | 130  |
|                                                                  |                  | EG020A-F: Chromium                     | 7440-47-3  | 1 mg/L                   | 91.8             | 70                  | 130  |
|                                                                  |                  | EG020A-F: Copper                       | 7440-50-8  | 1 mg/L                   | 88.4             | 70                  | 130  |
|                                                                  |                  | EG020A-F: Lead                         | 7439-92-1  | 1 mg/L                   | 103              | 70                  | 130  |
|                                                                  |                  | EG020A-F: Manganese                    | 7439-96-5  | 1 mg/L                   | 85.6             | 70                  | 130  |
|                                                                  |                  | EG020A-F: Nickel                       | 7440-02-0  | 1 mg/L                   | 92.5             | 70                  | 130  |
|                                                                  |                  | EG020A-F: Zinc                         | 7440-66-6  | 1 mg/L                   | 92.4             | 70                  | 130  |
| EG020F: Dissolved Metals by ICP-MS (QCLot: 2505447)              |                  |                                        |            |                          |                  |                     |      |
| ES1924506-001                                                    | Anonymous        | EG020A-F: Arsenic                      | 7440-38-2  | 1 mg/L                   | 97.2             | 70                  | 130  |

Page : 10 of 11  
 Work Order : ES1924476  
 Client : GOLDER ASSOCIATES  
 Project : 19125312



Sub-Matrix: **WATER**

| Sub-Matrix: WATER                                                                |                  |                                                |            | Matrix Spike (MS) Report |                  |                     |      |
|----------------------------------------------------------------------------------|------------------|------------------------------------------------|------------|--------------------------|------------------|---------------------|------|
|                                                                                  |                  |                                                |            | Spike                    | SpikeRecovery(%) | Recovery Limits (%) |      |
| Laboratory sample ID                                                             | Client sample ID | Method: Compound                               | CAS Number | Concentration            | MS               | Low                 | High |
| EG020F: Dissolved Metals by ICP-MS (QCLot: 2505447) - continued                  |                  |                                                |            |                          |                  |                     |      |
| ES1924506-001                                                                    | Anonymous        | EG020A-F: Cadmium                              | 7440-43-9  | 0.25 mg/L                | 98.0             | 70                  | 130  |
|                                                                                  |                  | EG020A-F: Chromium                             | 7440-47-3  | 1 mg/L                   | 94.2             | 70                  | 130  |
|                                                                                  |                  | EG020A-F: Copper                               | 7440-50-8  | 1 mg/L                   | 92.0             | 70                  | 130  |
|                                                                                  |                  | EG020A-F: Lead                                 | 7439-92-1  | 1 mg/L                   | 93.0             | 70                  | 130  |
|                                                                                  |                  | EG020A-F: Manganese                            | 7439-96-5  | 1 mg/L                   | 93.1             | 70                  | 130  |
|                                                                                  |                  | EG020A-F: Nickel                               | 7440-02-0  | 1 mg/L                   | 94.0             | 70                  | 130  |
|                                                                                  |                  | EG020A-F: Zinc                                 | 7440-66-6  | 1 mg/L                   | 98.5             | 70                  | 130  |
| EG035F: Dissolved Mercury by FIMS (QCLot: 2505443)                               |                  |                                                |            |                          |                  |                     |      |
| ES1924191-003                                                                    | Anonymous        | EG035F: Mercury                                | 7439-97-6  | 0.01 mg/L                | 85.7             | 70                  | 130  |
| EK040P: Fluoride by PC Titrator (QCLot: 2506827)                                 |                  |                                                |            |                          |                  |                     |      |
| ES1924338-002                                                                    | Anonymous        | EK040P: Fluoride                               | 16984-48-8 | 5 mg/L                   | 100              | 70                  | 130  |
| EK040P: Fluoride by PC Titrator (QCLot: 2506831)                                 |                  |                                                |            |                          |                  |                     |      |
| ES1924506-001                                                                    | Anonymous        | EK040P: Fluoride                               | 16984-48-8 | 5 mg/L                   | 88.0             | 70                  | 130  |
| EP080/071: Total Petroleum Hydrocarbons (QCLot: 2506938)                         |                  |                                                |            |                          |                  |                     |      |
| ES1924413-001                                                                    | Anonymous        | EP080: C6 - C9 Fraction                        | ----       | 325 µg/L                 | 105              | 70                  | 130  |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2506938) |                  |                                                |            |                          |                  |                     |      |
| ES1924413-001                                                                    | Anonymous        | EP080: C6 - C10 Fraction                       | C6_C10     | 375 µg/L                 | 103              | 70                  | 130  |
| EP080: BTEXN (QCLot: 2506938)                                                    |                  |                                                |            |                          |                  |                     |      |
| ES1924413-001                                                                    | Anonymous        | EP080: Benzene                                 | 71-43-2    | 25 µg/L                  | 94.2             | 70                  | 130  |
|                                                                                  |                  | EP080: Toluene                                 | 108-88-3   | 25 µg/L                  | 102              | 70                  | 130  |
|                                                                                  |                  | EP080: Ethylbenzene                            | 100-41-4   | 25 µg/L                  | 106              | 70                  | 130  |
|                                                                                  |                  | EP080: meta- & para-Xylene                     | 108-38-3   | 25 µg/L                  | 106              | 70                  | 130  |
|                                                                                  |                  |                                                | 106-42-3   |                          |                  |                     |      |
|                                                                                  |                  | EP080: ortho-Xylene                            | 95-47-6    | 25 µg/L                  | 108              | 70                  | 130  |
|                                                                                  |                  | EP080: Naphthalene                             | 91-20-3    | 25 µg/L                  | 102              | 70                  | 130  |
| EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 2507624)                           |                  |                                                |            |                          |                  |                     |      |
| EP1907593-001                                                                    | Anonymous        | EP231X: Perfluorobutane sulfonic acid (PFBS)   | 375-73-5   | 0.5 µg/L                 | 98.2             | 50                  | 130  |
|                                                                                  |                  | EP231X: Perfluoropentane sulfonic acid (PFPeS) | 2706-91-4  | 0.5 µg/L                 | 110              | 50                  | 130  |
|                                                                                  |                  | EP231X: Perfluorohexane sulfonic acid (PFHxS)  | 355-46-4   | 0.5 µg/L                 | 117              | 50                  | 130  |
|                                                                                  |                  | EP231X: Perfluoroheptane sulfonic acid (PFHpS) | 375-92-8   | 0.5 µg/L                 | 97.8             | 50                  | 130  |
|                                                                                  |                  | EP231X: Perfluorooctane sulfonic acid (PFOS)   | 1763-23-1  | 0.5 µg/L                 | 90.2             | 50                  | 130  |
|                                                                                  |                  | EP231X: Perfluorodecane sulfonic acid (PFDS)   | 335-77-3   | 0.5 µg/L                 | 97.6             | 50                  | 130  |
|                                                                                  |                  |                                                |            |                          |                  |                     |      |
| EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 2507624)                         |                  |                                                |            |                          |                  |                     |      |
| EP1907593-001                                                                    | Anonymous        | EP231X: Perfluorobutanoic acid (PFBA)          | 375-22-4   | 2.5 µg/L                 | 117              | 50                  | 130  |
|                                                                                  |                  | EP231X: Perfluoropentanoic acid (PFPeA)        | 2706-90-3  | 0.5 µg/L                 | 104              | 50                  | 130  |
|                                                                                  |                  | EP231X: Perfluorohexanoic acid (PFHxA)         | 307-24-4   | 0.5 µg/L                 | 99.8             | 50                  | 130  |



Sub-Matrix: **WATER**

| Sub-Matrix: WATER                                                    |                  |                                                                   |             | Matrix Spike (MS) Report |                  |                     |      |
|----------------------------------------------------------------------|------------------|-------------------------------------------------------------------|-------------|--------------------------|------------------|---------------------|------|
|                                                                      |                  |                                                                   |             | Spike                    | SpikeRecovery(%) | Recovery Limits (%) |      |
| Laboratory sample ID                                                 | Client sample ID | Method: Compound                                                  | CAS Number  | Concentration            | MS               | Low                 | High |
| EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 2507624) - continued |                  |                                                                   |             |                          |                  |                     |      |
| EP1907593-001                                                        | Anonymous        | EP231X: Perfluoroheptanoic acid (PFHpA)                           | 375-85-9    | 0.5 µg/L                 | 96.8             | 50                  | 130  |
|                                                                      |                  | EP231X: Perfluorooctanoic acid (PFOA)                             | 335-67-1    | 0.5 µg/L                 | 109              | 50                  | 130  |
|                                                                      |                  | EP231X: Perfluorononanoic acid (PFNA)                             | 375-95-1    | 0.5 µg/L                 | 110              | 50                  | 130  |
|                                                                      |                  | EP231X: Perfluorodecanoic acid (PFDA)                             | 335-76-2    | 0.5 µg/L                 | 107              | 50                  | 130  |
|                                                                      |                  | EP231X: Perfluoroundecanoic acid (PFUnDA)                         | 2058-94-8   | 0.5 µg/L                 | 116              | 50                  | 130  |
|                                                                      |                  | EP231X: Perfluorododecanoic acid (PFDoDA)                         | 307-55-1    | 0.5 µg/L                 | 94.2             | 50                  | 130  |
|                                                                      |                  | EP231X: Perfluorotridecanoic acid (PFTrDA)                        | 72629-94-8  | 0.5 µg/L                 | 91.0             | 50                  | 130  |
|                                                                      |                  | EP231X: Perfluorotetradecanoic acid (PFTeDA)                      | 376-06-7    | 1.25 µg/L                | 106              | 50                  | 150  |
| EP231C: Perfluoroalkyl Sulfonamides (QCLot: 2507624)                 |                  |                                                                   |             |                          |                  |                     |      |
| EP1907593-001                                                        | Anonymous        | EP231X: Perfluorooctane sulfonamide (FOSA)                        | 754-91-6    | 0.5 µg/L                 | 75.2             | 50                  | 130  |
|                                                                      |                  | EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)             | 31506-32-8  | 1.25 µg/L                | 111              | 50                  | 150  |
|                                                                      |                  | EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)              | 4151-50-2   | 1.25 µg/L                | 121              | 50                  | 150  |
|                                                                      |                  | EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)      | 24448-09-7  | 1.25 µg/L                | 119              | 50                  | 150  |
|                                                                      |                  | EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)       | 1691-99-2   | 1.25 µg/L                | 122              | 50                  | 150  |
|                                                                      |                  | EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA) | 2355-31-9   | 0.5 µg/L                 | 120              | 50                  | 130  |
|                                                                      |                  | EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)  | 2991-50-6   | 0.5 µg/L                 | 106              | 50                  | 130  |
| EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 2507624)          |                  |                                                                   |             |                          |                  |                     |      |
| EP1907593-001                                                        | Anonymous        | EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)                 | 757124-72-4 | 0.5 µg/L                 | 109              | 50                  | 130  |
|                                                                      |                  | EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)                 | 27619-97-2  | 0.5 µg/L                 | 102              | 50                  | 130  |
|                                                                      |                  | EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)                 | 39108-34-4  | 0.5 µg/L                 | 105              | 50                  | 130  |
|                                                                      |                  | EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)               | 120226-60-0 | 0.5 µg/L                 | 120              | 50                  | 130  |

## QA/QC Compliance Assessment to assist with Quality Review

|              |                         |                         |                                 |
|--------------|-------------------------|-------------------------|---------------------------------|
| Work Order   | : ES1924476             | Page                    | : 1 of 8                        |
| Client       | : GOLDER ASSOCIATES     | Laboratory              | : Environmental Division Sydney |
| Contact      | : BERNIE FRANCIS        | Telephone               | : +61-2-8784 8555               |
| Project      | : 19125312              | Date Samples Received   | : 02-Aug-2019                   |
| Site         | : Liverpool Civic Place | Issue Date              | : 08-Aug-2019                   |
| Sampler      | : ----                  | No. of samples received | : 6                             |
| Order number | :                       | No. of samples analysed | : 6                             |

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

### Summary of Outliers

#### Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

#### Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

#### Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.

*Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes*

| Compound Group Name                             | Laboratory Sample ID | Client Sample ID | Analyte                        | CAS Number | Data           | Limits | Comment                                                                               |
|-------------------------------------------------|----------------------|------------------|--------------------------------|------------|----------------|--------|---------------------------------------------------------------------------------------|
| <b>Matrix Spike (MS) Recoveries</b>             |                      |                  |                                |            |                |        |                                                                                       |
| ED041G: Sulfate (Turbidimetric) as SO4 2- by DA | ES1924439--001       | Anonymous        | Sulfate as SO4 - Turbidimetric | 14808-79-8 | Not Determined | ----   | MS recovery not determined, background level greater than or equal to 4x spike level. |

| Quality Control Sample Type | Count |         | Rate (%) |          | Quality Control Specification  |
|-----------------------------|-------|---------|----------|----------|--------------------------------|
| Method                      | QC    | Regular | Actual   | Expected |                                |
| Laboratory Duplicates (DUP) |       |         |          |          |                                |
| PAH/Phenols (GC/MS - SIM)   | 0     | 8       | 0.00     | 10.00    | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | 0     | 19      | 0.00     | 10.00    | NEPM 2013 B3 & ALS QC Standard |
| Matrix Spikes (MS)          |       |         |          |          |                                |
| PAH/Phenols (GC/MS - SIM)   | 0     | 8       | 0.00     | 5.00     | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | 0     | 19      | 0.00     | 5.00     | NEPM 2013 B3 & ALS QC Standard |

| Method                                             | Sample Date | Extraction / Preparation |                    |            | Analysis      |                  |            |
|----------------------------------------------------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s)                    |             | Date extracted           | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| ED037P: Alkalinity by PC Titrator                  |             |                          |                    |            |               |                  |            |
| HDPE (no PTFE) (ED037-P)<br>BH304, BH1, BH306, BH2 | 02-Aug-2019 | ----                     | ----               | ----       | 05-Aug-2019   | 16-Aug-2019      | ✓          |
| ED041G: Sulfate (Turbidimetric) as SO4 2- by DA    |             |                          |                    |            |               |                  |            |
| HDPE (no PTFE) (ED041G)<br>BH306                   | 02-Aug-2019 | ----                     | ----               | ----       | 02-Aug-2019   | 30-Aug-2019      | ✓          |
| HDPE (no PTFE) (ED041G)<br>BH304, BH2, BH1,        | 02-Aug-2019 | ----                     | ----               | ----       | 03-Aug-2019   | 30-Aug-2019      | ✓          |



Matrix: **WATER**

Evaluation: \* = Holding time breach ; ✓ = Within holding time.

| Method                                                                    |               | Sample Date | Extraction / Preparation |                    |            | Analysis      |                  |            |
|---------------------------------------------------------------------------|---------------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s)                                           |               |             | Date extracted           | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| ED045G: Chloride by Discrete Analyser                                     |               |             |                          |                    |            |               |                  |            |
| HDPE (no PTFE) (ED045G)<br>BH306                                          |               | 02-Aug-2019 | ----                     | ----               | ----       | 02-Aug-2019   | 30-Aug-2019      | ✓          |
| HDPE (no PTFE) (ED045G)<br>BH304,<br>BH2                                  | BH1,          | 02-Aug-2019 | ----                     | ----               | ----       | 03-Aug-2019   | 30-Aug-2019      | ✓          |
| ED093F: Dissolved Major Cations                                           |               |             |                          |                    |            |               |                  |            |
| Clear Plastic Bottle - Nitric Acid; Filtered (ED093F)<br>BH304,<br>BH1,   | BH306,<br>BH2 | 02-Aug-2019 | ----                     | ----               | ----       | 05-Aug-2019   | 30-Aug-2019      | ✓          |
| EG020F: Dissolved Metals by ICP-MS                                        |               |             |                          |                    |            |               |                  |            |
| Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)<br>BH304,<br>BH1, | BH306,<br>BH2 | 02-Aug-2019 | ----                     | ----               | ----       | 05-Aug-2019   | 29-Jan-2020      | ✓          |
| EG035F: Dissolved Mercury by FIMS                                         |               |             |                          |                    |            |               |                  |            |
| Clear Plastic Bottle - Nitric Acid; Filtered (EG035F)<br>BH304,<br>BH1,   | BH306,<br>BH2 | 02-Aug-2019 | ----                     | ----               | ----       | 05-Aug-2019   | 30-Aug-2019      | ✓          |
| EK040P: Fluoride by PC Titrator                                           |               |             |                          |                    |            |               |                  |            |
| HDPE (no PTFE) (EK040P)<br>BH304,<br>BH1,                                 | BH306,<br>BH2 | 02-Aug-2019 | ----                     | ----               | ----       | 05-Aug-2019   | 30-Aug-2019      | ✓          |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons                            |               |             |                          |                    |            |               |                  |            |
| Amber Glass Bottle - Unpreserved (EP075(SIM))<br>BH304,<br>BH1,           | BH306,<br>BH2 | 02-Aug-2019 | 03-Aug-2019              | 09-Aug-2019        | ✓          | 07-Aug-2019   | 12-Sep-2019      | ✓          |
| EP080/071: Total Petroleum Hydrocarbons                                   |               |             |                          |                    |            |               |                  |            |
| Amber Glass Bottle - Unpreserved (EP071)<br>BH304,<br>BH1,                | BH306,<br>BH2 | 02-Aug-2019 | 03-Aug-2019              | 09-Aug-2019        | ✓          | 07-Aug-2019   | 12-Sep-2019      | ✓          |
| Amber VOC Vial - Sulfuric Acid (EP080)<br>BH304,<br>BH1,                  | BH306,<br>BH2 | 02-Aug-2019 | 07-Aug-2019              | 16-Aug-2019        | ✓          | 07-Aug-2019   | 16-Aug-2019      | ✓          |
| Amber VOC Vial - Sulfuric Acid (EP080)<br>Trip Blank                      |               | 31-Jul-2019 | 07-Aug-2019              | 14-Aug-2019        | ✓          | 07-Aug-2019   | 14-Aug-2019      | ✓          |



Matrix: **WATER**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method                                                          |               | Sample Date | Extraction / Preparation |                    |            | Analysis      |                  |            |
|-----------------------------------------------------------------|---------------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s)                                 |               |             | Date extracted           | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions |               |             |                          |                    |            |               |                  |            |
| Amber Glass Bottle - Unpreserved (EP071)                        |               |             |                          |                    |            |               |                  |            |
| BH304,<br>BH1,                                                  | BH306,<br>BH2 | 02-Aug-2019 | 03-Aug-2019              | 09-Aug-2019        | ✓          | 07-Aug-2019   | 12-Sep-2019      | ✓          |
| Amber VOC Vial - Sulfuric Acid (EP080)                          |               |             |                          |                    |            |               |                  |            |
| BH304,<br>BH1,                                                  | BH306,<br>BH2 | 02-Aug-2019 | 07-Aug-2019              | 16-Aug-2019        | ✓          | 07-Aug-2019   | 16-Aug-2019      | ✓          |
| Amber VOC Vial - Sulfuric Acid (EP080)                          |               |             |                          |                    |            |               |                  |            |
| Trip Blank                                                      |               | 31-Jul-2019 | 07-Aug-2019              | 14-Aug-2019        | ✓          | 07-Aug-2019   | 14-Aug-2019      | ✓          |
| EP080: BTEXN                                                    |               |             |                          |                    |            |               |                  |            |
| Amber VOC Vial - Sulfuric Acid (EP080)                          |               |             |                          |                    |            |               |                  |            |
| BH304,<br>BH1,                                                  | BH306,<br>BH2 | 02-Aug-2019 | 07-Aug-2019              | 16-Aug-2019        | ✓          | 07-Aug-2019   | 16-Aug-2019      | ✓          |
| Amber VOC Vial - Sulfuric Acid (EP080)                          |               |             |                          |                    |            |               |                  |            |
| Trip Spike                                                      |               | 30-Jul-2019 | 07-Aug-2019              | 13-Aug-2019        | ✓          | 07-Aug-2019   | 13-Aug-2019      | ✓          |
| Amber VOC Vial - Sulfuric Acid (EP080)                          |               |             |                          |                    |            |               |                  |            |
| Trip Blank                                                      |               | 31-Jul-2019 | 07-Aug-2019              | 14-Aug-2019        | ✓          | 07-Aug-2019   | 14-Aug-2019      | ✓          |
| EP231A: Perfluoroalkyl Sulfonic Acids                           |               |             |                          |                    |            |               |                  |            |
| HDPE (no PTFE) (EP231X)                                         |               |             |                          |                    |            |               |                  |            |
| BH306,                                                          | BH2           | 02-Aug-2019 | 06-Aug-2019              | 29-Jan-2020        | ✓          | 06-Aug-2019   | 29-Jan-2020      | ✓          |
| EP231B: Perfluoroalkyl Carboxylic Acids                         |               |             |                          |                    |            |               |                  |            |
| HDPE (no PTFE) (EP231X)                                         |               |             |                          |                    |            |               |                  |            |
| BH306,                                                          | BH2           | 02-Aug-2019 | 06-Aug-2019              | 29-Jan-2020        | ✓          | 06-Aug-2019   | 29-Jan-2020      | ✓          |
| EP231C: Perfluoroalkyl Sulfonamides                             |               |             |                          |                    |            |               |                  |            |
| HDPE (no PTFE) (EP231X)                                         |               |             |                          |                    |            |               |                  |            |
| BH306,                                                          | BH2           | 02-Aug-2019 | 06-Aug-2019              | 29-Jan-2020        | ✓          | 06-Aug-2019   | 29-Jan-2020      | ✓          |
| EP231D: (n:2) Fluorotelomer Sulfonic Acids                      |               |             |                          |                    |            |               |                  |            |
| HDPE (no PTFE) (EP231X)                                         |               |             |                          |                    |            |               |                  |            |
| BH306,                                                          | BH2           | 02-Aug-2019 | 06-Aug-2019              | 29-Jan-2020        | ✓          | 06-Aug-2019   | 29-Jan-2020      | ✓          |
| EP231P: PFAS Sums                                               |               |             |                          |                    |            |               |                  |            |
| HDPE (no PTFE) (EP231X)                                         |               |             |                          |                    |            |               |                  |            |
| BH306,                                                          | BH2           | 02-Aug-2019 | 06-Aug-2019              | 29-Jan-2020        | ✓          | 06-Aug-2019   | 29-Jan-2020      | ✓          |



## Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

| Quality Control Sample Type                            |            | Count |         | Rate (%) |          | Quality Control Specification |                                |
|--------------------------------------------------------|------------|-------|---------|----------|----------|-------------------------------|--------------------------------|
| Analytical Methods                                     | Method     | QC    | Regular | Actual   | Expected |                               | Evaluation                     |
|                                                        |            |       |         |          |          |                               |                                |
| Laboratory Duplicates (DUP)                            |            |       |         |          |          |                               |                                |
| Alkalinity by PC Titrator                              | ED037-P    | 2     | 20      | 10.00    | 10.00    | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Chloride by Discrete Analyser                          | ED045G     | 3     | 11      | 27.27    | 10.00    | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Mercury by FIMS                              | EG035F     | 2     | 16      | 12.50    | 10.00    | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A                   | EG020A-F   | 3     | 23      | 13.04    | 10.00    | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Fluoride by PC Titrator                                | EK040P     | 3     | 23      | 13.04    | 10.00    | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Major Cations - Dissolved                              | ED093F     | 2     | 18      | 11.11    | 10.00    | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| PAH/Phenols (GC/MS - SIM)                              | EP075(SIM) | 0     | 8       | 0.00     | 10.00    | ✗                             | NEPM 2013 B3 & ALS QC Standard |
| Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS   | EP231X     | 1     | 8       | 12.50    | 10.00    | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser | ED041G     | 2     | 17      | 11.76    | 10.00    | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction                            | EP071      | 0     | 19      | 0.00     | 10.00    | ✗                             | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX                                     | EP080      | 2     | 20      | 10.00    | 10.00    | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Laboratory Control Samples (LCS)                       |            |       |         |          |          |                               |                                |
| Alkalinity by PC Titrator                              | ED037-P    | 2     | 20      | 10.00    | 10.00    | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Chloride by Discrete Analyser                          | ED045G     | 4     | 11      | 36.36    | 10.00    | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Mercury by FIMS                              | EG035F     | 1     | 16      | 6.25     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A                   | EG020A-F   | 2     | 23      | 8.70     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Fluoride by PC Titrator                                | EK040P     | 2     | 23      | 8.70     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Major Cations - Dissolved                              | ED093F     | 1     | 18      | 5.56     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| PAH/Phenols (GC/MS - SIM)                              | EP075(SIM) | 1     | 8       | 12.50    | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS   | EP231X     | 1     | 8       | 12.50    | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser | ED041G     | 2     | 17      | 11.76    | 10.00    | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction                            | EP071      | 1     | 19      | 5.26     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX                                     | EP080      | 1     | 20      | 5.00     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Method Blanks (MB)                                     |            |       |         |          |          |                               |                                |
| Chloride by Discrete Analyser                          | ED045G     | 2     | 11      | 18.18    | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Mercury by FIMS                              | EG035F     | 1     | 16      | 6.25     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A                   | EG020A-F   | 2     | 23      | 8.70     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Fluoride by PC Titrator                                | EK040P     | 2     | 23      | 8.70     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Major Cations - Dissolved                              | ED093F     | 1     | 18      | 5.56     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| PAH/Phenols (GC/MS - SIM)                              | EP075(SIM) | 1     | 8       | 12.50    | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS   | EP231X     | 1     | 8       | 12.50    | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser | ED041G     | 2     | 17      | 11.76    | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction                            | EP071      | 1     | 19      | 5.26     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX                                     | EP080      | 1     | 20      | 5.00     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Matrix Spikes (MS)                                     |            |       |         |          |          |                               |                                |
| Chloride by Discrete Analyser                          | ED045G     | 2     | 11      | 18.18    | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |



Matrix: **WATER**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

| Quality Control Sample Type                            |            | Count |         | Rate (%) |          |            | Quality Control Specification  |
|--------------------------------------------------------|------------|-------|---------|----------|----------|------------|--------------------------------|
| Analytical Methods                                     | Method     | QC    | Regular | Actual   | Expected | Evaluation |                                |
| Matrix Spikes (MS) - Continued                         |            |       |         |          |          |            |                                |
| Dissolved Mercury by FIMS                              | EG035F     | 1     | 16      | 6.25     | 5.00     | ✓          | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A                   | EG020A-F   | 2     | 23      | 8.70     | 5.00     | ✓          | NEPM 2013 B3 & ALS QC Standard |
| Fluoride by PC Titrator                                | EK040P     | 2     | 23      | 8.70     | 5.00     | ✓          | NEPM 2013 B3 & ALS QC Standard |
| PAH/Phenols (GC/MS - SIM)                              | EP075(SIM) | 0     | 8       | 0.00     | 5.00     | ✗          | NEPM 2013 B3 & ALS QC Standard |
| Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS   | EP231X     | 1     | 8       | 12.50    | 5.00     | ✓          | NEPM 2013 B3 & ALS QC Standard |
| Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser | ED041G     | 2     | 17      | 11.76    | 5.00     | ✓          | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction                            | EP071      | 0     | 19      | 0.00     | 5.00     | ✗          | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX                                     | EP080      | 1     | 20      | 5.00     | 5.00     | ✓          | NEPM 2013 B3 & ALS QC Standard |



## Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

| Analytical Methods                                                 | Method       | Matrix | Method Descriptions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------------------------|--------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Alkalinity by PC Titrator                                          | ED037-P      | WATER  | In house: Referenced to APHA 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM (2013) Schedule B(3)                                                                                                                                                                                                                                                                                                                                                               |
| Sulfate (Turbidimetric) as SO <sub>4</sub> 2- by Discrete Analyser | ED041G       | WATER  | In house: Referenced to APHA 4500-SO <sub>4</sub> . Dissolved sulfate is determined in a 0.45um filtered sample. Sulfate ions are converted to a barium sulfate suspension in an acetic acid medium with barium chloride. Light absorbance of the BaSO <sub>4</sub> suspension is measured by a photometer and the SO <sub>4</sub> -2 concentration is determined by comparison of the reading with a standard curve. This method is compliant with NEPM (2013) Schedule B(3)                                                                                                                         |
| Chloride by Discrete Analyser                                      | ED045G       | WATER  | In house: Referenced to APHA 4500 Cl - G. The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride. In the presence of ferric ions the liberated thiocyanate forms highly-coloured ferric thiocyanate which is measured at 480 nm APHA 21st edition seal method 2 017-1-L april 2003                                                                                                                                                                                                                     |
| Major Cations - Dissolved                                          | ED093F       | WATER  | In house: Referenced to APHA 3120 and 3125; USEPA SW 846 - 6010 and 6020; Cations are determined by either ICP-AES or ICP-MS techniques. This method is compliant with NEPM (2013) Schedule B(3)<br><br>Sodium Adsorption Ratio is calculated from Ca, Mg and Na which determined by ALS in house method QWI-EN/ED093F. This method is compliant with NEPM (2013) Schedule B(3)<br><br>Hardness parameters are calculated based on APHA 2340 B. This method is compliant with NEPM (2013) Schedule B(3)                                                                                               |
| Dissolved Metals by ICP-MS - Suite A                               | EG020A-F     | WATER  | In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.                                                                                                                                                                                 |
| Dissolved Mercury by FIMS                                          | EG035F       | WATER  | In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl <sub>2</sub> )(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl <sub>2</sub> which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3) |
| Fluoride by PC Titrator                                            | EK040P       | WATER  | In house: Referenced to APHA 4500-F C: CDTA is added to the sample to provide a uniform ionic strength background, adjust pH, and break up complexes. Fluoride concentration is determined by either manual or automatic ISE measurement. This method is compliant with NEPM (2013) Schedule B(3)                                                                                                                                                                                                                                                                                                     |
| Ionic Balance by PCT DA and Turbi SO <sub>4</sub> DA               | * EN055 - PG | WATER  | In house: Referenced to APHA 1030F. This method is compliant with NEPM (2013) Schedule B(3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TRH - Semivolatile Fraction                                        | EP071        | WATER  | In house: Referenced to USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)                                                                                                                                                                                                                                                                                                            |



| Analytical Methods                                   | Method     | Matrix | Method Descriptions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------------|------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PAH/Phenols (GC/MS - SIM)                            | EP075(SIM) | WATER  | In house: Referenced to USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TRH Volatiles/BTEX                                   | EP080      | WATER  | In house: Referenced to USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)                                                                                                                                                                                                                                                                                                                                                                                                             |
| Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS | EP231X     | WATER  | In house: Direct injection analysis of fresh waters after dilution (1:1) with methanol. Analysis by LC-Electrospray-MS-MS, Negative Mode using MRM. Where commercially available, isotopically labelled analogues of the target analytes are used as internal standards for quantification. Where a labelled analogue is not commercially available, the internal standard with similar chemistry and the closest retention time to the target is used for quantification. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. This method complies with the quality control definitions as stated in QSM 5.1. Data is reviewed in line with the DQOs as stated in QSM5.1 |

| Preparation Methods                     | Method   | Matrix | Method Descriptions                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------|----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Preparation for PFAS in water.          | EP231-PR | WATER  | Method presumes direct injection without workup. Preparation includes addition of internal standard and surrogate, and filtration prior to analysis.                                                                                                                                                                                                                                    |
| Separatory Funnel Extraction of Liquids | ORG14    | WATER  | In house: Referenced to USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container. |
| Volatiles Water Preparation             | ORG16-W  | WATER  | A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for sparging.                                                                                                                                                                                                                                                                                                   |



## Grace White

---

**From:** Grace White  
**Sent:** Monday, 5 August 2019 3:52 PM  
**To:** Loren Schiavon  
**Cc:** Helen Simpson  
**Subject:** ES1924476 - Add PFAS

Hi Loren,

As per a client request, can you please arrange adding PFAS EP231X to samples 002 and 004? Can cancel the Cations/Anions coming from this bottle if need be.

Thank you!

**Grace White**  
Client Services Officer, Environmental  
Sydney



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Environmental Division  
Sydney

Work Order Reference  
**ES1924476**



Telephone : + 61-2-8784 8555

## D-2 Summary Table Analytical Results

Liverpool Civic Place Soil NSW Waste Class

|                                                             |                                                |             |        | CRCCARE 2011 HSLs<br>Intrusive Maintenance<br>Worker Direct Contact |  | CT1 General Solid Waste | CT2 Restricted Solid Waste | NEPM 2013 HIL-<br>Commercial/Industrial D<br>Soil | NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL<br>for Vapour Intrusion, Clay |      |      |      |     |  |             |      |             |             |          |             |         |      |            |           |  |  |
|-------------------------------------------------------------|------------------------------------------------|-------------|--------|---------------------------------------------------------------------|--|-------------------------|----------------------------|---------------------------------------------------|-------------------------------------------------------------------------|------|------|------|-----|--|-------------|------|-------------|-------------|----------|-------------|---------|------|------------|-----------|--|--|
|                                                             |                                                |             |        |                                                                     |  |                         |                            |                                                   |                                                                         | 0-1m | 1-2m | 2-4m | >4m |  |             |      |             |             |          |             |         |      |            |           |  |  |
| Method_Type                                                 | ChemName                                       | output unit | EQL    |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  |             |      |             |             |          |             |         |      |            |           |  |  |
| Asbestos<br>Identification in Soils                         | Asbestos Type                                  | No          |        |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | 1           | 1    | 1           | 1           | 1        | -           | 1       | -    | 1          | 1         |  |  |
|                                                             | APPROVED IDENTIFIER:                           | --          |        |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | 1           | 1    | 1           | 1           | 1        | -           | 1       | -    | 1          | 1         |  |  |
|                                                             | Asbestos (1-Detect or <1-Non-Detect)           | No          | 0.1    |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | 0           | 0    | 0           | 0           | 1        | -           | 0       | -    | 0          | 0         |  |  |
|                                                             | Asbestos Fines                                 | mg/kg       | 5      |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | 0           | 0    | 0           | 0           | 0        | -           | 0       | -    | 0          | 0         |  |  |
|                                                             | Description                                    | --          |        |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | 1           | 1    | 1           | 1           | 1        | -           | 1       | -    | 1          | 1         |  |  |
| ASS Field Screening<br>Analysis                             | Sample weight (dry)                            | g           | 0.01   |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | 14.8        | 38.4 | 17          | 26.6        | 52.2     | -           | 43.1    | -    | 48.1       | 51.8      |  |  |
|                                                             | pH (Field ox)                                  | pH_Units    | 0.1    |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | -           | -    | 5.2         | -           | -        | 5.3         | 4.3     | 4.2  | -          | -         |  |  |
|                                                             | Reaction Rate                                  | -           | 1      |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | -           | -    | 2           | -           | -        | 2           | 2       | 2    | -          | -         |  |  |
|                                                             | pH (F)                                         | pH Unit     | 0.1    |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | -           | -    | 7.5         | -           | -        | 8.2         | 5.6     | 5.5  | -          | -         |  |  |
| Moisture Content                                            | Moisture Content (dried @ 40°C)                | %           | 0.1    |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | 25.1 - 25.8 | 12.6 | 15.1 - 16.7 | 13.1 - 13.5 | 8 - 13.4 | 14.6 - 15.2 | 16.3    | 19.4 | 8.2 - 14.1 | 6.6 - 9.4 |  |  |
| PAH/Phenols (SIM)                                           | Acenaphthene                                   | mg/kg       | 0.5    |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.5        | <0.5 | <0.5        | 0.7         | <0.5     | <0.5        | <0.5    | <0.5 | <0.5       | <0.5      |  |  |
|                                                             | Acenaphthylene                                 | mg/kg       | 0.5    |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.5        | <0.5 | <0.5        | <0.5        | <0.5     | <0.5        | <0.5    | <0.5 | <0.5       | <0.5      |  |  |
|                                                             | Anthracene                                     | mg/kg       | 0.5    |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.5        | <0.5 | <0.5        | 3.8         | <0.5     | <0.5        | <0.5    | <0.5 | <0.5       | <0.5      |  |  |
|                                                             | Benz(a)anthracene                              | mg/kg       | 0.5    |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.5        | <0.5 | <0.5        | 14.4        | <0.5     | <0.5        | <0.5    | <0.5 | <0.5       | <0.5      |  |  |
|                                                             | Benzo(a)pyrene                                 | mg/kg       | 0.5    |                                                                     |  | 0.8                     | 3.2                        |                                                   |                                                                         |      |      |      |     |  | <0.5        | <0.5 | <0.5        | 17.5        | <0.5     | <0.5        | <0.5    | <0.5 | <0.5       | <0.5      |  |  |
|                                                             | Benzo(a)pyrene TEQ (lower bound)*              | mg/kg       | 0.5    |                                                                     |  |                         |                            | 40                                                |                                                                         |      |      |      |     |  |             | <0.5 | <0.5        | <0.5        | 25.2     | <0.5        | <0.5    | <0.5 | <0.5       | <0.5      |  |  |
|                                                             | Benzo(a)pyrene TEQ (medium bound)*             | mg/kg       | 0.5    |                                                                     |  |                         |                            | 40                                                |                                                                         |      |      |      |     |  |             | 0.6  | 0.6         | 0.6         | 25.2     | 0.6         | 0.6     | 0.6  | 0.6        | 0.6       |  |  |
|                                                             | Benzo(a)pyrene TEQ (upper bound)*              | mg/kg       | 0.5    |                                                                     |  |                         |                            | 40                                                |                                                                         |      |      |      |     |  |             | 1.2  | 1.2         | 1.2         | 25.2     | 1.2         | 1.2     | 1.2  | 1.2        | 1.2       |  |  |
|                                                             | Benzo(b)&(j)fluoranthene                       | mg/kg       | 0.5    |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.5        | <0.5 | <0.5        | 18.3        | <0.5     | <0.5        | <0.5    | <0.5 | <0.5       | <0.5      |  |  |
|                                                             | Benzo(g,h,i)perylene                           | mg/kg       | 0.5    |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.5        | <0.5 | <0.5        | 10.2        | <0.5     | <0.5        | <0.5    | <0.5 | <0.5       | <0.5      |  |  |
|                                                             | Benzo(k)fluoranthene                           | mg/kg       | 0.5    |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.5        | <0.5 | <0.5        | 6.7         | <0.5     | <0.5        | <0.5    | <0.5 | <0.5       | <0.5      |  |  |
|                                                             | Chrysene                                       | mg/kg       | 0.5    |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.5        | <0.5 | <0.5        | 13          | <0.5     | <0.5        | <0.5    | <0.5 | <0.5       | <0.5      |  |  |
|                                                             | Dibenz(a,h)anthracene                          | mg/kg       | 0.5    |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.5        | <0.5 | <0.5        | 2.7         | <0.5     | <0.5        | <0.5    | <0.5 | <0.5       | <0.5      |  |  |
|                                                             | Fluoranthene                                   | mg/kg       | 0.5    |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.5        | <0.5 | <0.5        | 15.2        | <0.5     | <0.5        | <0.5    | <0.5 | <0.5       | <0.5      |  |  |
|                                                             | Fluorene                                       | mg/kg       | 0.5    |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.5        | <0.5 | <0.5        | 0.7         | <0.5     | <0.5        | <0.5    | <0.5 | <0.5       | <0.5      |  |  |
|                                                             | Indeno(1,2,3-c,d)pyrene                        | mg/kg       | 0.5    |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.5        | <0.5 | <0.5        | 8           | <0.5     | <0.5        | <0.5    | <0.5 | <0.5       | <0.5      |  |  |
|                                                             | Naphthalene                                    | mg/kg       | 0.5    |                                                                     |  | 29000                   |                            |                                                   | NL                                                                      | NL   | NL   | NL   |     |  | <0.5        | <0.5 | <0.5        | <0.5        | <0.5     | <0.5        | <0.5    | <0.5 | <0.5       | <0.5      |  |  |
|                                                             | Phenanthrene                                   | mg/kg       | 0.5    |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.5        | <0.5 | <0.5        | 10.1        | <0.5     | <0.5        | <0.5    | <0.5 | <0.5       | <0.5      |  |  |
|                                                             | Pyrene                                         | mg/kg       | 0.5    |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.5        | <0.5 | <0.5        | 16.5        | <0.5     | <0.5        | <0.5    | <0.5 | <0.5       | <0.5      |  |  |
|                                                             | PAH (Sum of Common 16 PAHs - Lab Reported)     | mg/kg       | 0.5    |                                                                     |  | 200                     | 800                        | 4000                                              |                                                                         |      |      |      |     |  |             | <0.5 | <0.5        | <0.5        | 138      | <0.5        | <0.5    | <0.5 | <0.5       | <0.5      |  |  |
| Per- and<br>Polyfluoroalkyl<br>Substances (PFAS) by<br>LCMS | 10:2 Fluorotelomer sulfonic acid               | mg/kg       | 0.0005 |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.0005     | -    | <0.0005     | <0.0005     | <0.0005  | <0.0005     | <0.0005 | -    | <0.0005    | <0.0005   |  |  |
|                                                             | 4:2 Fluorotelomer sulfonic acid                | mg/kg       | 0.0005 |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.0005     | -    | <0.0005     | <0.0005     | <0.0005  | <0.0005     | <0.0005 | -    | <0.0005    | <0.0005   |  |  |
|                                                             | 8:2 Fluorotelomer sulfonate                    | mg/kg       | 0.0005 |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.0005     | -    | <0.0005     | <0.0005     | <0.0005  | <0.0005     | <0.0005 | -    | <0.0005    | <0.0005   |  |  |
|                                                             | N-Et-FOSA                                      | mg/kg       | 0.0005 |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.0005     | -    | <0.0005     | <0.0005     | <0.0005  | <0.0005     | <0.0005 | -    | <0.0005    | <0.0005   |  |  |
|                                                             | N-Et-FOSE                                      | mg/kg       | 0.0005 |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.0005     | -    | <0.0005     | <0.0005     | <0.0005  | <0.0005     | <0.0005 | -    | <0.0005    | <0.0005   |  |  |
|                                                             | N-Me-FOSA                                      | mg/kg       | 0.0005 |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.0005     | -    | <0.0005     | <0.0005     | <0.0005  | <0.0005     | <0.0005 | -    | <0.0005    | <0.0005   |  |  |
|                                                             | N-Me-FOSE                                      | mg/kg       | 0.0005 |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.0005     | -    | <0.0005     | <0.0005     | <0.0005  | <0.0005     | <0.0005 | -    | <0.0005    | <0.0005   |  |  |
|                                                             | Perfluorobutanoic acid (PFBA)                  | mg/kg       | 0.001  |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.001      | -    | <0.001      | <0.001      | <0.001   | <0.001      | <0.001  | -    | <0.001     | <0.001    |  |  |
|                                                             | Perfluoroheptane sulfonic acid                 | mg/kg       | 0.0002 |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.0002     | -    | <0.0002     | <0.0002     | <0.0002  | <0.0002     | <0.0002 | -    | <0.0002    | <0.0002   |  |  |
|                                                             | Perfluoro-n-pentanoic acid (PFPeA)             | mg/kg       | 0.0002 |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.0002     | -    | <0.0002     | <0.0002     | <0.0002  | <0.0002     | <0.0002 | -    | <0.0002    | <0.0002   |  |  |
|                                                             | Perfluoropentane sulfonic acid                 | mg/kg       | 0.0002 |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.0002     | -    | <0.0002     | <0.0002     | <0.0002  | <0.0002     | <0.0002 | -    | <0.0002    | <0.0002   |  |  |
|                                                             | PFDCs                                          | mg/kg       | 0.0002 |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.0002     | -    | <0.0002     | <0.0002     | <0.0002  | <0.0002     | <0.0002 | -    | <0.0002    | <0.0002   |  |  |
|                                                             | N-methyl-perfluorooctanesulfonamidoacetic acid | mg/kg       | 0.0002 |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.0002     | -    | <0.0002     | <0.0002     | <0.0002  | <0.0002     | <0.0002 | -    | <0.0002    | <0.0002   |  |  |
|                                                             | Sum of PFHxS and PFOS (lab reported)           | mg/kg       | 0.0002 |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.0002     | -    | <0.0002     | <0.0002     | 0.0006   | <0.0002     | <0.0002 | -    | <0.0002    | <0.0002   |  |  |
|                                                             | Sum of WA DER PFAS (n=10)                      | mg/kg       | 0.0002 |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.0002     | -    | <0.0002     | <0.0002     | 0.001    | <0.0002     | <0.0002 | -    | <0.0002    | <0.0002   |  |  |
|                                                             | Sum of PFASs (n=28)                            | mg/kg       | 0.0002 |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  | <0.0002     | -    | <0.0002     | <0.0002     | 0.001    | <0.0002     | <0.0002 | -    | <0.0002    | <0.0002   |  |  |
|                                                             | Perfluorobutanesulfonic acid (PFBS)            | mg/kg       | 0.     |                                                                     |  |                         |                            |                                                   |                                                                         |      |      |      |     |  |             |      |             |             |          |             |         |      |            |           |  |  |

Liverpool Civic Place Soil NSW Waste Class

|             |                                |             |     | CRCCARE 2011 HSLs<br>Intrusive Maintenance<br>Worker Direct Contact | CT1 General Solid Waste | CT2 Restricted Solid<br>Waste | NEPM 2013 HIL-<br>Commercial/Industrial D<br>Soil | NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL |      |      |     |      |      |      |      |      |      |      |      |      |      |  |  |  |  |
|-------------|--------------------------------|-------------|-----|---------------------------------------------------------------------|-------------------------|-------------------------------|---------------------------------------------------|-------------------------------------------|------|------|-----|------|------|------|------|------|------|------|------|------|------|--|--|--|--|
|             |                                |             |     |                                                                     |                         |                               |                                                   | 0-1m                                      | 1-2m | 2-4m | >4m |      |      |      |      |      |      |      |      |      |      |  |  |  |  |
| Method_Type | ChemName                       | output unit | EQL |                                                                     |                         |                               |                                                   |                                           |      |      |     |      |      |      |      |      |      |      |      |      |      |  |  |  |  |
|             |                                |             |     |                                                                     |                         |                               |                                                   |                                           |      |      |     |      |      |      |      |      |      |      |      |      |      |  |  |  |  |
|             | 2,6-Dinitrotoluene             | mg/kg       | 1   |                                                                     |                         |                               |                                                   |                                           |      |      |     | <1   | <1   | <1   | <1   | <1   | <1   | <1   | <1   | <1   | <1   |  |  |  |  |
|             | 1,2,4-Trichlorobenzene         | mg/kg       | 0.5 |                                                                     | <50                     | <50                           |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | 1,2-Dichlorobenzene            | mg/kg       | 0.5 |                                                                     | 86                      | 344                           |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | 1,3-Dichlorobenzene            | mg/kg       | 0.5 |                                                                     |                         |                               |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | Pentachlorobenzene             | mg/kg       | 0.5 |                                                                     |                         |                               |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | Pronamide                      | mg/kg       | 0.5 |                                                                     |                         |                               |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | a-BHC                          | mg/kg       | 0.5 |                                                                     | <50                     | <50                           |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | Aldrin                         | mg/kg       | 0.5 |                                                                     | <50                     | <50                           |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | Dieldrin                       | mg/kg       | 0.5 |                                                                     | <50                     | <50                           |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | b-BHC                          | mg/kg       | 0.5 |                                                                     | <50                     | <50                           |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | d-BHC                          | mg/kg       | 0.5 |                                                                     | <50                     | <50                           |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | DDD                            | mg/kg       | 0.5 |                                                                     | <50                     | <50                           |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | DDE                            | mg/kg       | 0.5 |                                                                     | <50                     | <50                           |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | DDT                            | mg/kg       | 1   |                                                                     | <50                     | <50                           |                                                   |                                           |      |      |     | <1   | <1   | <1   | <1   | <1   | <1   | <1   | <1   | <1   | <1   |  |  |  |  |
|             | Endosulfan I                   | mg/kg       | 0.5 |                                                                     |                         |                               |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | Endosulfan II                  | mg/kg       | 0.5 |                                                                     |                         |                               |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | Endosulfan sulphate            | mg/kg       | 0.5 |                                                                     |                         |                               |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | Endrin                         | mg/kg       | 0.5 |                                                                     | <50                     | <50                           | 100                                               |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | g-BHC                          | mg/kg       | 0.5 |                                                                     | <50                     | <50                           |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | Heptachlor                     | mg/kg       | 0.5 |                                                                     | <50                     | <50                           | 50                                                |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | Heptachlor epoxide             | mg/kg       | 0.5 |                                                                     | <50                     | <50                           |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | Hexachlorobenzene              | mg/kg       | 1   |                                                                     | <50                     | <50                           | 80                                                |                                           |      |      |     | <1   | <1   | <1   | <1   | <1   | <1   | <1   | <1   | <1   | <1   |  |  |  |  |
|             | Chlorfenvinphos                | mg/kg       | 0.5 |                                                                     |                         |                               |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | Chlorpyriphos                  | mg/kg       | 0.5 |                                                                     | 4                       | 16                            | 2000                                              |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | Chlorpyriphos-methyl           | mg/kg       | 0.5 |                                                                     |                         |                               |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | Diazinon                       | mg/kg       | 0.5 |                                                                     |                         |                               |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | Dichlorvos                     | mg/kg       | 0.5 |                                                                     | 250                     | 1000                          |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | Dimethoate                     | mg/kg       | 0.5 |                                                                     | 250                     | 1000                          |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | Ethion                         | mg/kg       | 0.5 |                                                                     | 250                     | 1000                          |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | Fenthion                       | mg/kg       | 0.5 |                                                                     | 250                     | 1000                          |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | Malathion                      | mg/kg       | 0.5 |                                                                     | 250                     | 1000                          |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | Pirimphos-ethyl                | mg/kg       | 0.5 |                                                                     |                         |                               |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | Prothiofos                     | mg/kg       | 0.5 |                                                                     |                         |                               |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | 2-Methylnaphthalene            | mg/kg       | 0.5 |                                                                     |                         |                               |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | 3-Methylcholanthrene           | mg/kg       | 0.5 |                                                                     |                         |                               |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | 7,12-Dimethylbenz(a)anthracene | mg/kg       | 0.5 |                                                                     |                         |                               |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | Carbazole                      | mg/kg       | 0.5 |                                                                     |                         |                               |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | 1.5  | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | Chlorobenzilate                | mg/kg       | 0.5 |                                                                     |                         |                               |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | 2,4,5-Trichlorophenol          | mg/kg       | 0.5 |                                                                     | 8000                    | 32000                         |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | 2,4,6-Trichlorophenol          | mg/kg       | 0.5 |                                                                     | 40                      | 160                           |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | 2,4-Dichlorophenol             | mg/kg       | 0.5 |                                                                     |                         |                               |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | 2,6-Dichlorophenol             | mg/kg       | 0.5 |                                                                     |                         |                               |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | 2-Chlorophenol                 | mg/kg       | 0.5 |                                                                     |                         |                               |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | 4-Chloro-3-methylphenol        | mg/kg       | 0.5 |                                                                     |                         |                               |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | Pentachlorophenol              | mg/kg       | 1   |                                                                     |                         |                               | 660                                               |                                           |      |      |     | <1   | <1   | <1   | <1   | <1   | <1   | <1   | <1   | <1   | <1   |  |  |  |  |
|             | 2,4-Dimethylphenol             | mg/kg       | 0.5 |                                                                     |                         |                               |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |  |  |  |  |
|             | 2-Methylphenol                 | mg/kg       | 0.5 |                                                                     | 4000                    | 16000                         |                                                   |                                           |      |      |     | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |      |  |  |  |  |



Liverpool Civic Place Soil NSW Waste Class

|             |                             |             |     | Field_ID                                                            | BH301 / 0.15E           | BH303 / 0.2E               | BH304 / 0.7E                                      | BH305 / 0.4E                              | BH306 / 0.5E | BH306 / 1.5E | BH307 / 0.5E | BH309 / 0.4E | BH403 / 0.2E | BH404 / 0.1E | BH404 / 0.5E |
|-------------|-----------------------------|-------------|-----|---------------------------------------------------------------------|-------------------------|----------------------------|---------------------------------------------------|-------------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|             |                             |             |     | Location_Code                                                       | BH301 / 0.15E           | BH303 / 0.2E               | BH304 / 0.7E                                      | BH305 / 0.4E                              | BH306 / 0.5E | BH306 / 1.5E | BH307 / 0.5E | BH309 / 0.4E | BH403 / 0.2E | BH404 / 0.1E | BH404 / 0.5E |
|             |                             |             |     | Sample_Depth_Range                                                  |                         |                            |                                                   |                                           |              |              |              |              |              |              |              |
|             |                             |             |     | Sampled_Date_Time                                                   | 24/07/2019              | 15/07/2019                 | 11/07/2019                                        | 20/07/2019                                | 9/07/2019    | 9/07/2019    | 18/07/2019   | 23/07/2019   | 10/07/2019   | 10/07/2019   | 10/07/2019   |
|             |                             |             |     | Matrix_Description                                                  |                         |                            |                                                   |                                           |              |              |              |              |              |              |              |
|             |                             |             |     | CRCCARE 2011 HSLs<br>Intrusive Maintenance<br>Worker Direct Contact | CT1 General Solid Waste | CT2 Restricted Solid Waste | NEPM 2013 HIL-<br>Commercial/Industrial D<br>Soil | NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL |              |              |              |              |              |              |              |
| Method_Type | ChemName                    | output unit | EQL |                                                                     |                         |                            |                                                   | 0-1m                                      | 1-2m         | 2-4m         | >4m          |              |              |              |              |
|             | 1,1,1-Trichloroethane       | mg/kg       | 0.5 |                                                                     | 600                     | 2400                       |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | 1,1,2-Trichloroethane       | mg/kg       | 0.5 |                                                                     | 24                      | 96                         |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | 1,2,3-Trichloropropane      | mg/kg       | 0.5 |                                                                     |                         |                            |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | 1,2-Dibromo-3-chloropropane | mg/kg       | 0.5 |                                                                     |                         |                            |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | 1,2-Dibromoethane           | mg/kg       | 0.5 |                                                                     |                         |                            |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | 1,1-Dichloroethane          | mg/kg       | 0.5 |                                                                     |                         |                            |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | 1,2-Dichloroethane          | mg/kg       | 0.5 |                                                                     | 10                      | 40                         |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | 1,1-Dichloroethene          | mg/kg       | 0.5 |                                                                     | 14                      | 56                         |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | cis-1,2-Dichloroethene      | mg/kg       | 0.5 |                                                                     |                         |                            |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | trans-1,2-dichloroethene    | mg/kg       | 0.5 |                                                                     |                         |                            |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | 1,2-Dichloropropane         | mg/kg       | 0.5 |                                                                     |                         |                            |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | 1,3-Dichloropropane         | mg/kg       | 0.5 |                                                                     |                         |                            |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | 2,2-Dichloropropane         | mg/kg       | 0.5 |                                                                     |                         |                            |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | 1,1-Dichloropropene         | mg/kg       | 0.5 |                                                                     |                         |                            |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | cis-1,3-Dichloropropene     | mg/kg       | 0.5 |                                                                     |                         |                            |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | trans-1,3-dichloropropene   | mg/kg       | 0.5 |                                                                     |                         |                            |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | cis-1,4-Dichloro-2-butene   | mg/kg       | 0.5 |                                                                     |                         |                            |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | trans-1,4-Dichloro-2-butene | mg/kg       | 0.5 |                                                                     |                         |                            |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | Bromodichloromethane        | mg/kg       | 0.5 |                                                                     |                         |                            |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | Bromoform                   | mg/kg       | 0.5 |                                                                     |                         |                            |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | Bromomethane                | mg/kg       | 5   |                                                                     |                         |                            |                                                   |                                           |              |              |              | <5           | <5           | <5           | <5           |
|             | Carbon disulfide            | mg/kg       | 0.5 |                                                                     |                         |                            |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | Carbon tetrachloride        | mg/kg       | 0.5 |                                                                     | 10                      | 40                         |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | Chlorodibromomethane        | mg/kg       | 0.5 |                                                                     |                         |                            |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | Chloroethane                | mg/kg       | 5   |                                                                     |                         |                            |                                                   |                                           |              |              |              | <5           | <5           | <5           | <5           |
|             | Chloroform                  | mg/kg       | 0.5 |                                                                     | 120                     | 480                        |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | Chloromethane               | mg/kg       | 5   |                                                                     |                         |                            |                                                   |                                           |              |              |              | <5           | <5           | <5           | <5           |
|             | Dibromomethane              | mg/kg       | 0.5 |                                                                     |                         |                            |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | Dichlorodifluoromethane     | mg/kg       | 5   |                                                                     |                         |                            |                                                   |                                           |              |              |              | <5           | <5           | <5           | <5           |
|             | Iodomethane                 | mg/kg       | 0.5 |                                                                     |                         |                            |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | Pentachloroethane           | mg/kg       | 0.5 |                                                                     |                         |                            |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | Trichloroethene             | mg/kg       | 0.5 |                                                                     | 10                      | 40                         |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | Tetrachloroethene           | mg/kg       | 0.5 |                                                                     | 14                      | 56                         |                                                   |                                           |              |              |              | <0.5         | <0.5         | <0.5         | <0.5         |
|             | Trichlorofluoromethane      | mg/kg       | 5   |                                                                     |                         |                            |                                                   |                                           |              |              |              | <5           | <5           | <5           | <5           |
|             | Vinyl chloride              | mg/kg       | 5   |                                                                     | 4                       | 16                         |                                                   |                                           |              |              |              | <5           | <5           | <5           | <5           |

### Liverpool Civic Place TCLP NSW Waste Class

[Filter] Liverpool Civic Place TCLP NSW Waste Class.xlsm , 29/08/2019

**APPENDIX E**

**Water Quality Testing**

**E-1 Field record sheet**

**E-2 Certificates of Analysis**

**E-3 Summary Table Analytical  
Results**

## E-1 Field record sheet



GOLDER

| WELL INFORMATION                          |  |
|-------------------------------------------|--|
| Diameter of standpipe (mm)                |  |
| Standpipe stick up (m)                    |  |
| Surveyed reference point                  |  |
| Depth to top of filter pack (from log)    |  |
| Depth to bottom of filter pack (from log) |  |
| Depth of well (from log)                  |  |

### Well Maintenance Required?

YES / NO

### Detail

| GAUGING INFORMATION                       |          |                                                   |  |
|-------------------------------------------|----------|---------------------------------------------------|--|
| Pre-Sampling Information                  |          | Purging and Sampling Information                  |  |
| Interface probe used?                     | YES / NO | Depth of pump intake (mbRP)                       |  |
| Initial depth to water (mbRP)             | 5.42     | Length of hose (m)                                |  |
| Depth to product (mbRP)                   |          | Volume in hose (L)                                |  |
| Thickness of product (m)                  |          | Depth to water after placement of pump (mbRP)     |  |
| Balled product thickness (m)              |          | Depth to water at end of purging (mbRP)           |  |
| Total depth of well (mbRP)                |          | Depth to water after collection of samples (mbRP) |  |
| Thickness of sediment on base of well (m) |          | Purging and Sampling Method                       |  |

mbRP - metres below top of reference point  
 Hose volume - 0.12 L/m of 1/2 inch diameter hose  
 Hose volume - 0.07 L/m of 3/8 inch diameter hose  
 Hose volume - 0.03 L/m of 1/4 inch diameter hose

| Controller settings |  |
|---------------------|--|
| CPM                 |  |
| Refill              |  |
| Discharge           |  |
| Throttle            |  |

### WQM Model

### WQM Calibration Certificate

[illegible]

### SAMPLING RECORD

Time Sampled: 2:00 pm  
Colour: Clear  
Odour: \_\_\_\_\_  
Turbidity: (Low) Medium High  
Hydrocarbon Sheen ? Yes No  
DI Water Lab Certificate No. \_\_\_\_\_  
Notes:

### Sample IDs

**Primary Duplicate:**

Secondary Duplicate:

**Trip Blank:**

**Rinsate:**

**Field Blank:**

**Sample Containers/Preservation** (F=Filtered; UF=Unfiltered; P=Preserved; UP=Unpreserved)

Vials (P/UP)

1L Amber

1L Plastic

Phenols/COD/NH<sub>3</sub> (F/UF: P/UP)

**Ferrous/Ferric Iron (F/UF; P/UP)**

Metals (F/UF;P/UP)

### Cyanide

### Sulphide

Other

Other

**Notes:**

No logger



**GOLDER**

| WELL INFORMATION                          |  |
|-------------------------------------------|--|
| Diameter of standpipe (mm)                |  |
| Standpipe stick up (m)                    |  |
| Surveyed reference point                  |  |
| Depth to top of filter pack (from log)    |  |
| Depth to bottom of filter pack (from log) |  |
| Depth of well (from log)                  |  |

Well Maintenance Required? YES / NO

### Detail

Screen = 9  $\times$  12 m

mbRP - metres below top of reference point  
Hose volume - 0.12 L/m of 1/2 inch diameter hose  
Hose volume - 0.07 L/m of 3/8 inch diameter hose  
Hose volume - 0.03 L/m of 1/4 inch diameter hose

| GAUGING INFORMATION                       |          |                                                   |  |
|-------------------------------------------|----------|---------------------------------------------------|--|
| Pre-Sampling Information                  |          | Purging and Sampling Information                  |  |
| Interface probe used?                     | YES / NO | Depth of pump intake (mbRP)                       |  |
| Initial depth to water (mbRP)             | 7.71     | Length of hose (m)                                |  |
| Depth to product (mbRP)                   |          | Volume in hose (L)                                |  |
| Thickness of product (m)                  |          | Depth to water after placement of pump (mbRP)     |  |
| Bailed product thickness (m)              |          | Depth to water at end of purging (mbRP)           |  |
| Total depth of well (mbRP)                |          | Depth to water after collection of samples (mbRP) |  |
| Thickness of sediment on base of well (m) |          | Purging and Sampling Method                       |  |

| Controller settings |  |
|---------------------|--|
| CPM                 |  |
| Refill              |  |
| Discharge           |  |
| Throttle            |  |

### WQM Model

## WQM Calibration Certificate

[illegible]

Time Sampled: 2:50  
Colour: clear  
Odour: ✓  
Turbidity: Low Medium High  
Hydrocarbon Sheen ? Yes No  
DI Water Lab Certificate No. \_\_\_\_\_  
Notes: \_\_\_\_\_

| SAMPLING RECORD      |  |
|----------------------|--|
| <b>Sample IDs</b>    |  |
| Primary Duplicate:   |  |
| Secondary Duplicate: |  |
| Trip Blank:          |  |
| Rinsate:             |  |
| Field Blank:         |  |

**Sample Containers/Preservation** (F=Filtered; UF=Unfiltered; P=Preserved; UP=Unpreserved)

Vials (P/UP)

1L Amber

1L Plastic

Phenols/COD/NH<sub>3</sub> (F/UF; P/UP)

Ferrous/Ferric Iron (F/UF; P/UP)

Metals (F/UF;P/UP)

**Cyanide**

### Sulphide

**Other**

Other

5 + bottles

## GROUNDWATER SAMPLING RECORD FORM

LOW FLOW PURGING and SAMPLING (incl. low yielding wells)



|                      |                                                                                                                                                  |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| PROJECT INFORMATION  |                                                                                                                                                  |
| WELL ID: <u>BH02</u> | Project Number: <u>19125312</u><br>Client: <u>Site Location: Liverpool</u><br>Date: <u>2/8/19</u><br>Sampled By: <u>SH</u><br>Time: <u>10:10</u> |

Weather Conditions (Temperature, Precipitation, Wind)

Well Maintenance Required? YES / NO

Detail

Screen = 2m → 14m

| WELL INFORMATION                          |  |
|-------------------------------------------|--|
| Diameter of standpipe (mm)                |  |
| Standpipe stick up (m)                    |  |
| Surveyed reference point                  |  |
| Depth to top of filter pack (from log)    |  |
| Depth to bottom of filter pack (from log) |  |
| Depth of well (from log)                  |  |

mbRP - metres below top of reference point

Hose volume - 0.12 L/m of 1/2 inch diameter hose

Hose volume - 0.07 L/m of 3/8 inch diameter hose

Hose volume - 0.03 L/m of 1/4 inch diameter hose

| GAUGING INFORMATION                       |             |                                                   |  |
|-------------------------------------------|-------------|---------------------------------------------------|--|
| Pre-Sampling Information                  |             | Purging and Sampling Information                  |  |
| Interface probe used?                     | YES / NO    | Depth of pump intake (mbRP)                       |  |
| Initial depth to water (mbRP)             | <u>6.28</u> | Length of hose (m)                                |  |
| Depth to product (mbRP)                   |             | Volume in hose (L)                                |  |
| Thickness of product (m)                  |             | Depth to water after placement of pump (mbRP)     |  |
| Bailed product thickness (m)              |             | Depth to water at end of purging (mbRP)           |  |
| Total depth of well (mbRP)                |             | Depth to water after collection of samples (mbRP) |  |
| Thickness of sediment on base of well (m) |             | Purging and Sampling Method                       |  |

| Controller settings |  |
|---------------------|--|
| CPM                 |  |
| Refill              |  |
| Discharge           |  |
| Throttle            |  |

WQM Model

WQM Calibration Certificate

| GROUNDWATER MONITORING WELL PURGING RECORD |                              |                   |                       |             |                      |             |                        |                  |                                            |
|--------------------------------------------|------------------------------|-------------------|-----------------------|-------------|----------------------|-------------|------------------------|------------------|--------------------------------------------|
| Time                                       | Cumulative Volume Purged (L) | Flow Rate (L/min) | Depth to Water (mbRP) | ±0.1        | ±5%                  | ±10         | ±10%                   | ±0.5°C           | Appearance (Colour, Turbidity, Odour, etc) |
|                                            |                              |                   |                       | pH          | Conductivity (µS/cm) | Redox (mV)  | Dissolved Oxygen (ppm) | Temperature (°C) |                                            |
| <u>10:25</u>                               | <u>0.3</u>                   |                   | <u>6.38</u>           | <u>7.52</u> | <u>4146</u>          | <u>96.6</u> | <u>0.67</u>            | <u>19.6</u>      | <u>Clear</u>                               |
| <u>10:29</u>                               | <u>0.5</u>                   |                   | <u>6.49</u>           | <u>7.42</u> | <u>4272</u>          | <u>80.7</u> | <u>0.55</u>            | <u>20.1</u>      | <u>"</u>                                   |
| <u>10:31</u>                               | <u>0.7</u>                   |                   | <u>6.59</u>           | <u>7.41</u> | <u>4132</u>          | <u>82.8</u> | <u>0.82</u>            | <u>19.3</u>      | <u>"</u>                                   |
| <u>10:34</u>                               | <u>1.0</u>                   |                   | <u>6.70</u>           | <u>7.35</u> | <u>4104</u>          | <u>83.2</u> | <u>0.48</u>            | <u>19.0</u>      | <u>"</u>                                   |
| <u>3:10</u>                                | <u>1.2</u>                   |                   | <u>6.53</u>           | <u>7.50</u> | <u>4075</u>          | <u>28.7</u> | <u>1.18</u>            | <u>19.7</u>      | <u>"</u>                                   |
| <u>3:15</u>                                | <u>1.3</u>                   |                   | <u>6.66</u>           | <u>7.39</u> | <u>4112</u>          | <u>30.1</u> | <u>0.62</u>            | <u>20.1</u>      | <u>"</u>                                   |
| <u>3:20</u>                                | <u>1.5</u>                   |                   | <u>6.71</u>           | <u>7.33</u> | <u>4108</u>          | <u>31.1</u> | <u>0.44</u>            | <u>19.7</u>      | <u>"</u>                                   |
|                                            |                              |                   |                       |             |                      |             |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |             |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |             |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |             |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |             |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |             |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |             |                        |                  |                                            |
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|                                            |                              |                   |                       |             |                      |             |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |             |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |             |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |             |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |             |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |             |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |             |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |             |                        |                  |                                            |

Time Sampled: 3:25  
 Colour: Clear  
 Odour: -  
 Turbidity: Low Medium High  
 Hydrocarbon Sheen? Yes No  
 DI Water Lab Certificate No. \_\_\_\_\_  
 Notes: \_\_\_\_\_

## Sample IDs

Primary Duplicate: \_\_\_\_\_

Secondary Duplicate: \_\_\_\_\_

Trip Blank: \_\_\_\_\_

Rinsate: \_\_\_\_\_

Field Blank: \_\_\_\_\_

## Sample Containers/Preservation (F=Filtered; UF=Unfiltered; P=Preserved; UP=Unpreserved)

Vials (P/UP)

1L Amber

1L Plastic

Phenols/COD/NH3 (F/UF; P/UP)

Ferrous/Ferric Iron (F/UF; P/UP)

Metals (F/UF; P/UP)

Cyanide

Sulphide

Other

Other

5 + bottles

**GROUNDWATER SAMPLING RECORD FORM**  
**LOW FLOW PURGING and SAMPLING (incl. low yielding wells)**



|                            |                                                                                                                                                                    |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PROJECT INFORMATION</b> |                                                                                                                                                                    |
| WELL ID: <b>BH304</b>      | Project Number: <b>19125312</b><br>Client: <b>Livepool</b><br>Site Location: <b>Livepool</b><br>Date: <b>2/8/19</b><br>Sampled By: <b>SH</b><br>Time: <b>12:00</b> |

Weather Conditions (Temperature, Precipitation, Wind) \_\_\_\_\_

Well Maintenance Required? YES / NO \_\_\_\_\_

Detail \_\_\_\_\_

| WELL INFORMATION                          |  |
|-------------------------------------------|--|
| Diameter of standpipe (mm)                |  |
| Standpipe stick up (m)                    |  |
| Surveyed reference point                  |  |
| Depth to top of filter pack (from log)    |  |
| Depth to bottom of filter pack (from log) |  |
| Depth of well (from log)                  |  |

mbRP - metres below top of reference point  
 Hose volume - 0.12 L/m of 1/2 inch diameter hose  
 Hose volume - 0.07 L/m of 3/8 inch diameter hose  
 Hose volume - 0.03 L/m of 1/4 inch diameter hose

| GAUGING INFORMATION                       |             |                                                   |  |
|-------------------------------------------|-------------|---------------------------------------------------|--|
| Pre-Sampling Information                  |             | Purging and Sampling Information                  |  |
| Interface probe used?                     | YES / NO    | Depth of pump Intake (mbRP)                       |  |
| Initial depth to water (mbRP)             | <b>9.25</b> | Length of hose (m)                                |  |
| Depth to product (mbRP)                   |             | Volume in hose (L)                                |  |
| Thickness of product (m)                  |             | Depth to water after placement of pump (mbRP)     |  |
| Bailed product thickness (m)              |             | Depth to water at end of purging (mbRP)           |  |
| Total depth of well (mbRP)                |             | Depth to water after collection of samples (mbRP) |  |
| Thickness of sediment on base of well (m) |             | Purging and Sampling Method                       |  |

| Controller settings |  |
|---------------------|--|
| CPM                 |  |
| Refill              |  |
| Discharge           |  |
| Throttle            |  |

WQM Model

**Airnet**

WQM Calibration Certificate \_\_\_\_\_

| GROUNDWATER MONITORING WELL PURGING RECORD |                              |                   |                       |             |                      |               |                        |                  |                                            |
|--------------------------------------------|------------------------------|-------------------|-----------------------|-------------|----------------------|---------------|------------------------|------------------|--------------------------------------------|
| Time                                       | Cumulative Volume Purged (L) | Flow Rate (L/min) | Depth to Water (mbRP) | ±0.1        | ±5%                  | ±10           | ±10%                   | ±0.5°C           | Appearance (Colour, Turbidity, Odour, etc) |
|                                            |                              |                   |                       | pH          | Conductivity (µS/cm) | Redox (mV)    | Dissolved Oxygen (ppm) | Temperature (°C) |                                            |
| <b>12:14</b>                               | <b>0.2</b>                   |                   | <b>9.28</b>           | <b>7.52</b> | <b>2062</b>          | <b>-190.5</b> | <b>1.84</b>            | <b>17.0</b>      | <b>Light Grey</b>                          |
| <b>12:18</b>                               | <b>0.5</b>                   |                   | <b>7.27</b>           | <b>7.54</b> | <b>1966</b>          | <b>-202.4</b> | <b>1.03</b>            | <b>18.2</b>      |                                            |
| <b>12:25</b>                               | <b>0.8</b>                   |                   | <b>7.28</b>           | <b>7.58</b> | <b>1982</b>          | <b>-200</b>   | <b>1.13</b>            | <b>18.0</b>      |                                            |
| <b>12:30</b>                               | <b>1.2</b>                   |                   | <b>9.28</b>           | <b>7.58</b> | <b>1964</b>          | <b>-204.5</b> | <b>0.80</b>            | <b>18.3</b>      |                                            |
| <b>12:36</b>                               | <b>1.5</b>                   |                   | <b>9.28</b>           | <b>7.62</b> | <b>1968</b>          | <b>-197.0</b> | <b>1.32</b>            | <b>18.7</b>      |                                            |
| <b>12:40</b>                               | <b>1.8</b>                   |                   | <b>9.28</b>           | <b>7.62</b> | <b>1963</b>          | <b>-200</b>   | <b>0.78</b>            | <b>18.8</b>      |                                            |
|                                            |                              |                   |                       |             |                      |               |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |               |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |               |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |               |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |               |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |               |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |               |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |               |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |               |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |               |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |               |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |               |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |               |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |               |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |               |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |               |                        |                  |                                            |
|                                            |                              |                   |                       |             |                      |               |                        |                  |                                            |

| SAMPLING RECORD                                                                                                                                                                                    |                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Time Sampled: <b>12:45</b><br>Colour: <b>Light Grey</b><br>Odour: <b>-</b><br>Turbidity: <b>Low</b> Medium High<br>Hydrocarbon Sheen? Yes No<br>DI Water Lab Certificate No. _____<br>Notes: _____ | <b>Sample IDs</b><br>Primary Duplicate: _____<br>Secondary Duplicate: _____<br>Trip Blank: _____<br>Rinsate: _____<br>Field Blank: _____ | <b>Sample Containers/Preservation</b> (F=Filtered; UF=Unfiltered; P=Preserved; UP=Unpreserved)<br>Vials (P/UP) _____<br>1L Amber _____<br>1L Plastic _____<br>Phenols/COD/NH3 (FAUF; P/UP) _____<br>Ferrous/Ferric Iron (FAUF; P/UP) _____<br>Metals (FAUF; P/UP) _____<br>Cyanide _____<br>Sulphide _____<br>Other _____<br>Other _____ |

**5 x bottles.**

## **APPENDIX E**

# **E-2 Certificates of Analysis**

## CERTIFICATE OF ANALYSIS

**Work Order** : **ES2010737**  
**Client** : **GOLDER ASSOCIATES**  
**Contact** : **ERIC WOON**  
**Address** : **LEVEL 8, 40 Mount Street,**  
                   **North Sydney NSW, AUSTRALIA 2065**  
**Telephone** : ----  
**Project** : 19125312  
**Order number** : 19125312  
**C-O-C number** : ----  
**Sampler** : ----  
**Site** : **Liverpool Civic Place**  
**Quote number** : **EN/002/18 National BQ**  
**No. of samples received** : **5**  
**No. of samples analysed** : **5**

**Page** : 1 of 6  
**Laboratory** : **Environmental Division Sydney**  
**Contact** : **Customer Services ES**  
**Address** : **277-289 Woodpark Road Smithfield NSW Australia 2164**  
**Telephone** : **+61-2-8784 8555**  
**Date Samples Received** : **27-Mar-2020 15:30**  
**Date Analysis Commenced** : **27-Mar-2020**  
**Issue Date** : **30-Mar-2020 13:37**



Accreditation No. 825  
 Accredited for compliance with  
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

**Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.**

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| <i>Signatories</i> | <i>Position</i>     | <i>Accreditation Category</i>    |
|--------------------|---------------------|----------------------------------|
| Edwandy Fadjjar    | Organic Coordinator | Sydney Organics, Smithfield, NSW |
| Franco Lentini     | LCMS Coordinator    | Sydney Organics, Smithfield, NSW |



## General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

^ = This result is computed from individual analyte detections at or above the level of reporting

Ø = ALS is not NATA accredited for these tests.

~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP080: Batch ES2010737-5 result confirmed by re-analysis.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



## Analytical Results

Sub-Matrix: WATER  
 (Matrix: WATER)

Client sample ID

|                                                                        |                   |      |      | BH1               | BH2               | BH304             | BH306             | QC01              |
|------------------------------------------------------------------------|-------------------|------|------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                            |                   |      |      | 27-Mar-2020 00:00 | 27-Mar-2020 00:00 | 27-Mar-2020 00:00 | 27-Mar-2020 00:00 | 27-Mar-2020 00:00 |
| Compound                                                               | CAS Number        | LOR  | Unit | ES2010737-001     | ES2010737-002     | ES2010737-003     | ES2010737-004     | ES2010737-005     |
|                                                                        |                   |      |      | Result            | Result            | Result            | Result            | Result            |
| <b>EP080/071: Total Petroleum Hydrocarbons</b>                         |                   |      |      |                   |                   |                   |                   |                   |
| C6 - C9 Fraction                                                       | ----              | 20   | µg/L | <20               | <20               | <20               | <20               | <20               |
| C10 - C14 Fraction                                                     | ----              | 50   | µg/L | <50               | <50               | 50                | <50               | 70                |
| C15 - C28 Fraction                                                     | ----              | 100  | µg/L | <100              | <100              | 210               | <100              | 270               |
| C29 - C36 Fraction                                                     | ----              | 50   | µg/L | <50               | <50               | <50               | <50               | <50               |
| ^ C10 - C36 Fraction (sum)                                             | ----              | 50   | µg/L | <50               | <50               | 260               | <50               | 340               |
| <b>EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions</b> |                   |      |      |                   |                   |                   |                   |                   |
| C6 - C10 Fraction                                                      | C6_C10            | 20   | µg/L | <20               | <20               | <20               | <20               | <20               |
| ^ C6 - C10 Fraction minus BTEX (F1)                                    | C6_C10-BTEX       | 20   | µg/L | <20               | <20               | <20               | <20               | <20               |
| >C10 - C16 Fraction                                                    | ----              | 100  | µg/L | <100              | <100              | 140               | <100              | 180               |
| >C16 - C34 Fraction                                                    | ----              | 100  | µg/L | <100              | <100              | 110               | <100              | 170               |
| >C34 - C40 Fraction                                                    | ----              | 100  | µg/L | <100              | <100              | <100              | <100              | <100              |
| ^ >C10 - C40 Fraction (sum)                                            | ----              | 100  | µg/L | <100              | <100              | 250               | <100              | 350               |
| ^ >C10 - C16 Fraction minus Naphthalene (F2)                           | ----              | 100  | µg/L | <100              | <100              | 140               | <100              | 180               |
| <b>EP080: BTEXN</b>                                                    |                   |      |      |                   |                   |                   |                   |                   |
| Benzene                                                                | 71-43-2           | 1    | µg/L | <1                | <1                | <1                | <1                | <1                |
| Toluene                                                                | 108-88-3          | 2    | µg/L | <2                | <2                | <2                | <2                | <2                |
| Ethylbenzene                                                           | 100-41-4          | 2    | µg/L | <2                | <2                | <2                | <2                | <2                |
| meta- & para-Xylene                                                    | 108-38-3 106-42-3 | 2    | µg/L | <2                | <2                | <2                | <2                | 2                 |
| ortho-Xylene                                                           | 95-47-6           | 2    | µg/L | <2                | <2                | <2                | <2                | <2                |
| ^ Total Xylenes                                                        | ----              | 2    | µg/L | <2                | <2                | <2                | <2                | 2                 |
| ^ Sum of BTEX                                                          | ----              | 1    | µg/L | <1                | <1                | <1                | <1                | 2                 |
| Naphthalene                                                            | 91-20-3           | 5    | µg/L | <5                | <5                | <5                | <5                | <5                |
| <b>EP231A: Perfluoroalkyl Sulfonic Acids</b>                           |                   |      |      |                   |                   |                   |                   |                   |
| Perfluorobutane sulfonic acid (PFBS)                                   | 375-73-5          | 0.02 | µg/L | 0.07              | <0.02             | <0.02             | 0.44              | ----              |
| Perfluoropentane sulfonic acid (PFPeS)                                 | 2706-91-4         | 0.02 | µg/L | 0.05              | <0.02             | <0.02             | 0.36              | ----              |
| Perfluorohexane sulfonic acid (PFHxS)                                  | 355-46-4          | 0.02 | µg/L | 0.25              | <0.02             | 0.05              | 1.86              | ----              |
| Perfluoroheptane sulfonic acid (PFHpS)                                 | 375-92-8          | 0.02 | µg/L | <0.02             | <0.02             | <0.02             | 0.03              | ----              |
| Perfluorooctane sulfonic acid (PFOS)                                   | 1763-23-1         | 0.01 | µg/L | 0.04              | <0.01             | <0.01             | 0.18              | ----              |

| Sub-Matrix: WATER<br>(Matrix: WATER)                      |            |      |      | Client sample ID  | BH1               | BH2               | BH304             | BH306             | QC01              |
|-----------------------------------------------------------|------------|------|------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                               |            |      |      | 27-Mar-2020 00:00 | 27-Mar-2020 00:00 | 27-Mar-2020 00:00 | 27-Mar-2020 00:00 | 27-Mar-2020 00:00 | 27-Mar-2020 00:00 |
| Compound                                                  | CAS Number | LOR  | Unit | ES2010737-001     | ES2010737-002     | ES2010737-003     | ES2010737-004     | ES2010737-005     |                   |
|                                                           |            |      |      | Result            | Result            | Result            | Result            | Result            |                   |
| EP231A: Perfluoroalkyl Sulfonic Acids - Continued         |            |      |      |                   |                   |                   |                   |                   |                   |
| Perfluorodecane sulfonic acid (PFDS)                      | 335-77-3   | 0.02 | µg/L | <0.02             | <0.02             | <0.02             | <0.02             | ----              |                   |
| EP231B: Perfluoroalkyl Carboxylic Acids                   |            |      |      |                   |                   |                   |                   |                   |                   |
| Perfluorobutanoic acid (PFBA)                             | 375-22-4   | 0.1  | µg/L | <0.1              | <0.1              | <0.1              | 0.1               | ----              |                   |
| Perfluoropentanoic acid (PFPeA)                           | 2706-90-3  | 0.02 | µg/L | 0.05              | <0.02             | <0.02             | 0.17              | ----              |                   |
| Perfluorohexanoic acid (PFHxA)                            | 307-24-4   | 0.02 | µg/L | 0.05              | <0.02             | <0.02             | 0.35              | ----              |                   |
| Perfluoroheptanoic acid (PFHpA)                           | 375-85-9   | 0.02 | µg/L | <0.02             | <0.02             | <0.02             | 0.10              | ----              |                   |
| Perfluorooctanoic acid (PFOA)                             | 335-67-1   | 0.01 | µg/L | 0.02              | <0.01             | <0.01             | 0.08              | ----              |                   |
| Perfluorononanoic acid (PFNA)                             | 375-95-1   | 0.02 | µg/L | <0.02             | <0.02             | <0.02             | 0.02              | ----              |                   |
| Perfluorodecanoic acid (PFDA)                             | 335-76-2   | 0.02 | µg/L | <0.02             | <0.02             | <0.02             | <0.02             | ----              |                   |
| Perfluoroundecanoic acid (PFUnDA)                         | 2058-94-8  | 0.02 | µg/L | <0.02             | <0.02             | <0.02             | <0.02             | ----              |                   |
| Perfluorododecanoic acid (PFDoDA)                         | 307-55-1   | 0.02 | µg/L | <0.02             | <0.02             | <0.02             | <0.02             | ----              |                   |
| Perfluorotridecanoic acid (PFTrDA)                        | 72629-94-8 | 0.02 | µg/L | <0.02             | <0.02             | <0.02             | <0.02             | ----              |                   |
| Perfluorotetradecanoic acid (PFTeDA)                      | 376-06-7   | 0.05 | µg/L | <0.05             | <0.05             | <0.05             | <0.05             | ----              |                   |
| EP231C: Perfluoroalkyl Sulfonamides                       |            |      |      |                   |                   |                   |                   |                   |                   |
| Perfluorooctane sulfonamide (FOSA)                        | 754-91-6   | 0.02 | µg/L | <0.02             | <0.02             | <0.02             | <0.02             | ----              |                   |
| N-Methyl perfluorooctane sulfonamide (MeFOSA)             | 31506-32-8 | 0.05 | µg/L | <0.05             | <0.05             | <0.05             | <0.05             | ----              |                   |
| N-Ethyl perfluorooctane sulfonamide (EtFOSA)              | 4151-50-2  | 0.05 | µg/L | <0.05             | <0.05             | <0.05             | <0.05             | ----              |                   |
| N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)      | 24448-09-7 | 0.05 | µg/L | <0.05             | <0.05             | <0.05             | <0.05             | ----              |                   |
| N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)       | 1691-99-2  | 0.05 | µg/L | <0.05             | <0.05             | <0.05             | <0.05             | ----              |                   |
| N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA) | 2355-31-9  | 0.02 | µg/L | <0.02             | <0.02             | <0.02             | <0.02             | ----              |                   |
| N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)  | 2991-50-6  | 0.02 | µg/L | <0.02             | <0.02             | <0.02             | <0.02             | ----              |                   |
| EP231D: (n:2) Fluorotelomer Sulfonic Acids                |            |      |      |                   |                   |                   |                   |                   |                   |



## Analytical Results

| Sub-Matrix: <b>WATER</b><br>(Matrix: <b>WATER</b> )           |                    |      |      | Client sample ID | BH1               | BH2               | BH304             | BH306             | QC01              |
|---------------------------------------------------------------|--------------------|------|------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time                                   |                    |      |      |                  | 27-Mar-2020 00:00 | 27-Mar-2020 00:00 | 27-Mar-2020 00:00 | 27-Mar-2020 00:00 | 27-Mar-2020 00:00 |
| Compound                                                      | CAS Number         | LOR  | Unit |                  | ES2010737-001     | ES2010737-002     | ES2010737-003     | ES2010737-004     | ES2010737-005     |
|                                                               |                    |      |      |                  | Result            | Result            | Result            | Result            | Result            |
| <b>EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued</b> |                    |      |      |                  |                   |                   |                   |                   |                   |
| 4:2 Fluorotelomer sulfonic acid (4:2 FTS)                     | 757124-72-4        | 0.05 | µg/L |                  | <0.05             | <0.05             | <0.05             | <0.05             | ----              |
| 6:2 Fluorotelomer sulfonic acid (6:2 FTS)                     | 27619-97-2         | 0.05 | µg/L |                  | <0.05             | <0.05             | <0.05             | <0.05             | ----              |
| 8:2 Fluorotelomer sulfonic acid (8:2 FTS)                     | 39108-34-4         | 0.05 | µg/L |                  | <0.05             | <0.05             | <0.05             | <0.05             | ----              |
| 10:2 Fluorotelomer sulfonic acid (10:2 FTS)                   | 120226-60-0        | 0.05 | µg/L |                  | <0.05             | <0.05             | <0.05             | <0.05             | ----              |
| <b>EP231P: PFAS Sums</b>                                      |                    |      |      |                  |                   |                   |                   |                   |                   |
| Sum of PFAS                                                   | ----               | 0.01 | µg/L |                  | 0.53              | <0.01             | 0.05              | 3.69              | ----              |
| Sum of PFHxS and PFOS                                         | 355-46-4/1763-23-1 | 0.01 | µg/L |                  | 0.29              | <0.01             | 0.05              | 2.04              | ----              |
| Sum of PFAS (WA DER List)                                     | ----               | 0.01 | µg/L |                  | 0.48              | <0.01             | 0.05              | 3.28              | ----              |
| <b>EP080S: TPH(V)/BTEX Surrogates</b>                         |                    |      |      |                  |                   |                   |                   |                   |                   |
| 1,2-Dichloroethane-D4                                         | 17060-07-0         | 2    | %    |                  | 103               | 105               | 108               | 107               | 109               |
| Toluene-D8                                                    | 2037-26-5          | 2    | %    |                  | 93.8              | 102               | 104               | 99.5              | 101               |
| 4-Bromofluorobenzene                                          | 460-00-4           | 2    | %    |                  | 94.3              | 99.4              | 102               | 97.0              | 93.8              |
| <b>EP231S: PFAS Surrogate</b>                                 |                    |      |      |                  |                   |                   |                   |                   |                   |
| 13C4-PFOS                                                     | ----               | 0.02 | %    |                  | 95.7              | 99.9              | 99.2              | 94.9              | ----              |
| 13C8-PFOA                                                     | ----               | 0.02 | %    |                  | 63.0              | 62.3              | 69.3              | 69.0              | ----              |



## Surrogate Control Limits

Sub-Matrix: **WATER**

|                                       |            | Recovery Limits (%) |      |
|---------------------------------------|------------|---------------------|------|
| Compound                              | CAS Number | Low                 | High |
| <b>EP080S: TPH(V)/BTEX Surrogates</b> |            |                     |      |
| 1,2-Dichloroethane-D4                 | 17060-07-0 | 71                  | 137  |
| Toluene-D8                            | 2037-26-5  | 79                  | 131  |
| 4-Bromofluorobenzene                  | 460-00-4   | 70                  | 128  |
| <b>EP231S: PFAS Surrogate</b>         |            |                     |      |
| 13C4-PFOS                             | ----       | 60                  | 120  |
| 13C8-PFOA                             | ----       | 60                  | 120  |

## QUALITY CONTROL REPORT

|                                |                                                                         |                                |                                                              |
|--------------------------------|-------------------------------------------------------------------------|--------------------------------|--------------------------------------------------------------|
| <b>Work Order</b>              | <b>: ES2010737</b>                                                      | <b>Page</b>                    | <b>: 1 of 7</b>                                              |
| <b>Client</b>                  | <b>: GOLDER ASSOCIATES</b>                                              | <b>Laboratory</b>              | <b>: Environmental Division Sydney</b>                       |
| <b>Contact</b>                 | <b>: ERIC WOON</b>                                                      | <b>Contact</b>                 | <b>: Customer Services ES</b>                                |
| <b>Address</b>                 | <b>: LEVEL 8, 40 Mount Street,<br/>North Sydney NSW, AUSTRALIA 2065</b> | <b>Address</b>                 | <b>: 277-289 Woodpark Road Smithfield NSW Australia 2164</b> |
| <b>Telephone</b>               | <b>: ----</b>                                                           | <b>Telephone</b>               | <b>: +61-2-8784 8555</b>                                     |
| <b>Project</b>                 | <b>: 19125312</b>                                                       | <b>Date Samples Received</b>   | <b>: 27-Mar-2020</b>                                         |
| <b>Order number</b>            | <b>: 19125312</b>                                                       | <b>Date Analysis Commenced</b> | <b>: 27-Mar-2020</b>                                         |
| <b>C-O-C number</b>            | <b>: ----</b>                                                           | <b>Issue Date</b>              | <b>: 30-Mar-2020</b>                                         |
| <b>Sampler</b>                 | <b>: ----</b>                                                           |                                |                                                              |
| <b>Site</b>                    | <b>: Liverpool Civic Place</b>                                          |                                |                                                              |
| <b>Quote number</b>            | <b>: EN/002/18 National BQ</b>                                          |                                |                                                              |
| <b>No. of samples received</b> | <b>: 5</b>                                                              |                                |                                                              |
| <b>No. of samples analysed</b> | <b>: 5</b>                                                              |                                |                                                              |



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| <i>Signatories</i> | <i>Position</i>     | <i>Accreditation Category</i>    |
|--------------------|---------------------|----------------------------------|
| Edwandy Fadjar     | Organic Coordinator | Sydney Organics, Smithfield, NSW |
| Franco Lentini     | LCMS Coordinator    | Sydney Organics, Smithfield, NSW |



## General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot  
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.  
 LOR = Limit of reporting  
 RPD = Relative Percentage Difference  
 # = Indicates failed QC

## Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

| Sub-Matrix: WATER                                                                 |                  |                                                |            | Laboratory Duplicate (DUP) Report |      |                 |                  |         |                     |
|-----------------------------------------------------------------------------------|------------------|------------------------------------------------|------------|-----------------------------------|------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID                                                              | Client sample ID | Method: Compound                               | CAS Number | LOR                               | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2942028)                         |                  |                                                |            |                                   |      |                 |                  |         |                     |
| ES2010529-001                                                                     | Anonymous        | EP080: C6 - C9 Fraction                        | ----       | 20                                | µg/L | 30              | 30               | 0.00    | No Limit            |
| ES2010737-004                                                                     | BH306            | EP080: C6 - C9 Fraction                        | ----       | 20                                | µg/L | <20             | <20              | 0.00    | No Limit            |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2942028) |                  |                                                |            |                                   |      |                 |                  |         |                     |
| ES2010529-001                                                                     | Anonymous        | EP080: C6 - C10 Fraction                       | C6_C10     | 20                                | µg/L | 40              | 40               | 0.00    | No Limit            |
| ES2010737-004                                                                     | BH306            | EP080: C6 - C10 Fraction                       | C6_C10     | 20                                | µg/L | <20             | <20              | 0.00    | No Limit            |
| EP080: BTEXN (QC Lot: 2942028)                                                    |                  |                                                |            |                                   |      |                 |                  |         |                     |
| ES2010529-001                                                                     | Anonymous        | EP080: Benzene                                 | 71-43-2    | 1                                 | µg/L | <1              | <1               | 0.00    | No Limit            |
|                                                                                   |                  | EP080: Toluene                                 | 108-88-3   | 2                                 | µg/L | <2              | <2               | 0.00    | No Limit            |
|                                                                                   |                  | EP080: Ethylbenzene                            | 100-41-4   | 2                                 | µg/L | <2              | <2               | 0.00    | No Limit            |
|                                                                                   |                  | EP080: meta- & para-Xylene                     | 108-38-3   | 2                                 | µg/L | <2              | <2               | 0.00    | No Limit            |
|                                                                                   |                  |                                                | 106-42-3   |                                   |      |                 |                  |         |                     |
|                                                                                   |                  | EP080: ortho-Xylene                            | 95-47-6    | 2                                 | µg/L | <2              | <2               | 0.00    | No Limit            |
| ES2010737-004                                                                     | BH306            | EP080: Naphthalene                             | 91-20-3    | 5                                 | µg/L | <5              | <5               | 0.00    | No Limit            |
|                                                                                   |                  | EP080: Benzene                                 | 71-43-2    | 1                                 | µg/L | <1              | <1               | 0.00    | No Limit            |
|                                                                                   |                  | EP080: Toluene                                 | 108-88-3   | 2                                 | µg/L | <2              | <2               | 0.00    | No Limit            |
|                                                                                   |                  | EP080: Ethylbenzene                            | 100-41-4   | 2                                 | µg/L | <2              | <2               | 0.00    | No Limit            |
|                                                                                   |                  | EP080: meta- & para-Xylene                     | 108-38-3   | 2                                 | µg/L | <2              | <2               | 0.00    | No Limit            |
|                                                                                   |                  |                                                | 106-42-3   |                                   |      |                 |                  |         |                     |
|                                                                                   |                  | EP080: ortho-Xylene                            | 95-47-6    | 2                                 | µg/L | <2              | <2               | 0.00    | No Limit            |
|                                                                                   |                  | EP080: Naphthalene                             | 91-20-3    | 5                                 | µg/L | <5              | <5               | 0.00    | No Limit            |
| EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 2942494)                           |                  |                                                |            |                                   |      |                 |                  |         |                     |
| EM2004823-001                                                                     | Anonymous        | EP231X: Perfluorooctane sulfonic acid (PFOS)   | 1763-23-1  | 0.01                              | µg/L | 0.06            | 0.06             | 0.00    | No Limit            |
|                                                                                   |                  | EP231X: Perfluorobutane sulfonic acid (PFBS)   | 375-73-5   | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                                   |                  | EP231X: Perfluoropentane sulfonic acid (PFPeS) | 2706-91-4  | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |



Sub-Matrix: **WATER**

| Sub-Matrix: WATER                                                   |                  |                                                                   |             | Laboratory Duplicate (DUP) Report |      |                 |                  |         |                     |
|---------------------------------------------------------------------|------------------|-------------------------------------------------------------------|-------------|-----------------------------------|------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID                                                | Client sample ID | Method: Compound                                                  | CAS Number  | LOR                               | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 2942494) - continued |                  |                                                                   |             |                                   |      |                 |                  |         |                     |
| EM2004823-001                                                       | Anonymous        | EP231X: Perfluorohexane sulfonic acid (PFHxS)                     | 355-46-4    | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluoroheptane sulfonic acid (PFHpS)                    | 375-92-8    | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluorodecane sulfonic acid (PFDS)                      | 335-77-3    | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
| EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 2942494)           |                  |                                                                   |             |                                   |      |                 |                  |         |                     |
| EM2004823-001                                                       | Anonymous        | EP231X: Perfluorooctanoic acid (PFOA)                             | 335-67-1    | 0.01                              | µg/L | <0.01           | <0.01            | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluoropentanoic acid (PFPeA)                           | 2706-90-3   | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluorohexanoic acid (PFHxA)                            | 307-24-4    | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluoroheptanoic acid (PFHpA)                           | 375-85-9    | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluorononanoic acid (PFNA)                             | 375-95-1    | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluorodecanoic acid (PFDA)                             | 335-76-2    | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluoroundecanoic acid (PFUnDA)                         | 2058-94-8   | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluorododecanoic acid (PFDoDA)                         | 307-55-1    | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluorotridecanoic acid (PFTTrDA)                       | 72629-94-8  | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluorotetradecanoic acid (PFTeDA)                      | 376-06-7    | 0.05                              | µg/L | <0.05           | <0.05            | 0.00    | No Limit            |
|                                                                     |                  | EP231X: Perfluorobutanoic acid (PFBA)                             | 375-22-4    | 0.1                               | µg/L | <0.1            | <0.1             | 0.00    | No Limit            |
| EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 2942494)               |                  |                                                                   |             |                                   |      |                 |                  |         |                     |
| EM2004823-001                                                       | Anonymous        | EP231X: Perfluorooctane sulfonamide (FOSA)                        | 754-91-6    | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                     |                  | EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA) | 2355-31-9   | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                     |                  | EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)  | 2991-50-6   | 0.02                              | µg/L | <0.02           | <0.02            | 0.00    | No Limit            |
|                                                                     |                  | EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)             | 31506-32-8  | 0.05                              | µg/L | <0.05           | <0.05            | 0.00    | No Limit            |
|                                                                     |                  | EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)              | 4151-50-2   | 0.05                              | µg/L | <0.05           | <0.05            | 0.00    | No Limit            |
|                                                                     |                  | EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)      | 24448-09-7  | 0.05                              | µg/L | <0.05           | <0.05            | 0.00    | No Limit            |
|                                                                     |                  | EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)       | 1691-99-2   | 0.05                              | µg/L | <0.05           | <0.05            | 0.00    | No Limit            |
| EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 2942494)        |                  |                                                                   |             |                                   |      |                 |                  |         |                     |
| EM2004823-001                                                       | Anonymous        | EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)                 | 757124-72-4 | 0.05                              | µg/L | <0.05           | <0.05            | 0.00    | No Limit            |
|                                                                     |                  | EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)                 | 27619-97-2  | 0.05                              | µg/L | <0.05           | <0.05            | 0.00    | No Limit            |
|                                                                     |                  | EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)                 | 39108-34-4  | 0.05                              | µg/L | <0.05           | <0.05            | 0.00    | No Limit            |
|                                                                     |                  | EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)               | 120226-60-0 | 0.05                              | µg/L | <0.05           | <0.05            | 0.00    | No Limit            |
| EP231P: PFAS Sums (QC Lot: 2942494)                                 |                  |                                                                   |             |                                   |      |                 |                  |         |                     |
| EM2004823-001                                                       | Anonymous        | EP231X: Sum of PFAS                                               | ----        | 0.01                              | µg/L | 0.06            | 0.06             | 0.00    | No Limit            |



## Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

| Sub-Matrix: WATER                                                                |                      |      |      | Method Blank (MB)<br>Report | Laboratory Control Spike (LCS) Report |                           |                                 |     |
|----------------------------------------------------------------------------------|----------------------|------|------|-----------------------------|---------------------------------------|---------------------------|---------------------------------|-----|
|                                                                                  |                      |      |      |                             | Spike<br>Concentration                | Spike Recovery (%)<br>LCS | Recovery Limits (%)<br>Low High |     |
| Method: Compound                                                                 | CAS Number           | LOR  | Unit | Result                      |                                       |                           |                                 |     |
| EP080/071: Total Petroleum Hydrocarbons (QCLot: 2942028)                         |                      |      |      |                             |                                       |                           |                                 |     |
| EP080: C6 - C9 Fraction                                                          | ----                 | 20   | µg/L | <20                         | 260 µg/L                              | 92.5                      | 75.0                            | 127 |
| EP080/071: Total Petroleum Hydrocarbons (QCLot: 2942710)                         |                      |      |      |                             |                                       |                           |                                 |     |
| EP071: C10 - C14 Fraction                                                        | ----                 | 50   | µg/L | <50                         | 400 µg/L                              | 70.6                      | 55.8                            | 112 |
| EP071: C15 - C28 Fraction                                                        | ----                 | 100  | µg/L | <100                        | 600 µg/L                              | 95.3                      | 71.6                            | 113 |
| EP071: C29 - C36 Fraction                                                        | ----                 | 50   | µg/L | <50                         | 400 µg/L                              | 76.6                      | 56.0                            | 121 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2942028) |                      |      |      |                             |                                       |                           |                                 |     |
| EP080: C6 - C10 Fraction                                                         | C6_C10               | 20   | µg/L | <20                         | 310 µg/L                              | 91.9                      | 75.0                            | 127 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2942710) |                      |      |      |                             |                                       |                           |                                 |     |
| EP071: >C10 - C16 Fraction                                                       | ----                 | 100  | µg/L | <100                        | 500 µg/L                              | 80.1                      | 57.9                            | 119 |
| EP071: >C16 - C34 Fraction                                                       | ----                 | 100  | µg/L | <100                        | 700 µg/L                              | 87.3                      | 62.5                            | 110 |
| EP071: >C34 - C40 Fraction                                                       | ----                 | 100  | µg/L | <100                        | 300 µg/L                              | 80.9                      | 61.5                            | 121 |
| EP080: BTEXN (QCLot: 2942028)                                                    |                      |      |      |                             |                                       |                           |                                 |     |
| EP080: Benzene                                                                   | 71-43-2              | 1    | µg/L | <1                          | 10 µg/L                               | 88.4                      | 70.0                            | 122 |
| EP080: Toluene                                                                   | 108-88-3             | 2    | µg/L | <2                          | 10 µg/L                               | 90.2                      | 69.0                            | 123 |
| EP080: Ethylbenzene                                                              | 100-41-4             | 2    | µg/L | <2                          | 10 µg/L                               | 97.3                      | 70.0                            | 120 |
| EP080: meta- & para-Xylene                                                       | 108-38-3<br>106-42-3 | 2    | µg/L | <2                          | 10 µg/L                               | 95.9                      | 69.0                            | 121 |
| EP080: ortho-Xylene                                                              | 95-47-6              | 2    | µg/L | <2                          | 10 µg/L                               | 101                       | 72.0                            | 122 |
| EP080: Naphthalene                                                               | 91-20-3              | 5    | µg/L | <5                          | 10 µg/L                               | 92.8                      | 70.0                            | 120 |
| EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 2942494)                           |                      |      |      |                             |                                       |                           |                                 |     |
| EP231X: Perfluorobutane sulfonic acid (PFBS)                                     | 375-73-5             | 0.02 | µg/L | <0.02                       | 0.25 µg/L                             | 90.0                      | 72.0                            | 130 |
| EP231X: Perfluoropentane sulfonic acid (PFPeS)                                   | 2706-91-4            | 0.02 | µg/L | <0.02                       | 0.25 µg/L                             | 88.8                      | 71.0                            | 127 |
| EP231X: Perfluorohexane sulfonic acid (PFHxS)                                    | 355-46-4             | 0.02 | µg/L | <0.02                       | 0.25 µg/L                             | 82.0                      | 68.0                            | 131 |
| EP231X: Perfluoroheptane sulfonic acid (PFHpS)                                   | 375-92-8             | 0.02 | µg/L | <0.02                       | 0.25 µg/L                             | 89.0                      | 69.0                            | 134 |
| EP231X: Perfluorooctane sulfonic acid (PFOS)                                     | 1763-23-1            | 0.01 | µg/L | <0.01                       | 0.25 µg/L                             | 85.2                      | 65.0                            | 140 |
| EP231X: Perfluorodecane sulfonic acid (PFDS)                                     | 335-77-3             | 0.02 | µg/L | <0.02                       | 0.25 µg/L                             | 103                       | 53.0                            | 142 |
| EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 2942494)                         |                      |      |      |                             |                                       |                           |                                 |     |
| EP231X: Perfluorobutanoic acid (PFBA)                                            | 375-22-4             | 0.1  | µg/L | <0.1                        | 1.25 µg/L                             | 108                       | 73.0                            | 129 |
| EP231X: Perfluoropentanoic acid (PFPeA)                                          | 2706-90-3            | 0.02 | µg/L | <0.02                       | 0.25 µg/L                             | 112                       | 72.0                            | 129 |
| EP231X: Perfluorohexanoic acid (PFHxA)                                           | 307-24-4             | 0.02 | µg/L | <0.02                       | 0.25 µg/L                             | 82.0                      | 72.0                            | 129 |
| EP231X: Perfluoroheptanoic acid (PFHpA)                                          | 375-85-9             | 0.02 | µg/L | <0.02                       | 0.25 µg/L                             | 124                       | 72.0                            | 130 |
| EP231X: Perfluorooctanoic acid (PFOA)                                            | 335-67-1             | 0.01 | µg/L | <0.01                       | 0.25 µg/L                             | 91.8                      | 71.0                            | 133 |
| EP231X: Perfluorononanoic acid (PFNA)                                            | 375-95-1             | 0.02 | µg/L | <0.02                       | 0.25 µg/L                             | 77.4                      | 69.0                            | 130 |
| EP231X: Perfluorodecanoic acid (PFDA)                                            | 335-76-2             | 0.02 | µg/L | <0.02                       | 0.25 µg/L                             | 97.2                      | 71.0                            | 129 |



Sub-Matrix: **WATER**

| Sub-Matrix: WATER                                                    |             |      |      | Method Blank (MB)<br>Report | Laboratory Control Spike (LCS) Report |                           |                                 |     |
|----------------------------------------------------------------------|-------------|------|------|-----------------------------|---------------------------------------|---------------------------|---------------------------------|-----|
|                                                                      |             |      |      |                             | Spike<br>Concentration                | Spike Recovery (%)<br>LCS | Recovery Limits (%)<br>Low High |     |
| Method: Compound                                                     | CAS Number  | LOR  | Unit | Result                      |                                       |                           |                                 |     |
| EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 2942494) - continued |             |      |      |                             |                                       |                           |                                 |     |
| EP231X: Perfluoroundecanoic acid (PFUnDA)                            | 2058-94-8   | 0.02 | µg/L | <0.02                       | 0.25 µg/L                             | 116                       | 69.0                            | 133 |
| EP231X: Perfluorododecanoic acid (PFDoDA)                            | 307-55-1    | 0.02 | µg/L | <0.02                       | 0.25 µg/L                             | 121                       | 72.0                            | 134 |
| EP231X: Perfluorotridecanoic acid (PFTrDA)                           | 72629-94-8  | 0.02 | µg/L | <0.02                       | 0.25 µg/L                             | 119                       | 65.0                            | 144 |
| EP231X: Perfluorotetradecanoic acid (PFTeDA)                         | 376-06-7    | 0.05 | µg/L | <0.05                       | 0.625 µg/L                            | 124                       | 71.0                            | 132 |
| EP231C: Perfluoroalkyl Sulfonamides (QCLot: 2942494)                 |             |      |      |                             |                                       |                           |                                 |     |
| EP231X: Perfluorooctane sulfonamide (FOSA)                           | 754-91-6    | 0.02 | µg/L | <0.02                       | 0.25 µg/L                             | 97.4                      | 67.0                            | 137 |
| EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)                | 31506-32-8  | 0.05 | µg/L | <0.05                       | 0.625 µg/L                            | 103                       | 70.0                            | 130 |
| EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)                 | 4151-50-2   | 0.05 | µg/L | <0.05                       | 0.625 µg/L                            | 105                       | 70.0                            | 130 |
| EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)         | 24448-09-7  | 0.05 | µg/L | <0.05                       | 0.625 µg/L                            | 114                       | 70.0                            | 130 |
| EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)          | 1691-99-2   | 0.05 | µg/L | <0.05                       | 0.625 µg/L                            | 71.0                      | 70.0                            | 130 |
| EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)    | 2355-31-9   | 0.02 | µg/L | <0.02                       | 0.25 µg/L                             | 118                       | 65.0                            | 136 |
| EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)     | 2991-50-6   | 0.02 | µg/L | <0.02                       | 0.25 µg/L                             | 129                       | 61.0                            | 135 |
| EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 2942494)          |             |      |      |                             |                                       |                           |                                 |     |
| EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)                    | 757124-72-4 | 0.05 | µg/L | <0.05                       | 0.25 µg/L                             | 116                       | 63.0                            | 143 |
| EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)                    | 27619-97-2  | 0.05 | µg/L | <0.05                       | 0.25 µg/L                             | 126                       | 67.0                            | 140 |
| EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)                    | 39108-34-4  | 0.05 | µg/L | <0.05                       | 0.25 µg/L                             | 100                       | 67.0                            | 138 |
| EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)                  | 120226-60-0 | 0.05 | µg/L | <0.05                       | 0.25 µg/L                             | 121                       | 70.0                            | 130 |

## Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

|                                                                                         |                  |                          |            | Matrix Spike (MS) Report |                        |                     |      |
|-----------------------------------------------------------------------------------------|------------------|--------------------------|------------|--------------------------|------------------------|---------------------|------|
|                                                                                         |                  |                          |            | Spike<br>Concentration   | SpikeRecovery(%)<br>MS | Recovery Limits (%) |      |
| Laboratory sample ID                                                                    | Client sample ID | Method: Compound         | CAS Number |                          |                        | Low                 | High |
| <b>EP080/071: Total Petroleum Hydrocarbons (QCLot: 2942028)</b>                         |                  |                          |            |                          |                        |                     |      |
| ES2010529-001                                                                           | Anonymous        | EP080: C6 - C9 Fraction  | ----       | 325 µg/L                 | 91.8                   | 70.0                | 130  |
| <b>EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2942028)</b> |                  |                          |            |                          |                        |                     |      |
| ES2010529-001                                                                           | Anonymous        | EP080: C6 - C10 Fraction | C6_C10     | 375 µg/L                 | 92.9                   | 70.0                | 130  |
| <b>EP080: BTEXN (QCLot: 2942028)</b>                                                    |                  |                          |            |                          |                        |                     |      |
| ES2010529-001                                                                           | Anonymous        | EP080: Benzene           | 71-43-2    | 25 µg/L                  | 80.4                   | 70.0                | 130  |
|                                                                                         |                  | EP080: Toluene           | 108-88-3   | 25 µg/L                  | 87.6                   | 70.0                | 130  |
|                                                                                         |                  | EP080: Ethylbenzene      | 100-41-4   | 25 µg/L                  | 91.7                   | 70.0                | 130  |

### Matrix Spike (MS) Report

**EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 2942494)**



Sub-Matrix: WATER

|                                                                         |                  |                                                     |             | Matrix Spike (MS) Report |                  |                     |      |
|-------------------------------------------------------------------------|------------------|-----------------------------------------------------|-------------|--------------------------|------------------|---------------------|------|
|                                                                         |                  |                                                     |             | Spike                    | SpikeRecovery(%) | Recovery Limits (%) |      |
| Laboratory sample ID                                                    | Client sample ID | Method: Compound                                    | CAS Number  | Concentration            | MS               | Low                 | High |
| EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 2942494) - continued |                  |                                                     |             |                          |                  |                     |      |
| ES2010737-004                                                           | BH306            | EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)   | 757124-72-4 | 0.25 µg/L                | 128              | 50.0                | 130  |
|                                                                         |                  | EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)   | 27619-97-2  | 0.25 µg/L                | 126              | 50.0                | 130  |
|                                                                         |                  | EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)   | 39108-34-4  | 0.25 µg/L                | 105              | 50.0                | 130  |
|                                                                         |                  | EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS) | 120226-60-0 | 0.25 µg/L                | 129              | 50.0                | 130  |

## QA/QC Compliance Assessment to assist with Quality Review

|              |                         |                         |                                 |
|--------------|-------------------------|-------------------------|---------------------------------|
| Work Order   | : ES2010737             | Page                    | : 1 of 5                        |
| Client       | : GOLDER ASSOCIATES     | Laboratory              | : Environmental Division Sydney |
| Contact      | : ERIC WOON             | Telephone               | : +61-2-8784 8555               |
| Project      | : 19125312              | Date Samples Received   | : 27-Mar-2020                   |
| Site         | : Liverpool Civic Place | Issue Date              | : 30-Mar-2020                   |
| Sampler      | : ----                  | No. of samples received | : 5                             |
| Order number | : 19125312              | No. of samples analysed | : 5                             |

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

### Summary of Outliers

#### Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

#### Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

#### Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



### Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

| Compound Group Name                   | Laboratory Sample ID | Client Sample ID | Analyte                               | CAS Number | Data           | Limits | Comment                                                                               |
|---------------------------------------|----------------------|------------------|---------------------------------------|------------|----------------|--------|---------------------------------------------------------------------------------------|
| <b>Matrix Spike (MS) Recoveries</b>   |                      |                  |                                       |            |                |        |                                                                                       |
| EP231A: Perfluoroalkyl Sulfonic Acids | ES2010737--004       | BH306            | Perfluorohexane sulfonic acid (PFHxS) | 355-46-4   | Not Determined | ----   | MS recovery not determined, background level greater than or equal to 4x spike level. |

### Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

| Quality Control Sample Type<br>Method | Count |         | Rate (%) |          | Quality Control Specification  |
|---------------------------------------|-------|---------|----------|----------|--------------------------------|
|                                       | QC    | Regular | Actual   | Expected |                                |
| Laboratory Duplicates (DUP)           |       |         |          |          |                                |
| TRH - Semivolatile Fraction           | 0     | 6       | 0.00     | 10.00    | NEPM 2013 B3 & ALS QC Standard |
| Matrix Spikes (MS)                    |       |         |          |          |                                |
| TRH - Semivolatile Fraction           | 0     | 6       | 0.00     | 5.00     | NEPM 2013 B3 & ALS QC Standard |

### Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method                                   |                | Sample Date | Extraction / Preparation |                    |            | Analysis      |                  |            |
|------------------------------------------|----------------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s)          |                |             | Date extracted           | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EP080/071: Total Petroleum Hydrocarbons  |                |             |                          |                    |            |               |                  |            |
| Amber Glass Bottle - Unpreserved (EP071) |                |             |                          |                    |            |               |                  |            |
| BH1,<br>BH304,<br>QC01                   | BH2,<br>BH306, | 27-Mar-2020 | 30-Mar-2020              | 03-Apr-2020        | ✔          | 30-Mar-2020   | 09-May-2020      | ✔          |
| Amber VOC Vial - Sulfuric Acid (EP080)   |                |             |                          |                    |            |               |                  |            |
| BH1,<br>BH304,<br>QC01                   | BH2,<br>BH306, | 27-Mar-2020 | 27-Mar-2020              | 10-Apr-2020        | ✔          | 27-Mar-2020   | 10-Apr-2020      | ✔          |



Matrix: **WATER**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method                                                          |                | Sample Date | Extraction / Preparation |                    |            | Analysis      |                  |            |
|-----------------------------------------------------------------|----------------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s)                                 |                |             | Date extracted           | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions |                |             |                          |                    |            |               |                  |            |
| Amber Glass Bottle - Unpreserved (EP071)                        |                | 27-Mar-2020 | 30-Mar-2020              | 03-Apr-2020        | ✓          | 30-Mar-2020   | 09-May-2020      | ✓          |
| BH1,<br>BH304,<br>QC01                                          | BH2,<br>BH306, |             |                          |                    |            |               |                  |            |
| Amber VOC Vial - Sulfuric Acid (EP080)                          |                | 27-Mar-2020 | 27-Mar-2020              | 10-Apr-2020        | ✓          | 27-Mar-2020   | 10-Apr-2020      | ✓          |
| BH1,<br>BH304,<br>QC01                                          | BH2,<br>BH306, |             |                          |                    |            |               |                  |            |
| EP080: BTEXN                                                    |                |             |                          |                    |            |               |                  |            |
| Amber VOC Vial - Sulfuric Acid (EP080)                          |                | 27-Mar-2020 | 27-Mar-2020              | 10-Apr-2020        | ✓          | 27-Mar-2020   | 10-Apr-2020      | ✓          |
| BH1,<br>BH304,<br>QC01                                          | BH2,<br>BH306, |             |                          |                    |            |               |                  |            |
| EP231A: Perfluoroalkyl Sulfonic Acids                           |                |             |                          |                    |            |               |                  |            |
| HDPE (no PTFE) (EP231X)                                         |                | 27-Mar-2020 | 28-Mar-2020              | 23-Sep-2020        | ✓          | 28-Mar-2020   | 23-Sep-2020      | ✓          |
| BH1,<br>BH304,                                                  | BH2,<br>BH306  |             |                          |                    |            |               |                  |            |
| EP231B: Perfluoroalkyl Carboxylic Acids                         |                |             |                          |                    |            |               |                  |            |
| HDPE (no PTFE) (EP231X)                                         |                | 27-Mar-2020 | 28-Mar-2020              | 23-Sep-2020        | ✓          | 28-Mar-2020   | 23-Sep-2020      | ✓          |
| BH1,<br>BH304,                                                  | BH2,<br>BH306  |             |                          |                    |            |               |                  |            |
| EP231C: Perfluoroalkyl Sulfonamides                             |                |             |                          |                    |            |               |                  |            |
| HDPE (no PTFE) (EP231X)                                         |                | 27-Mar-2020 | 28-Mar-2020              | 23-Sep-2020        | ✓          | 28-Mar-2020   | 23-Sep-2020      | ✓          |
| BH1,<br>BH304,                                                  | BH2,<br>BH306  |             |                          |                    |            |               |                  |            |
| EP231D: (n:2) Fluorotelomer Sulfonic Acids                      |                |             |                          |                    |            |               |                  |            |
| HDPE (no PTFE) (EP231X)                                         |                | 27-Mar-2020 | 28-Mar-2020              | 23-Sep-2020        | ✓          | 28-Mar-2020   | 23-Sep-2020      | ✓          |
| BH1,<br>BH304,                                                  | BH2,<br>BH306  |             |                          |                    |            |               |                  |            |
| EP231P: PFAS Sums                                               |                |             |                          |                    |            |               |                  |            |
| HDPE (no PTFE) (EP231X)                                         |                | 27-Mar-2020 | 28-Mar-2020              | 23-Sep-2020        | ✓          | 28-Mar-2020   | 23-Sep-2020      | ✓          |
| BH1,<br>BH304,                                                  | BH2,<br>BH306  |             |                          |                    |            |               |                  |            |



## Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

| Quality Control Sample Type                          |        | Count |         | Rate (%) |          | Quality Control Specification |                                |
|------------------------------------------------------|--------|-------|---------|----------|----------|-------------------------------|--------------------------------|
| Analytical Methods                                   | Method | QC    | Regular | Actual   | Expected |                               | Evaluation                     |
| Laboratory Duplicates (DUP)                          |        |       |         |          |          |                               |                                |
| Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS | EP231X | 1     | 5       | 20.00    | 10.00    | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction                          | EP071  | 0     | 6       | 0.00     | 10.00    | ✗                             | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX                                   | EP080  | 2     | 15      | 13.33    | 10.00    | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Laboratory Control Samples (LCS)                     |        |       |         |          |          |                               |                                |
| Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS | EP231X | 1     | 5       | 20.00    | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction                          | EP071  | 1     | 6       | 16.67    | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX                                   | EP080  | 1     | 15      | 6.67     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Method Blanks (MB)                                   |        |       |         |          |          |                               |                                |
| Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS | EP231X | 1     | 5       | 20.00    | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction                          | EP071  | 1     | 6       | 16.67    | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX                                   | EP080  | 1     | 15      | 6.67     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| Matrix Spikes (MS)                                   |        |       |         |          |          |                               |                                |
| Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS | EP231X | 1     | 5       | 20.00    | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction                          | EP071  | 0     | 6       | 0.00     | 5.00     | ✗                             | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX                                   | EP080  | 1     | 15      | 6.67     | 5.00     | ✓                             | NEPM 2013 B3 & ALS QC Standard |



## Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

| Analytical Methods                                   | Method  | Matrix | Method Descriptions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------|---------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TRH - Semivolatile Fraction                          | EP071   | WATER  | In house: Referenced to USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)                                                                                                                                                                                                                                                                                                                                                                                                     |
| TRH Volatiles/BTEX                                   | EP080   | WATER  | In house: Referenced to USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)                                                                                                                                                                                                                                                                               |
| Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS | EP231X  | WATER  | In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements. |
| Preparation Methods                                  | Method  | Matrix | Method Descriptions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Separatory Funnel Extraction of Liquids              | ORG14   | WATER  | In house: Referenced to USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.                                                                                                                                                                                                                                                                                                        |
| Volatiles Water Preparation                          | ORG16-W | WATER  | A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for sparging.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Solid Phase Extraction (SPE) for PFAS in water       | ORG72   | WATER  | In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.                                                                                                                                                                                                |

|                                                                                                                                                                                                      |  |                                                                                                                                                                                                      |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>ALS</b><br>19125312<br>Liverpool Civic Place<br>Theodore Adcock                                                                                                                                   |  | GOLDER ASSOCIATES PTY LTD<br>Level 8/40 Mount Street, North Sydney NSW 2060<br>Phone: (02) 9478 3900<br>Fax: (02) 9478 3901<br>Email: ErWoon@golder.com.au                                           |  |
| Project Manager: Eric Woon<br>Job Contact: Eric Woon                                                                                                                                                 |  | Project Manager: Eric Woon<br>Job Contact: Eric Woon                                                                                                                                                 |  |
| 24hrs <input checked="" type="checkbox"/> 48hrs <input type="checkbox"/> Standard <input type="checkbox"/><br>36hrs <input type="checkbox"/> 5 Days <input type="checkbox"/> Date Required By:       |  | 24hrs <input checked="" type="checkbox"/> 48hrs <input type="checkbox"/> Standard <input type="checkbox"/><br>36hrs <input type="checkbox"/> 5 Days <input type="checkbox"/> Date Required By:       |  |
| HARD <input type="checkbox"/> EMAIL <input type="checkbox"/><br>PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> ESDAT <input type="checkbox"/> EQUIS <input type="checkbox"/> |  | HARD <input type="checkbox"/> EMAIL <input type="checkbox"/><br>PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> ESDAT <input type="checkbox"/> EQUIS <input type="checkbox"/> |  |
| Comments/Special Instructions:                                                                                                                                                                       |  |                                                                                                                                                                                                      |  |
| Please email lab documents to TAdcock@golder.com.au and ErWoon@golder.com.au                                                                                                                         |  |                                                                                                                                                                                                      |  |
| LAB ID<br>1<br>2<br>3<br>4<br>5<br>6<br>7<br>8                                                                                                                                                       |  | SAMPLE ID<br>BH1<br>BH2<br>BH304<br>BH306<br>QC01<br>QC02<br>TS<br>TB                                                                                                                                |  |
| SAMPLE DEPTH<br>27/03/2020<br>27/03/2020<br>27/03/2020<br>27/03/2020<br>27/03/2020<br>27/03/2020                                                                                                     |  | SAMPLE DATE<br>27/03/2020<br>27/03/2020<br>27/03/2020<br>27/03/2020<br>27/03/2020<br>27/03/2020                                                                                                      |  |
| SAMPLE TIME<br>Water<br>Water<br>Water<br>Water<br>Water<br>Water                                                                                                                                    |  | SAMPLE MATRIX<br>Water<br>Water<br>Water<br>Water<br>Water<br>Water                                                                                                                                  |  |
| Level of Contamination (Low/High/Unknown)<br>No CONTAINERS                                                                                                                                           |  | Level of Contamination (Low/High/Unknown)<br>No CONTAINERS                                                                                                                                           |  |
| TRI/BTEX<br>PFAS (P231X)                                                                                                                                                                             |  | TRI/BTEX<br>PFAS (P231X)                                                                                                                                                                             |  |
| Environmental Division<br>Sydney<br>Work Order Reference<br>ES2010737                                                                                                                                |  | Environmental Division<br>Sydney<br>Work Order Reference<br>ES2010737                                                                                                                                |  |
| Telephone: + 61-2-8784 8655                                                                                                                                                                          |  | Telephone: + 61-2-8784 8655                                                                                                                                                                          |  |
| TAT                                                                                                                                                                                                  |  |                                                                                                                                                                                                      |  |
| ANALYSIS REQUIRED                                                                                                                                                                                    |  |                                                                                                                                                                                                      |  |
| SAMPLE MATRIX - Soil/Sediment/Fill/Water/Other<br>SAMPLE TYPE - Composite(C)/Discrete(D)/Disturbed(DS)/Core(CR), Grab Sample (GS)<br>HIGH CONCENTRATION: circle expected parameters in analysis list |  |                                                                                                                                                                                                      |  |
| SIGNATURE<br>FFA1                                                                                                                                                                                    |  | SIGNATURE<br>AW                                                                                                                                                                                      |  |
| DATE<br>27/03/20                                                                                                                                                                                     |  | DATE<br>27/03/20                                                                                                                                                                                     |  |
| TIME<br>3:10p                                                                                                                                                                                        |  | TIME<br>3:10p                                                                                                                                                                                        |  |
| RELEASED BY<br>RECEIVED BY<br>RELEASED BY<br>RECEIVED BY<br>RELEASED BY<br>RECEIVED BY                                                                                                               |  | RELEASED BY<br>RECEIVED BY<br>RELEASED BY<br>RECEIVED BY<br>RELEASED BY<br>RECEIVED BY                                                                                                               |  |
| COMPANY<br>GOLDER ASSOCIATES PTY LTD                                                                                                                                                                 |  | COMPANY<br>GOLDER ASSOCIATES PTY LTD                                                                                                                                                                 |  |
| METHOD OF SHIPMENT<br>Shipping Ref:                                                                                                                                                                  |  | METHOD OF SHIPMENT<br>Shipping Ref:                                                                                                                                                                  |  |

RL3  
SNT004  
July 2012

**THIS FORM IS TO BE SIGNED BY GOLDER STAFF; COURIER/S; LABORATORY ON RECEIPT OF SAMPLES.**

APPENDIX F

Hydraulic 'Slug' Tests  
F-1 Field Record Sheets  
F-2 *Aqtesolv<sup>tm</sup>* Outputs

## F-1 Field Record Sheets

## SLUG TEST FORM GAP FORM NO. 52



## Rising Head Test / Falling Head Test

## PROJECT INFORMATION

Project Number / Task: 191825312  
 Client: BUILT  
 Site Location: 52 Scott Street Liverpool

Date: 23/2/19  
 By: TH

## GROUNDWATER WELL DATA

WELL ID: BH1

| Information from site: |                           | Information from drillers log     |                              |
|------------------------|---------------------------|-----------------------------------|------------------------------|
| Well Depth (m)         |                           | Screen (from - to )               |                              |
| Stick-up length (m)    |                           | Gravel pack (from - to )          | (precise point of reference) |
| Pipe diameter (m)      |                           | Drilled diameter (m)              | (precise point of reference) |
| Initial WL (m TOC)     | <u>5.295</u> <u>14:42</u> | Aquifer thickness (from - to )    | (m below GL)                 |
| Well location (GPS)    | E:                        | Type of formation (clay/sand/...) |                              |
| Referential:           | N:                        | Confined / unconfined ?           |                              |

## SLUG TEST

☒ Rising Head Test  
 (removal of water volume - pumping/bailing)

☐ Falling Head Test  
 (insertion of air/solid slug)

|                                     |                           |                                                         |  |
|-------------------------------------|---------------------------|---------------------------------------------------------|--|
| Volume of slug injected / removed   |                           | Initial displacement = initial WL - WL at start of test |  |
| Time (hh:mm:ss) start of test       | <u>14:49</u> <u>~5.53</u> | Time (date & hh:mm:ss) end of test                      |  |
| Manual WL at start of test* (m TOC) |                           | Manual WL at end of test (m TOC)                        |  |

\*If slug added, maximum water level created by insertion of slug

If slug removed, minimum water level created from removal of slug

## Type of data record (select as appropriate)

☒ Manual Time in seconds or minutes (or real time)

|                        |                           |  |  |  |  |  |  |  |  |
|------------------------|---------------------------|--|--|--|--|--|--|--|--|
|                        | <u>14:56</u> <u>26min</u> |  |  |  |  |  |  |  |  |
| Time (t)               | <u>7 min</u> <u>15:15</u> |  |  |  |  |  |  |  |  |
| Depth to Water (m TOC) | <u>5.53</u> <u>5.49</u>   |  |  |  |  |  |  |  |  |

If logger used, manual data SHOULD be taken to validate logger data

☒ Data Logger

Type: Seametrics  
 Rated Depth Range (m head):

Logger name/Serial NO :

Installation Depth / WL reading before start of test (m TOC) (precise):

File/ test name :

Data downloaded and checked:

YES / NO

If Yes, Name of exported file:

☐ Vented  
☒ Unvented  
☐ Barologger used

## OBSERVATIONS

Weather Conditions:

Temperature:

Precipitation :

Wind:

Moon (Tide):

☐ Still

☐ Light

Strong

☐ Gusty

☐ high tide:

☐ low tide:

Notes:

I leave logger to measure recovery overnight.

## SLUG TEST FORM GAP FORM NO. 52



## Rising Head Test / Falling Head Test

## PROJECT INFORMATION

Project Number / Task: 19125312 LIVERPOOL CIVIC PLACE  
 Client: ISU 115  
 Site Location: 52 Scott Street Liverpool

Date: 24/7/19  
 By: TM

## GROUNDWATER WELL DATA

WELL ID: BH2

| Information from site: |                     | Information from drillers log     |                              |
|------------------------|---------------------|-----------------------------------|------------------------------|
| Well Depth (m)         |                     | Screen (from - to )               |                              |
| Stick-up length (m)    |                     | Gravel pack (from - to )          | (precise point of reference) |
| Pipe diameter (m)      |                     | Drilled diameter (m)              | (precise point of reference) |
| Initial WL (m TOC)     | <u>5.39 at 8:59</u> | Aquifer thickness (from - to )    | (m below GL)                 |
| Well location (GPS)    | E:                  | Type of formation (clay/sand/...) |                              |
| Referential:           | N:                  | Confined / unconfined ?           |                              |

## SLUG TEST

☒ Rising Head Test  
 (removal of water volume - pumping/bailing)

☐ Falling Head Test  
 (insertion of air/solid slug)

|                                     |              |                                                         |  |
|-------------------------------------|--------------|---------------------------------------------------------|--|
| Volume of slug injected / removed   |              | Initial displacement = initial WL - WL at start of test |  |
| Time (hh:mm:ss) start of test       | <u>15:32</u> | Time (date & hh:mm:ss) end of test                      |  |
| Manual WL at start of test* (m TOC) | <u>9.18</u>  | Manual WL at end of test (m TOC)                        |  |

\*If slug added, maximum water level created by insertion of slug

If slug removed, minimum water level created from removal of slug

## Type of data record (select as appropriate)

☐ Manual

Time in seconds or minutes (or real time)

|                        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 10 |
|------------------------|---|---|---|---|---|---|---|---|----|
| Time (t)               |   |   |   |   |   |   |   |   |    |
| Depth to Water (m TOC) |   |   |   |   |   |   |   |   |    |

If logger used, manual data SHOULD be taken to validate logger data

☒ Data Logger

Type: Seametrics

Logger name/Serial NO: \_\_\_\_\_

Rated Depth Range (m head): \_\_\_\_\_

Installation Depth / WL reading before start of test (m TOC) (precise): \_\_\_\_\_

File/ test name: \_\_\_\_\_

Data downloaded and checked: YES / NO

If Yes, Name of exported file: \_\_\_\_\_

☐ Vented  
☐ Unvented  
☐ Barologger used

## OBSERVATIONS

Weather Conditions:

Temperature: \_\_\_\_\_

Precipitation: \_\_\_\_\_

Wind: \_\_\_\_\_

Moon (Tide): \_\_\_\_\_

☐ Still

☐ Light

Strong

☐ Gusty

☐ high tide: \_\_\_\_\_

☐ low tide: \_\_\_\_\_

Notes: \_\_\_\_\_

As Slug test from 23/7/19 did not recover to initial level  
 I removed water with Watere foot valve and turbing (~154)  
 to generate a significant drawdown and measure  
 the recovery  
 Recovery is measured with logger only

## SLUG TEST FORM GAP FORM NO. 52



## Rising Head Test / Falling Head Test

## PROJECT INFORMATION

Project Number / Task: 19125312, LIVERPOOL CIVIC PLACE  
 Client: BUILT  
 Site Location: 52 Scott Street Liverpool

Date: 23/7/19  
 By: TM

## GROUNDWATER WELL DATA

WELL ID: BH2

| Information from site: |              | Information from drillers log     |                              |
|------------------------|--------------|-----------------------------------|------------------------------|
| Well Depth (m)         |              | Screen (from - to )               |                              |
| Stick-up length (m)    |              | Gravel pack (from - to )          | (precise point of reference) |
| Pipe diameter (m)      |              | Drilled diameter (m)              | (precise point of reference) |
| Initial WL (m TOC)     | <u>5.245</u> | Aquifer thickness (from - to )    | (m below GL)                 |
| Well location (GPS)    | E: <u></u>   | Type of formation (clay/sand/...) |                              |
| Referential:           | N: <u></u>   | Confined / unconfined ?           |                              |

→ Water level (after placing logger):

## SLUG TEST

☒ Rising Head Test  
 (removal of water volume - pumping/bailing)

☐ Falling Head Test  
 (insertion of air/solid slug)

|                                     |                |                 |                                                         |  |  |
|-------------------------------------|----------------|-----------------|---------------------------------------------------------|--|--|
| Volume of slug injected / removed   | <u>1L</u>      | <u>1 bailer</u> | Initial displacement = initial WL - WL at start of test |  |  |
| Time (hh:mm:ss) start of test       | <u>23/7/19</u> | <u>13:37</u>    | Time (date & hh:mm:ss) end of test                      |  |  |
| Manual WL at start of test* (m TOC) |                |                 | Manual WL at end of test (m TOC)                        |  |  |

\*If slug added, maximum water level created by insertion of slug

If slug removed, minimum water level created from removal of slug

## Type of data record (select as appropriate)

☐ Manual

Time in seconds or minutes (or real time)

|                        | 1            | 2            | 3            | 4 | 5 | 6 | 7 | 8 | 10 |
|------------------------|--------------|--------------|--------------|---|---|---|---|---|----|
| Time (t)               | <u>13:41</u> | <u>14:21</u> | <u>15:09</u> |   |   |   |   |   |    |
| Depth to Water (m TOC) | <u>~5.4</u>  | <u>5.41</u>  | <u>5.41</u>  |   |   |   |   |   |    |

If logger used, manual data SHOULD be taken to validate logger data

☒ Data Logger

Type: Seametrics

Logger name/Serial NO : \_\_\_\_\_

Rated Depth Range (m head): \_\_\_\_\_

Installation Depth / WL reading before start of test (m TOC) (precise): \_\_\_\_\_

File/ test name : \_\_\_\_\_

Data downloaded and checked: \_\_\_\_\_ YES / NO

If Yes, Name of exported file: \_\_\_\_\_

☐ Vented  
☐ Unvented  
☐ Barologger used

## OBSERVATIONS

Weather Conditions:

Temperature: \_\_\_\_\_

Precipitation : \_\_\_\_\_

Wind: \_\_\_\_\_

Moon (Tide): \_\_\_\_\_

☐ Still

☐ Light

Strong

☐ Gusty

☐ high tide: \_\_\_\_\_

☐ low tide: \_\_\_\_\_

Notes:

Logger was left overnight in the well, however WL does not seem to recover.

On the 24/7/19 I will remove more water to see if WL recovers.

# SLUG TEST FORM GAP FORM NO. 52



## Rising Head Test / Falling Head Test

### PROJECT INFORMATION

Project Number / Task: 19125312  
 Client: BUILT  
 Site Location: 52 Scott Street, Liverpool Civic Centre

Date: 26/7/19  
 By: E.W.

### GROUNDWATER WELL DATA

WELL ID: BH304

| Information from site: |                           | Information from drillers log     |                                  |
|------------------------|---------------------------|-----------------------------------|----------------------------------|
| Well Depth (m)         |                           | Screen (from - to )               | <u>9-12</u>                      |
| Stick-up length (m)    |                           | Gravel pack (from - to )          | <u>8-12</u>                      |
| Pipe diameter (m)      | <u>50 mm</u>              | Drilled diameter (m)              |                                  |
| Initial WL (m TOC)     | <u>9.18 m top of pipe</u> | Aquifer thickness (from - to )    |                                  |
| Well location (GPS)    | E:                        | Type of formation (clay/sand/...) | <u>Fractured sandstone/shale</u> |
| Referential:           | N:                        | Confined / unconfined ?           |                                  |

### SLUG TEST

☒ Rising Head Test  
 (removal of water volume - pumping/bailing)

☐ Falling Head Test  
 (insertion of air/solid slug)

|                                     |              |                      |                                                         |  |  |
|-------------------------------------|--------------|----------------------|---------------------------------------------------------|--|--|
| Volume of slug injected / removed   | <u>1L</u>    | <u>1 bailer</u>      | Initial displacement = Initial WL - WL at start of test |  |  |
| Time (hh:mm:ss) start of test       |              | <u>11:07</u>         | Time (date & hh:mm:ss) end of test                      |  |  |
| Manual WL at start of test* (m TOC) | <u>9.265</u> | <u>m top of pipe</u> | Manual WL at end of test (m TOC)                        |  |  |

\*If slug added, maximum water level created by insertion of slug  
 If slug removed, minimum water level created from removal of slug

Type of data record (select as appropriate)

☒ Manual

Time in seconds or minutes (or real time)

|                        | 1            | 2            | 3            | 4            | 5            | 6            | 7            | 8 | 10 |
|------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---|----|
| Time (t)               | <u>11:08</u> | <u>11:09</u> | <u>11:10</u> | <u>11:11</u> | <u>11:12</u> | <u>11:18</u> | <u>11:24</u> |   |    |
| Depth to Water (m TOC) | <u>9.235</u> | <u>9.21</u>  | <u>9.20</u>  | <u>9.19</u>  | <u>9.19</u>  | <u>9.185</u> | <u>9.18</u>  |   |    |

If logger used, manual data SHOULD be taken to validate logger data

☒ Data Logger

Type: Seametrics  
 Rated Depth Range (m head): 10 m

Logger name/Serial NO : \_\_\_\_\_

Installation Depth / WL reading before start of test (m TOC) (precise): \_\_\_\_\_

File/ test name : \_\_\_\_\_

Data downloaded and checked: \_\_\_\_\_

YES / NO

If Yes, Name of exported file: \_\_\_\_\_

☐ Vented  
☒ Unvented  
☐ Barologger used

### OBSERVATIONS

Weather Conditions:

Temperature: \_\_\_\_\_

Precipitation : \_\_\_\_\_

Wind: \_\_\_\_\_

Moon (Tide): \_\_\_\_\_

☐ Still ☐ Light ☐ Strong ☐ Gusty  
☐ high tide: \_\_\_\_\_ ☐ low tide: \_\_\_\_\_

Notes: \_\_\_\_\_

## SLUG TEST FORM GAP FORM NO. 52



## Rising Head Test / Falling Head Test

## PROJECT INFORMATION

Project Number / Task: 19 12 53 12  
 Client: Built  
 Site Location: 52 Scott Street Liverpool Civic Place

Date: 26/7/19  
 By: E-W

## GROUNDWATER WELL DATA

WELL ID: BH306

| Information from site: |                             | Information from drillers log     |                                              |
|------------------------|-----------------------------|-----------------------------------|----------------------------------------------|
| Well Depth (m)         |                             | Screen (from - to)                | <u>~ 9 - 15 m</u>                            |
| Stick-up length (m)    |                             | Gravel pack (from - to)           | <u>~ 8 - 15</u> (precise point of reference) |
| Pipe diameter (m)      | <u>8.35 m b top of pipe</u> | Drilled diameter (m)              |                                              |
| Initial WL (m TOC)     |                             | Aquifer thickness (from - to)     |                                              |
| Well location (GPS)    | E:                          | Type of formation (clay/sand/...) | <u>Fracture sandstone/shale</u> (m below GL) |
| Referential:           | N:                          | Confined / unconfined ?           |                                              |

## SLUG TEST

☒ Rising Head Test  
 (removal of water volume - pumping/bailing)

☐ Falling Head Test  
 (insertion of air/solid slug)

|                                     |           |                 |                                                         |  |  |
|-------------------------------------|-----------|-----------------|---------------------------------------------------------|--|--|
| Volume of slug injected / removed   | <u>1L</u> | <u>1 boiler</u> | Initial displacement = Initial WL - WL at start of test |  |  |
| Time (hh:mm:ss) start of test       |           | <u>10:10</u>    | Time (date & hh:mm:ss) end of test                      |  |  |
| Manual WL at start of test* (m TOC) |           |                 | Manual WL at end of test (m TOC)                        |  |  |

\*If slug added, maximum water level created by insertion of slug

If slug removed, minimum water level created from removal of slug

## Type of data record (select as appropriate)

☒ Manual

Time in seconds or minutes (or real time)

|                        | 1            | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 10 |
|------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----|
| Time (t)               | <u>10:11</u> | <u>10:12</u> | <u>10:13</u> | <u>10:14</u> | <u>10:15</u> | <u>10:20</u> | <u>10:36</u> | <u>10:46</u> |    |
| Depth to Water (m TOC) | <u>8.81</u>  | <u>8.81</u>  | <u>8.81</u>  | <u>8.805</u> | <u>8.805</u> | <u>8.80</u>  | <u>8.78</u>  | <u>8.75</u>  |    |

If logger used, manual data SHOULD be taken to validate logger data

☒ Data Logger

Type: Seametrics  
 Rated Depth Range (m head): 10 m

Logger name/Serial NO: \_\_\_\_\_

Installation Depth / WL reading before start of test (m TOC) (precise): \_\_\_\_\_

File / test name: \_\_\_\_\_

Data downloaded and checked: \_\_\_\_\_

YES / NO

If Yes, Name of exported file: \_\_\_\_\_

☐ Vented  
☒ Unvented  
☐ Barologger used

## OBSERVATIONS

## Weather Conditions:

Temperature: \_\_\_\_\_

Precipitation: \_\_\_\_\_

Wind: \_\_\_\_\_

Moon (Tide): \_\_\_\_\_

☐ Still

☐ Light

☐ Strong

☐ Gusty

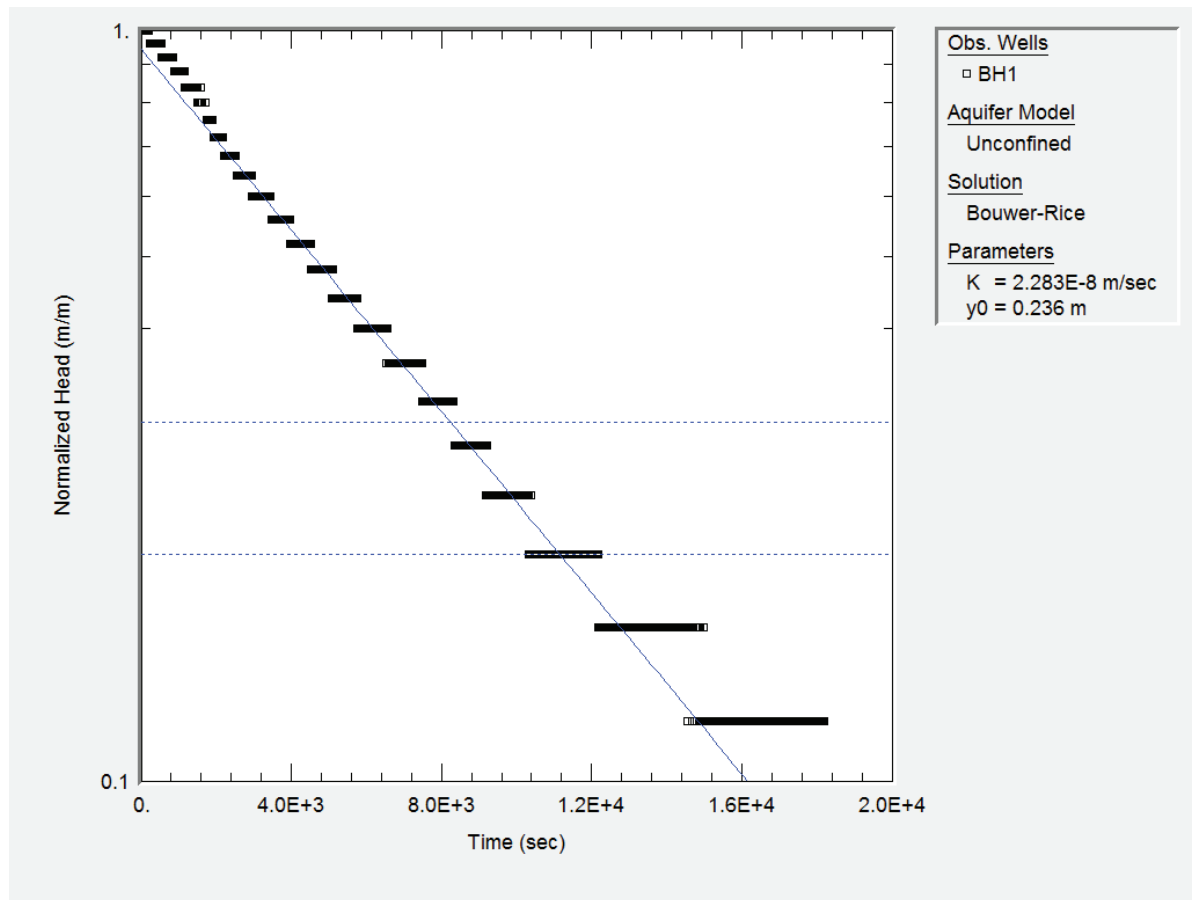
☐ high tide: \_\_\_\_\_

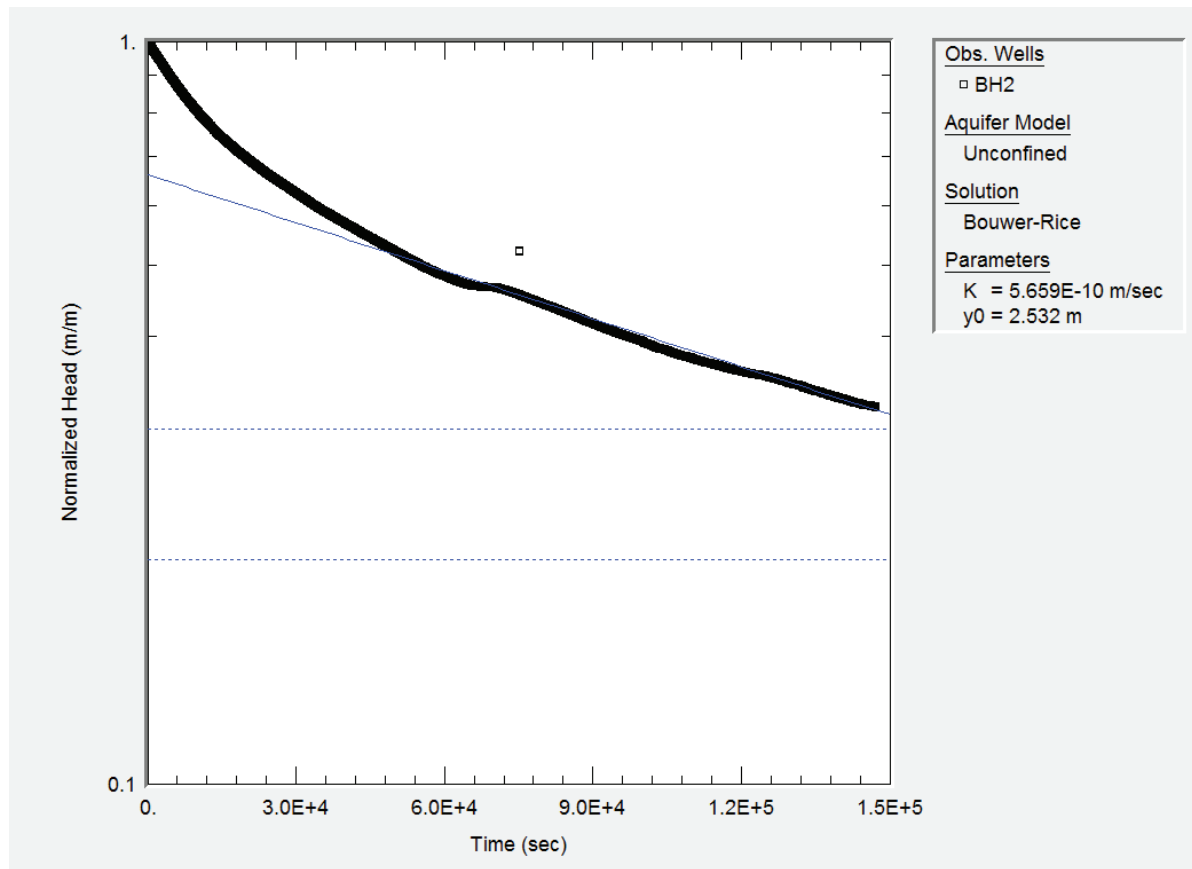
☐ low tide: \_\_\_\_\_

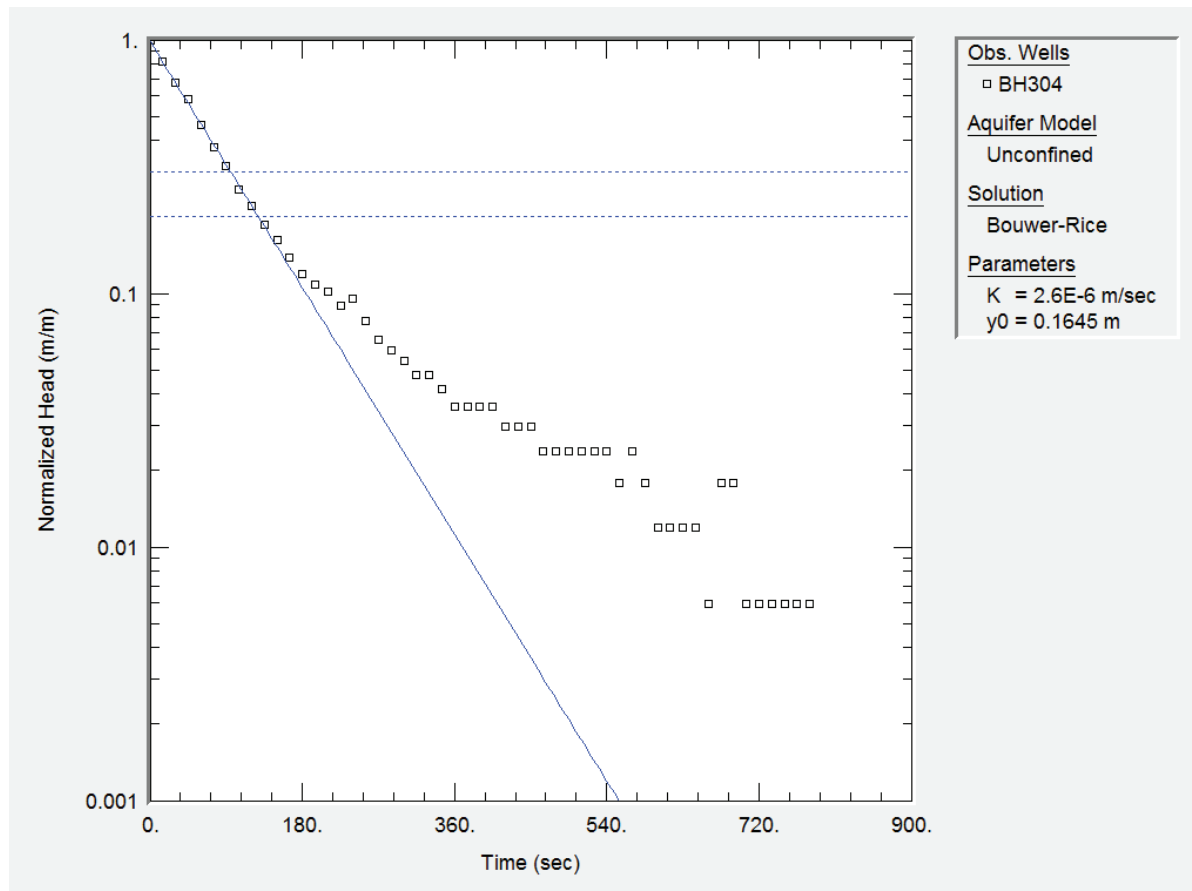
Notes: \_\_\_\_\_

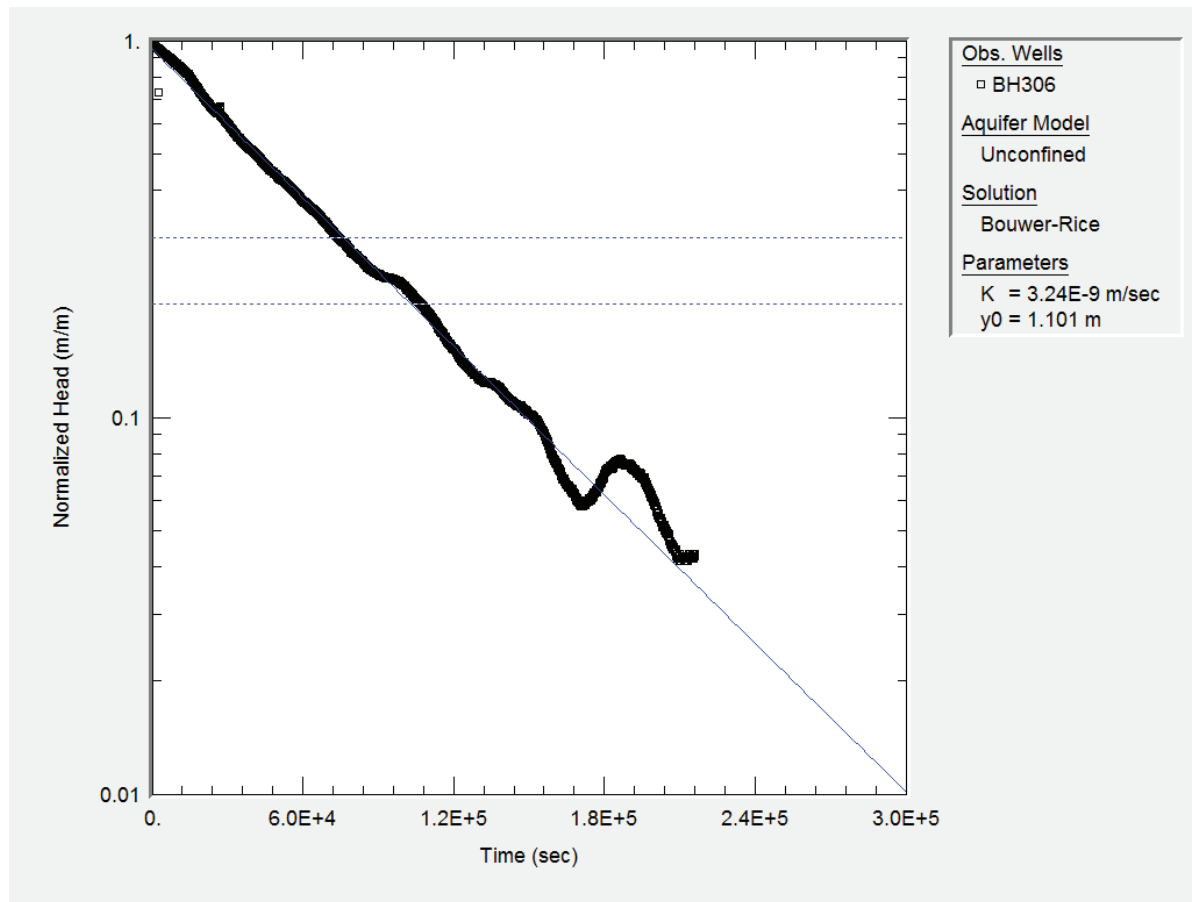
## F-2 *Aqtesolv*<sup>tm</sup> Outputs

## BH1 Slug Test



BH2 recovery test

**BH304 Slug test**

BH306 Slug test

## APPENDIX G

# Important Information

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