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PRELIMINARY SITE INVESTIGATION
2-6 BOLD STREET AND 80-82 COWPER STREET, GRANVILLE, NEW SOUTH WALES

FOR

DESIGNER HOME CONSTRUCTIONS PTY LTD

PROJECT NO. 19305/3375C **March 2017**
REPORT NO. 14/1646A

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EXECUTIVE SUMMARY

A preliminary site investigation (PSI) was performed for the property at 2-6 Bold Street and 80-82 Cowper Street, Granville, New South Wales for Designer Homes Constructions Pty Limited. The objectives of the investigation were to provide advice on the potential for environmental exposures at the property due to soil contamination that may be significant for a high-density residential land use setting. The investigation was performed in accordance with Environment Protection Authority (EPA) and national guidelines for the assessment and management of site contamination.

The site is approximately 2 200 m^2 and was initially used for residential purposes and this use of the land continued in the eastern portion of the site until the 1990s. However, two allotments which form the western portion of the site had been redeveloped for a commercial/industrial use by the mid-1990s. By 2002 the remnant houses in the east of the site had been removed, and this portion of the property has remained undeveloped until the present day, although this area has been used for the storage of miscellaneous goods/materials and also for car parking. Known or expected commercial/industrial activities that have occurred at the site include the maintenance and repair of motor vehicles and the storage of building materials.

Soil was sampled at four locations across the site for this investigation. The results of the sampling program show that the concentrations of chemical contaminants measured in the soil samples retrieved from the site are low and below levels that would present an unacceptable risk to human-health and the environmental for a high density residential land use setting. That is, the site is expected to be suitable for the proposed mixed commercial and high-density residential redevelopment. However, given that the site is proposed to be bulk excavated for a basement car parking facility, further soil sampling will be necessary to appropriately classify the soils for off-site disposal purposes.

1. INTRODUCTION

SMEC Testing Services Pty Limited (STS) was engaged by Designer Homes Constructions Pty Limited to undertake a preliminary site investigation (PSI) for the property at 2-6 Bold Street and 80-82 Cowper Street, Granville, NSW (the 'site').

The objectives of the PSI were to provide advice on the potential for environmental exposures at the property that may be significant for a high-density residential land use setting. The investigation was performed in accordance with Environment Protection Authority (EPA) and national guidelines for the assessment and management of site contamination.

The scope of the PSI included:

- Review of historical land title information relating to the site;
- Examination of aerial photographs to identify historical land uses at the site and its surrounds;
- Review of local Council, EPA and WorkCover NSW records;
- Site inspection;
- Appraisal of local geology and hydrogeology;
- Soil sampling from four locations across the site, and laboratory analysis of the soil samples retrieved for a broad screen of potential contaminants;
- Assessment of analytical data and quality assurance (QA);
- Appraisal of the contaminant concentrations in the soil on the site based on the results of the investigation, including an appraisal of potential harm to human-health and the environment, potential exposure pathways and off-site impacts;
- Recommendations for the site in accordance with EPA guidelines; and
- Preparation of a confidential report to Designer Home Constructions Pty Limited on the results of the investigation.

2. REDEVELOPMENT AND PROPOSED LAND USE

We understand that the site is proposed to be redeveloped for mixed land use, which will involve the demolition of all existing buildings and the construction of a new sixteen-story residential unit complex with ground floor commercial space. A two level basement car parking facility is also proposed, which will require bulk excavation of the site to approximately 6 m below the existing ground surface.

3. SITE IDENTIFICATION

The site at 2-6 Bond Street and 80-82 Cowper Street, Granville has an area of approximately 2 200 m^2 in area and is defined as Lots 17-21 in Deposited Plan (DP) 7553 and Lot 22 in DP 651169, Parish of Liberty Plains, County of Cumberland. The location of the site is shown on Drawing No. 14/1646/1.

The site is within the Parramatta City Council local government area, and is zoned 'Zone B4 – Mixed Use'.

4. SITE FEATURES

The site was inspected on 28 August 2013 to confirm the condition of the land and to identify potential contamination sources. A plan showing the current site configuration is shown on Drawing No. 14/1646/2. The key site features as determined by the site inspection are:

- The site is essentially flat, however, the land has a natural gentle slope to the north. This morphology suggests that filling may have occurred for levelling purposes.
- A factory/warehouse style building occupies the western portion of the site and the land surrounding the building is covered in concrete pavements. No built structures are present in the larger eastern portion of the property, although this section of the property is enclosed by a wire fence.

- The western portion of the site is used as a smash repairs facility for motor vehicles, and comprises a main workshop area as well as offices. The north-eastern portion of the site is being used to store motor vehicles which are awaiting repairs as well as for general car parking. The south-eastern portion of the site is being used for store formwork and other building materials.
- No evidence of below ground facilities such as underground petroleum storage systems, pits or sumps was observed on the site.
- The land surrounding the site is being used for commercial/industrial purposes, and a railway line occupies the land to the south.

5. GEOLOGY AND HYDROGEOLOGY

The Geological Survey of NSW 1:100,000 Sydney geological sheet (Sheet No. 9130) shows the site is underlain by the Triassic Age 'Ashfield Shale' formation, which is stated as comprising black to dark grey shale and laminite.

The natural soils encountered during the investigation comprised orange-brown and grey silty clays, which are consistent with natural soils in-situ weathered from the regional geological formation. Shale bedrock as also encountered in each bore at depths of between 1.3 m and 2 m below the land surface. Further, our review of the Acid Sulfate Soil risk maps available on the EPA NSW Natural Resources Atlas also shows that the site is located in an area that is not expected to be affected by ASSs. This is supported by the geology and geomorphology of the site.

A layer of fill between 0.4 m and 1.0 m in thickness was identified at each sample location. The fill predominantly comprised silty clays, with sandy gravels and silty sandy clays also being encountered. Further, the fill material appeared to be generally free of anthropogenic wastes.

A search of the Department Natural Resources (DNR) groundwater database was also performed to identify wells in the vicinity of the site. The search results identified 12 registered groundwater monitoring wells located within 1 km of the site, all of which are registered for monitoring purposes. However, aquifer details are not available for any of these wells, and no groundwater was encountered in the boreholes drilled on the site to a maximum depth of 3 m for this investigation.

Based on the observations made during our soil sampling activities and our review of the site geology and regional groundwater conditions, a summary of the site hydrogeology is summarised in Table 5.1.

TABLE 5.1 – SITE HYDROGEOLOGY

Depth to Aquifer at Site:	Approximately 5 -10 m[1,2]
Perched groundwater:	Not expected to be present[1]
Aquifer Type and Lithology:	Shale[1,2]
Local Groundwater Flow Direction:	North to north-east[2]
Regional Groundwater Flow Direction:	North to north-east[2]
Receiving Environments:	A'Becketts Creek located approximately 400 m to the north of the site

[1] Actual conditions based on observations made during soil sampling
[2] Inferred groundwater conditions based on site geology and geomorphology and results of groundwater database search

6. SITE HISTORY REVIEW

The history of the land subject to the investigation was obtained from the following sources:

- Aerial photographs of the site and surrounds held by the Department of Lands;
- Section 149 (2) Certificates provided by Parramatta City Council;
- Historical land titles;
- EPA records; and
- WorkCover NSW records.

6.1 *Aerial Photographs*

Aerial photographs from 1928, 1951, 1961, 1972, 1986, 1994, 2002 and 2005 were examined to identify previous land uses at the site and its surrounds. A copy of each aerial photograph showing the location of the site is provided in Appendix A, and a description of the observations made is provided in Table 6.1.

TABLE 6.1 – AERIAL PHOTOGRAPH OBSERVATIONS

Year	Site Features	Surrounding Land Use
1928	The site is subdivided into five distinct residential allotments, with a house being located on each.	The land to the north and west of the site appears to form part of residential properties, whilst a railway line is located to the south. The land to the east is largely vacant and undeveloped.
1951	The site remains essentially unchanged.	The land surrounding the site is essentially unchanged, however, a house has now been constructed on the land to the east.
1961	The site remains essentially unchanged.	The land surrounding the site is largely unchanged.
1972	The site remains essentially unchanged.	The surrounding land also remains essentially unchanged, however, the houses that previously existed on the land to the north have been demolished.
1986	The eastern portion of the site remains essentially unchanged, however, the two houses that previously existed on the western allotments have been demolished and replaced with a rectangular warehouse/factory style building and two smaller buildings or sheds.	The land surrounding the site to the north, west and south remains essentially unchanged, however, new industrial/commercial buildings now occupy the land to the east.
1994	The site remains essentially unchanged, although one of the houses that previously existed in the east of the site has been demolished leaving that allotment vacant and grass-covered.	The land to the east and south of the site remains essentially unchanged, however, the land to the north and west has been redeveloped for commercial/ industrial purposes.

TABLE 6.1 (CONT) – AERIAL PHOTOGRAPH OBSERVATIONS

Year	Site Features	Surrounding Land Use
2002	All previously existing houses have now been demolished, leaving the eastern portion of the site vacant and undeveloped. The two previously existing small buildings in the western portion of the site have also been demolished and replaced with a single larger warehouse/factory style building which is attached to the other warehouse style building that remains in the west of the site.	The land surrounding the site is largely unchanged.
2005	The site remains essentially unchanged, however, miscellaneous goods or materials appear to be stored in the undeveloped eastern portion of the site.	The surrounding land also remains essentially unchanged.

In addition, our review of satellite imagery for the years 2007, 2009, 2011, 2012 and 2013, which is available on the Google Earth program, has shown that the site features remain essentially the same as shown in the 2007 aerial photograph. However, imagery which is available for the years post 2007 show that the eastern portion of the site appears to be used as a car parking area.

6.2 Section 149 (2) Certificates

Section 149 (2) Certificates were obtained from Parramatta City Council to determine if any restrictions have been placed on the land due to contamination related risks. A copy of the certificates is provided in Appendix B. The Section 149 (2) Certificates show that there are no notices under the provisions of the *Contaminated Land Management Act 1997* issued in relation to the site. Further, the site has not been the subject of a Site Audit.

6.3 Historical Title Search

Copies of the historical land title transfers were obtained from the Land Titles Office, and are provided in Appendix C. A summary of the property ownership and occupant details is summarised in Table 6.2. Where information on the expected land use activities for each occupant could be obtained from either the title documentation or an internet search, this is noted in the table.

TABLE 6.2 – HISTORICAL LAND TITLE SUMMARY

Lot 17

Year	Registered Owner/Occupant
1978 - Present	George Namnoum (Panel Beater)
1965 - 1978	Archibald James McNab and Eric Archibald Walter McNab (Accountants) Eric Archibald Walter McNab (Accountant) (1978-1978)
1947 - 1965	Vera May McNab (Coach builder, wife of Archibald James McNab)
1931-1947	Samuel Walter King (Retired Railway Employee)
1917 - 1931	Isabel King (Wife of Samuel Walter King, Railway Employee)

Lot 18

Year	Registered Owner/Occupant
1978 - Present	George Namnoum (Panel Beater)
1964 - 1978	Harold Carlton Brown, Turner and Muriel Lorraine Brown his wife
1947 - 1964	Vera May McNab (Coach builder, wife of Archibald James McNab)
1931 - 1947	Samuel Walter King (Retired Railway Employee)
1917 - 1931	Isabel King (Wife of Samuel Walter King, Railway Employee)

Lots 19 & 20

Year	Registered Owner/Occupant
1983 - Present	George Namnoum (Panel Beater)
1981 - 1983	Tony Namnoum
1963 - 1981	Marjorie Essmaa Veitch
1951 – 1963	George Frankland Hughes and Walter Ernest Hughes (Retired Railway Employees)
1938 – 1951	George Frankland Hughes (Railway Guard)
1917 - 1938	George William, Deane (Commercial traveller and his estate)

Lot 21

Year	Registered Owner/Occupant
2007 - Present	NCG Pty Limited
1980 - 2007	George Namnoum (Panel Beater)
1973 - 1980	Alfred James Gribble and James William Brennan (Rigging contractors)
1967 - 1973	Antonio Guiseppina Richardson
1951 – 1967	Kathleen Jane Stockwell
1934 – 1951	James de Jersey Stockwell (Photographer)
1914 - 1934	Elsie Mary Stockwell

Lot 22

Year	Registered Owner/Occupant
2007 - Present	TNSF Pty Ltd
1979 - 2007	Tony Namnoum and George Namnoum (Panel Beaters)
1965 - 1979	Chahid Tony Namnoum (Welder)
1960 – 1965	Mabel Gribble
1950 – 1960	Charles Bawden Gribble (Café proprietor)
1915 - 1950	Oscar Cecil Vernon Garnett (Confectioner)

6.4 WorkCover NSW Records

WorkCover was also requested to search their Dangerous Goods License database to identify if the property is currently, or had previously been licensed for the storage of dangerous goods. The response provided by WorkCover is presented in Appendix D. The WorkCover response shows that the site is not, and has not previously been licensed for the storage of dangerous goods.

6.5 *NSW EPA Records*

The EPA contaminated land public register was inspected to determine if any notices have been issued for the site by EPA under the *Contaminated Land Management Act 1997* (CLM Act) or if the site is registered under the *Protection of the Environment Operations Act 1997* (POEO Act). Our review shows that the site is not listed under the provisions of these Acts, nor is it located in close proximity to a listed property. Further, our review shows that the site is not listed on EPA's database of properties for which a notification has been received (under the provisions of the *Contaminated Land Management Act 1997*) due to site contamination.

6.6 *Site History Summary*

Based on the historical information reviewed and our site inspection, the site was initially used for residential purposes and this use of the land continued in the eastern portion of the site until the 1990s. However, two allotments which form the western portion of the site had been redeveloped for a commercial/industrial use by the mid-1990s. By 2002 the remnant houses in the east of the site had been removed, and this portion of the property has remained undeveloped until the present day, although this area has been used for the storage of miscellaneous goods or materials and also for car parking. Known or expected commercial/industrial activities that have occurred at the site include the maintenance and repair of motor vehicles and the storage of building materials.

7. POTENTIAL CONTAMINATION SOURCES

The potential for the site to be contaminated from on-site sources and off-site sources was considered by STS during this investigation. Based on the findings of our site inspection and site history review the following actual or potential contamination sources were identified:

- A range of organic and inorganic contaminants in imported fill material. As the source of the fill cannot be confirmed it has the potential to be contaminated.
- A range of organic and inorganic contaminants that may have resulted from leaks or spills of chemical products during the history of industrial activities at the site.

8. DATA QUALITY OBJECTIVES

The *National Environment Protection (Assessment of Site Contamination) Measure 1999* (NEPM) (updated April 2013) and Australian Standard (AS) 4482.1-2005 recommend that data quality objectives (DQOs) be implemented during the investigation of potentially contaminated sites. The DQO process described in AS 4482.1-2005 outlines seven distinct steps which are designed to ensure an investigation is performed in a structured and efficient manner. The seven steps and the associated processes that were implemented to ensure data and decision making quality are outlined below:

Step 1 – State the Problem

The site is proposed to be redeveloped for a mixed commercial and high-density residential land use. Prior to this assessment there was insufficient data to determine if the site is likely to be suitable for this proposed use.

Step 2 – Identify the Decision

To determine if the concentrations of contaminants in the soil at the site are likely to present an unacceptable risk to human-health or the environment for a high-density residential land use setting.

Step 3 – Identify Inputs to the Decision

To enable a decision regarding the extent of soil contamination at the site to be made, the following inputs were required:

- Soil sampling from four locations across the site;
- Analysis of the soil samples for a broad screen or potential contaminants; and
- Implementation of a quality assurance/quality control (QA/QC) program.

Step 4 – Define the Study Boundaries

The assessment was undertaken within the boundaries of the site located at 2-6 Bold Street and 80-82 Cowper Street, Granville, NSW. The boundaries of the site are defined in Section 3 and are shown on Drawing No. 14/1646.

Step 5 – Develop a Decision Rule

To determine if any soil impacts at the site are significant for the proposed mixed use redevelopment, data was compared to relevant EPA endorsed criteria. The criteria for this assessment are further discussed in Section 11.

Step 6 - Specify Limits on Decision Errors

To ensure the precision, accuracy, completeness and comparability of data a field QA program was implemented and acceptable error limits were defined. These are further discussed in Sections 10.2 and 10.3.

Step 7 – Optimize the Design for Obtaining Data

To ensure there are sufficient, reliable data to enable the project objectives to be met the following was implemented:

- Collection, storage and transport of soil samples in an appropriate manner to ensure sample integrity (refer to Section 9.2);
- Obtaining samples from an appropriate number of locations to provide a preliminary screen of a 2 200 m^2 property in accordance with EPA guidelines; and
- The collection of an appropriate number of samples from each location and the analysis of samples for an appropriate analytical suite to screen the site for potential soil contamination, based on the potential contamination sources identified from our site inspection and site history review.

9. FIELD INVESTIGATION

The soil sampling activities for the PSI were undertaken by STS on 28 August 2013. The assessment was performed according to:

- EPA guidelines comprising:
  - *Contaminated Sites: Guidelines for Assessing Service Station Sites, 1994*;
  - *Contaminated Sites: Sampling Design Guidelines, 1995*;
  - *Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites, 1997*;
  - *Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (2nd Edition), 2006*;
  - *Guidelines for the Assessment and Management of Groundwater Contamination, 2007*;
- Guidelines issued under Schedule B of the *National Environment Protection (Assessment of Site Contamination) Measure 1999* (NEPM), December 1999 (and update April 2013);
- *Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites* published by the Australian and New Zealand Environment and Conservation Council/National Health and Medical Research Council, January 1992 (ANZECC Guidelines); and
- *Australian Standard 4482.1-2005: Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil – Part 1: Non-volatile and Semi-volatile Compounds, 2 November 2005, Standards Australia.*

9.1 Sampling Methodology

The sampling program involved the collection of soil samples from four boreholes, which were positioned at evenly spaced locations spaced across the site. This is a sufficient number of sample locations to provide a preliminary screen of the 2 200 m^2 site for potential soil contamination in accordance with EPA guidelines and the NEPM. The sample locations and site features are shown on Drawing No. 14/1646.

Locations for soil sampling were identified based on the results of our site inspection and site history review, and the position of on-site facilities. Sample locations were referenced to existing ground features and positioned subject to on-site services, subsurface conditions and other constraints, which were encountered during fieldwork activities.

The samples were collected by qualified and experienced environmental engineers and/or technicians. A description of all the samples collected and their corresponding sample locations is provided on soil profile log sheets in Appendix E.

9.2 Sample Handling & Equipment Decontamination

A drill rig equipped with solid augers was used to obtain the soil samples, and the samples were retrieved directly from the augers by hand using disposable latex gloves. For duplicate samples, the soil was placed directly into a stainless steel bowl before being transferred into new clean jars prepared by Australian Laboratory Services (ALS). No sample mixing was carried out to ensure volatile compounds that may be present are not lost. All sampling equipment was decontaminated prior to use and between sampling locations by thoroughly washing with a mixture of water and DECON 90 and rinsing with potable water.

All jars were filled to the rim to minimize head space. The sample jars were then placed into ice-filled chests and transferred to ALS for analysis. Chain of Custody (COC) documentation was used to record and track the samples. COC documentation detailing the required analyses accompanied the samples to the laboratory. The environmental engineer signed the appropriate section of the COC form before providing the samples to the laboratory.

9.3 *Analytical Program*

The selection of analytes was based on the site history review, observations made during our site inspection and EPA site assessment guidelines. The analytes for the soil samples included heavy metals, polycyclic aromatic hydrocarbons (PAH), total petroleum hydrocarbons (TPH), monocyclic aromatic hydrocarbons (MAH), volatile chlorinated hydrocarbons (VCH), polychlorinated biphenyls (PCB), organochlorine pesticides (OCP), organophosphorus pesticides (OPP), phenolic compounds, cyanide and asbestos.

The analytical program for the soil samples is outlined in the COC documentation, which is provided in Appendix F. ALS Sydney was selected as the primary laboratory, whilst ALS Brisbane was selected as the secondary laboratory as part of the quality assurance program. Both ALS Sydney and ALS Brisbane are NATA accredited for the analyses performed.

9.4 *Soil Vapour Survey*

During the soil sampling program the concentrations of ionisable volatile organic compounds (VOCs) released from the soil matrix were measured using a photoionisation detector (PID). This provides a qualitative screen of the degree to which the soil samples may be impacted with VOCs. The screening methodology involved the placement of a small portion of each sample (up to approximately 50g) into a sealed plastic 'snaplock' bag, which is kept at room temperature and out of direct sunlight for 10-20 minutes before the PID reading as taken in the headspace above the sample. The PID was calibrated using a 100 ppm isobutylene span gas prior to use.

The PID readings obtained during the soil vapour survey are presented in the soil sample log sheets (Appendix E). The concentration of ionisable vapours measured in the headspace above the majority of the soil samples ranged from 0.2 ppm to 0.6 ppm (v/v isobutylene equivalent), which are low and indicate that the soils are unlikely to be impacted with VOCs.

10. QUALITY ASSURANCE PROGRAM

Quality assurance (QA) of data was a key component of this investigation in order to appraise the representativeness and integrity of samples and accuracy and reliability of the analytical results. This is in accordance with the NEPM and AS 4482.1-2005.

The QA procedures, actions and checks implemented during the investigation included:

- The utilisation of appropriate sampling methods in accordance with the EPA requirements, the NEPM and other key guidelines;
- Appropriate sample handling and transportation, and analysis of samples within recommended holding times;
- The collection and analysis of quality control (QC) samples;
- Implementation of internal laboratory QC analyses; and
- The use of National Association of Testing Authorities (NATA) registered laboratories (primary and secondary) and methods.

10.1 Quality Control Sampling

Inaccuracies in sampling and analytical programs can result from many causes, including collection of unrepresentative samples, cross contamination between samples, unanticipated interferences between elements during laboratory analyses, equipment malfunctions and operator error. Inappropriate sampling, preservation, handling, storage and analytical techniques can also reduce the precision and accuracy of results.

In order to address these potential data quality issues, a field-based QC program was undertaken to measure the effectiveness of the QA procedures by comparison with acceptance criteria. The NEPM has documented procedures for QC sampling and analysis to ensure that the required degree of accuracy and precision is obtained. The NEPM and EPA guidelines recommend the use of two laboratories for the implementation of a field QC program in addition to the internal QC procedures followed by the laboratories, which are required in accordance with their NATA registration.

According to the NEPM the collection of intra and inter-laboratory duplicate samples is required, along with blank samples. Intra-laboratory and inter-laboratory samples are duplicates of primary samples that are collected in the field. Intra-laboratory samples are analysed by the primary laboratory and are used as a check on the precision of the sampling and analytical procedures. Inter-laboratory samples are analysed by a secondary laboratory and provide a check as to the accuracy of the analytical data.

Rinsate blanks are samples of water collected from field equipment after decontamination, and are used to determine the effectiveness of the decontamination procedures. Trip blanks are samples of deionised water prepared prior to sampling, and are stored and transported with the samples. They are used to identify laboratory errors or to identify sources of contamination due to sample storage and handling.

According to the NEPM a split of a minimum of 10% of the primary samples as field duplicate samples (5% inter-laboratory and 5% intra-laboratory) as well as blanks is required. Where less than 20 samples are to be analysed, a minimum of two field duplicate samples (one inter-laboratory and one intra-laboratory) and a blank is generally considered sufficient. Blanks are generally collected on each day that sampling is performed, and are analysed where necessary.

For this contamination assessment the following field quality control samples were collected and analysed:

- One intra-laboratory duplicate sample; and
- One inter-laboratory duplicate sample.

In view of the rigorous field-based decontamination procedures and sample storage protocols that were implemented during the investigation, and that the PID survey results showed the samples were not likely to be impacted with VOCs, the collection of rinsate and trip blank samples was not considered necessary.

10.2 Quality Control Criteria

A check on the comparability of the field duplicate sample results is achieved by calculating the Relative Percent Difference (RPD). RPDs are calculated as the absolute value of the difference between the primary and duplicate sample results, divided by the average value, expressed as a percentage.

According to AS 4482.1-2005 (and referenced in the NEPM) RPDs below 50% are considered to demonstrate good correlation between duplicate sample results. However, AS 4482.1-2005 also states that the acceptable variation between results can be higher for organic analytes than for inorganics, and for low concentrations of analytes. In view of this, and based on STS's experience, RPDs up to 70% are considered to be acceptable for organic species. RPDs of 100% or more are generally considered to demonstrate poor correlation unless results are less than five times the laboratory detection limits.

10.3 Laboratory Quality Control

A laboratory QC program involves the preparation and analysis of their own duplicate samples, reagent blanks and control samples (where the analyte concentration is known) or matrix spikes. Duplicate samples are subjected to the same preparation and analytical procedures as primary samples. The laboratories are required to analyse matrix spikes or control samples at a minimum frequency of 5% of the total number of primary samples in each sample batch.

The results of method blanks, duplicates and control sample analyses are compared by the laboratory to established quality assurance criteria for data precision and accuracy. If the results do not meet the criteria, then the analyses should be repeated. The relevant criteria are:

- Method blanks should not return any positives on analysis;
- Duplicate samples should not vary by more than 35% from the mean result; and
- Control samples should generally give a recovery of 75-125%.

11. ASSESSMENT CRITERIA

Current EPA guidelines state that the key criteria for assessing potentially contaminated sites in New South Wales are the Soil Investigation Levels (SILs), which are outlined in *Guidelines for the NSW Site Auditor Scheme, 2nd Edition* (DEC, 2006). The SILs have been adopted from Schedule B(1) of the National Environmental Protection Council document *National Environmental Protection (Assessment of Site Contamination) Measure 1999* (NEPM).

The NEPM criteria comprise Health-Based Investigation Levels (HILs) and the Ecologically-Based Investigation Levels (EILs). The HILs are threshold values that are indicative of potential adverse impacts to human health, whilst the EILs are values that indicate a potential phytotoxic effect to plants.

In recent years the 1999 NEPM has been under review, with an updated set of documents being released in April 2013 and which has been officially endorsed by EPA. The new 2013 NEPM has been developed using essentially the same framework as the 1999 version, however, it does provide updated HIL criteria for a range of chemical contaminants. It also builds on the EILs provided in the 1999 NEPM by outlining a more comprehensive set of EILs and environmental screening levels (ESLs), which are designed not only to be indicative thresholds for phytotoxic effects to plants, but to be protective of ecosystems generally. The new EILs/ESLs are generally less conservative than the 1999 EILs, however their use requires key soil chemistry data, specifically the pH and cation exchange capacity (CEC) of the soils on a particular site. In the absence of pH and CEC data the original EIL criteria may still be used as a screening tool for the evaluation of potential adverse impacts to plants.

Further, the 2013 NEPM outlines criteria for key volatile hydrocarbon compounds which are designed to be protective of human-health via a soil vapour inhalation exposure pathway (termed Health Screening Levels (HSLs)). The 2013 NEPM criteria should be used for environmental assessments in the Australian context as they are the most current and comprehensive set of screening criteria available. That is, they are used in preference to the SILs.

There are four main categories of HIL outlined in the 2013 NEPM, which are each used to appraise the risks posed by site contamination for different land use settings. These include:

Residential A: for a 'standard' residential land use with gardens and accessible soil, including children's day care centres, preschools and primary schools.

Residential B: for a residential land use with minimal opportunities for soil access, including properties with fully and permanently paved yard space such as high-rise apartments and flats

Recreational C: for parks, recreational open space, playing fields, including secondary schools

Commercial/Industrial D: for a commercial/industrial land use.

It is noted that the NEPM HILs do not provide criteria for some petroleum hydrocarbon compounds. In the absence of HIL criteria the '*threshold concentrations for a sensitive land use*' (EPA Threshold Concentrations) outlined in EPA's "*Guidelines for Assessing Service Station Sites*" (EPA, 1994) may be used, however, the 1999 NEPM HILs do provide threshold values for hydrocarbon fractions that may be adopted provided that speciation testing is undertaken for specific aromatic and aliphatic components.

Where a proposed land use will include more than one land use category (e.g. mixed residential/commercial development) the criteria which are protective of the most sensitive of the combined land uses should be adopted.

11.1 Criteria for this Assessment

A mixed commercial and high-density residential land use is proposed for the site, which will involve the construction of a multi-story unit complex on the land with a basement car parking area. Therefore, the HILs (Residential B) criteria are the most applicable and have been adopted for this investigation. The EPA Threshold Concentrations have also been adopted for petroleum hydrocarbon compounds in the absence of HIL criteria. In addition, the HSLs for vapour intrusion have been considered.

Whilst a building is proposed to cover the majority of the site post-development, a communal open space area will also form the southern portion of the site. In view of this, the EILs/ESLs are considered to be relevant and have therefore been used for this investigation.

The criteria adopted for this investigation are outlined in Table 11.1 below.

TABLE 11.1 – SITE SOIL ASSESSMENT CRITERIA
(all concentrations in units of mg/kg)

Contaminant	HIL Residential B Criteria	HSL Residential B Criteria[3]	EIL/ESL[6]	EPA Threshold Concentrations
Inorganics				
Arsenic (total)	500		20[8]	
Beryllium	90			
Boron	40000			
Cadmium	150		3[8]	
Chromium	500[1]		400[8,9]	
Cobalt	600			
Copper	30000		100[8]	
Lead	1200		600[8]	
Manganese	14000		500[8]	
Mercury	120[2]		1[2,8]	
Nickel	1200		60[8]	
Zinc	60000		200[8]	

[1] Criterion for hexavalent chromium
[2] Criterion for inorganic mercury
[3] HSL for clay soils within 1 m of the land surface
[4] F1 TPH = TPH (C_6-C_{10}) minus BTEX fraction
[5] F2 TPH = TPH (C_{10}-C_{16}) minus naphthalene fraction
[6] Criterion for fine texture grade soils in an urban residential setting
[7] Criterion for free cyanide
[8] 1999 NEPM EIL criterion
[9] Criterion for total chromium

TABLE 11.1 – SITE SOIL ASSESSMENT CRITERIA
(all concentrations in units of mg/kg)

Contaminant	HIL Residential B Criteria	HSL Residential B Criteria[3]	EIL/ESL[6]	EPA Threshold Concentrations
Organics				
F1 TPH (C_6-C_{10})[4]		50	180	
F2 TPH (C_{10}-C_{16})[5]		280	120	
F3 TPH (C_{16}-C_{34})			1300	
F4 TPH (C_{34}-C_{40})			5600	
TPH (C_6-C_9)				65
TPH (C_{10}-C_{36})				1000
Benzene		0.7	65	1
Toluene		480	105	1.4
Ethyl benzene			125	3.1
Total Xylenes		110	45	14
Naphthalene		5		
Total PAHs	400			
Carcinogenic PAHs	4			
Aldrin + Dieldrin	10			
Chlordane	90			
DDT+DDD+ DDE	600			
Heptachlor	10			
PCBs	1			
Phenols	45000			
Cyanide	300[7]			

[1] Criterion for hexavalent chromium
[2] Criterion for inorganic mercury
[3] HSL for clay soils within 1 m of the land surface
[4] F1 TPH = TPH (C_6-C_{10}) minus BTEX fraction
[5] F2 TPH = TPH (C_{10}-C_{16}) minus naphthalene fraction
[6] Criterion for fine texture grade soils in an urban residential setting
[7] Criterion for free cyanide
[8] 1999 NEPM EIL criterion
[9] Criterion for total chromium

12. ANALYTICAL RESULTS AND INTERPRETATION

The analytical results for the soil samples are presented in the NATA endorsed laboratory reports included in Appendix G and are summarised Table A in the Tables of Results attached to this report. The results exceeding the assessment criteria are highlighted in the tables accordingly.

12.1 *Evaluation of Human-Health Impacts*

The results show that the concentrations of organic and inorganic species analysed for are low and do not exceed the HIL/HSL Residential B criteria or the EPA Threshold Concentrations. Also, no asbestos fibres were detected in the soil samples analysed for asbestos. Therefore, the concentrations of chemical contaminants that have been measured in the soil samples are below criteria that are protective of human-health for a high-density residential land use setting.

12.2 *Evaluation of Environmental Impacts*

The results show that the concentrations of organic and inorganic species analysed for are low and do not exceed the NEPM EIL/ESL criteria or the EPA Threshold Concentrations with the exception of zinc.

The zinc concentrations measured in three samples (216 mg/kg to 598 mg/kg) are slightly above the adopted EIL for zinc of 200 mg/kg. However, the EIL criteria are known to be highly conservative and zinc is not an acutely phytotoxic metal. That is, the zinc concentrations measured in the soils are not likely to present an unacceptable risk to plant health or the environment generally.

12.3 *Risk of Groundwater Impacts*

In view of the low concentrations of chemical contaminants measured in the soils on the site, it is unlikely that the site has contributed to any unacceptable groundwater impacts.

12.4 *Potential for Off-Site Migration of Contamination*

In view of the low concentrations of contaminants measured in the soils on the site, off-site migration of contamination via surface runoff or wind action is not likely to have occurred. Further, as outlined in Section 12.4 above, the site is not likely to have resulted in any groundwater impacts, in which case there is negligible potential for contaminated groundwater to be migrating off-site.

12.5 Duty to Report Site Contamination

Under the provisions of the *Contaminated Land Management Act 1997* (CLM Act), a site owner or occupant has a duty to notify EPA of any significant contamination that has the potential to cause human-health or environmental impacts. The requirements for reporting contamination are outlined in EPA's Guidelines on the *Duty to Report Contamination Under the Contaminated Land Management Act 1997*, which became effective on 1 December 2009. This guideline outlines the specific triggers which need to be considered for notifiable contamination under the CLM Act.

Where contaminants exceed their SIL criteria by more than 2.5 times or where the average concentrations of contaminants in soil exceed the applicable SILs, EPA must be notified. In the case of asbestos for which no SIL is available, the presence of free asbestos fibres in soil that is accessible to humans and susceptible to the generation of dust would present sufficient risk as to necessitate notification. Further, it should be noted that the Duty to Report Guidelines do not define notification thresholds for all contaminants. EPA has advised that where no criteria are listed, the need to submit a notification (or otherwise) should be based on advice provided by an environmental consultant.

The concentrations of chemical contaminants measured in the soils on the site are well below the SILs (Column 4) criteria for a commercial/industrial land use setting, that being the current use. Therefore, there would be no need to notify EPA based on currently available data.

12.6 Assessment Outcomes

Based on the result of this investigation, the concentrations of chemical contaminants in the soil on the site appear to be low and would not present an unacceptable risk to human-health or the environment for a high-density residential land use setting. That is, the site is expected to be suitable for the proposed mixed commercial and high-density residential redevelopment. However, further soil sampling will be necessary prior to bulk excavation of the site in order to appropriately classify the soils for off-site disposal purposes.

13. EVALUATION OF QUALITY ASSURANCE

13.1 Field Duplicate Sample Results

The results of the field intra and inter-laboratory duplicate sample analyses are compared to those of the corresponding primary samples in Table B. The results show that the variations between the primary and duplicate sample results are below the allowable Relative Percentage Difference (RPD) criteria of 50% for inorganic species and 70% for organic analytes in all but two of the 66 comparable data sets, which is an acceptable rate of correlation.

The discrepancies encountered are expected to be due to the heterogeneous distribution of heavy metals within fill material and also small actual variations between low concentration results. Further, the contaminant concentrations in both the primary and duplicate samples are well below the assessment criteria adopted for this investigation. Therefore, the RPD discrepancies do not affect the outcome of the investigation.

13.2 Laboratory Quality Control Program

Our review of the laboratory's internal QC program has shown that the majority of internal duplicate samples, spike recoveries, surrogate standards and laboratory blanks were within the laboratories' recommended range for acceptable reproducibility. Therefore, STS considers the laboratory data obtained in the sampling program to be of acceptable precision, accuracy and reliability and representative of the site conditions encountered.

13.3 Procedure Based Quality Control

An appraisal of the key procedure-based quality control aspects of the investigation are summarized in Table 13.1 below.

Table 13.1 Appraisal of Procedure-Based Quality Control

Item	Compliance	Reference/Comments
Appropriate sampling methods adopted?	Yes	Refer to Sections 9.1 and 9.2
Appropriate sample handling and transportation procedures implemented?	Yes	Refer to Sections 9.2 and COC documentation in Appendix F
Samples analysed within recommended laboratory holding times?	Yes	Refer to COC documentation in Appendix F and laboratory reports in Appendix G
NATA accredited laboratory testing methods used?	Yes	Refer to laboratory reports in Appendix G

14. CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the PSI, the following conclusions and recommendations are made:

- The site was initially used for residential purposes and this use of the land continued in the eastern portion of the site until the 1990s. However, two allotments which form the western portion of the site had been redeveloped for a commercial/industrial use by the mid-1990s. By 2002 the remnant houses in the east of the site had been removed, and this portion of the property has remained undeveloped until the present day, although this area has been used for the storage of miscellaneous goods or materials and for car parking. Known or expected commercial/industrial activities that have occurred at the site include the maintenance and repair of motor vehicles and the storage of building materials.
- The results of the soil sampling program performed for this investigation show that the concentrations of chemical contaminants measured in the soil samples retrieved from the site are low and below levels that would present an unacceptable risk to human-health and the environmental for a high density residential land use setting. That is, the site is expected to be suitable for the proposed mixed commercial and high-density residential redevelopment. However, further soil sampling will be necessary prior to redevelopment in order to appropriately classify the soils within the footprint of the proposed basement area for off-site disposal purposes.

15. LIMITATIONS

SMEC Testing Services Pty Limited has performed its services for this project in accordance with its current professional standards. Laboratory analyses were undertaken as part of this investigation by Australian Laboratory Services, who are NATA accredited for the analyses performed.

When assessing the extent of contamination across a site from a soil sampling program there is the possibility that variations may occur between sample locations and the actual presence of contaminated material at the site may differ from that referred to herein, since no sampling program, no matter how comprehensive, can reveal all anomalies and hot spots that may be present.

The data collected has been used to form an opinion about site contamination with regard to the proposed use of the site, that being a mixed commercial and high-density residential use. If the nature of the proposed development changes, the conclusions given in this report may need to be revised. Also, regulatory evaluation criteria are constantly changing and as a consequence, concentrations of contaminants presently considered low may, in the future, fall under different regulatory standards that may alter the outcome of this investigation. Opinions and judgments expressed herein, which are based on our understanding and interpretation of current regulatory standards, should not be construed as legal opinions.

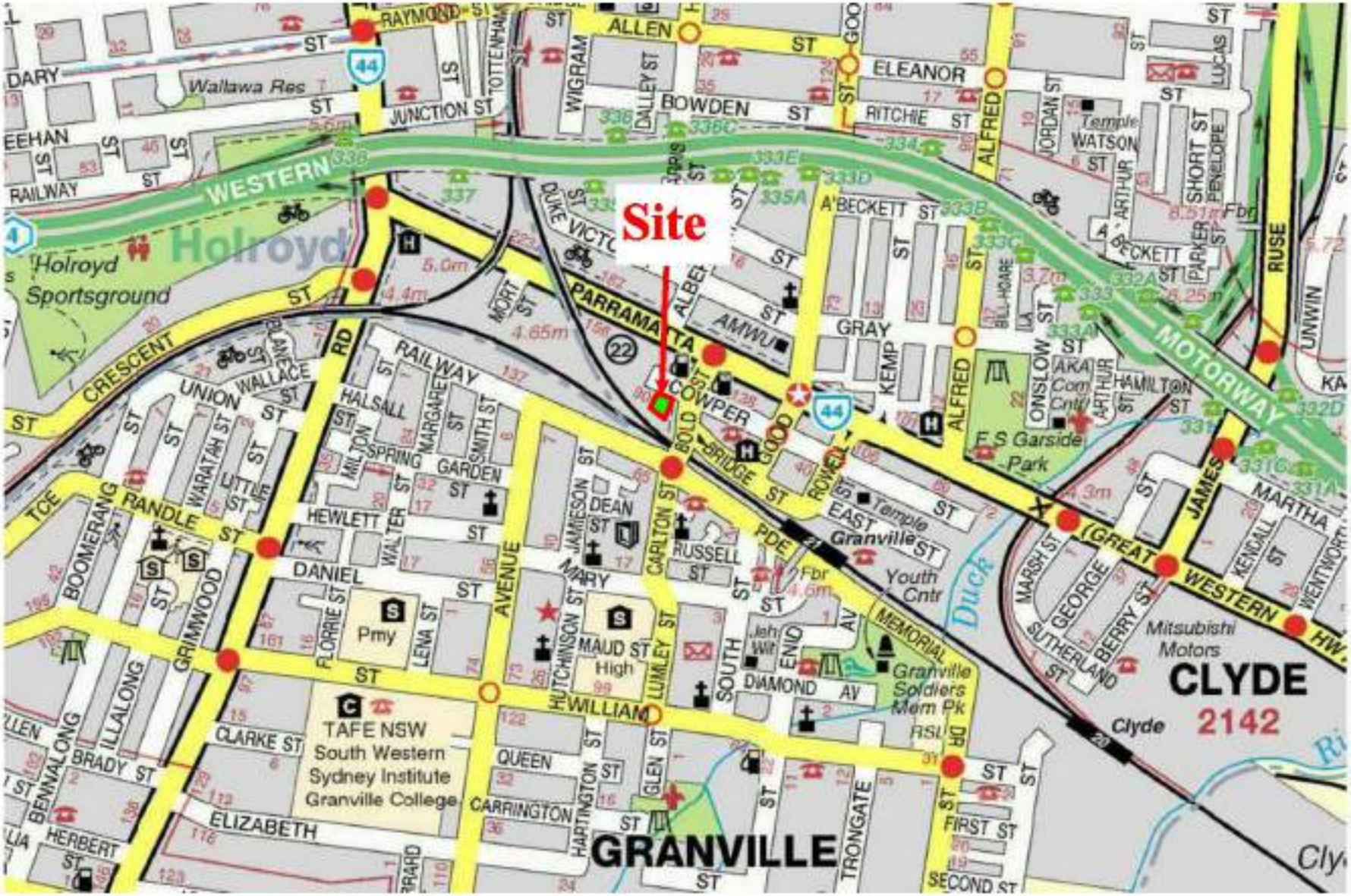
This document and the information herein have been prepared solely for the use of Designer Home Construction Pty Limited for the purposes nominated in this report. No person or organization other than Designer Home Construction Pty Limited is entitled to rely on any part of the report without the prior written consent of SMEC Testing Services Pty Ltd. Any third party relying on this report shall have no legal recourse against SMEC Testing Services Pty Ltd or its parent organizations or subsidiaries and shall indemnify and defend them from all and against all claims arising out of, or in conjunction with such use or reliance.

David Yonge (BSc, MSc)
Environmental Manager,
SMEC Testing Services Pty Limited

Natasha Ryan (BSc)
Environmental Scientist,
SMEC Testing Services Pty Limited

SMEC Testing Services

FIGURES



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SMEC TESTING SERVICES Pty Ltd	Scale: 1:9450 (at A4)	Date: July 2014
Client: DESIGNER HOMES CONSTRUCTIONS PTY LIMITED		
PRELIMINARY SITE INVESTIGATION **Land at 2-6 Bold Street and 80-82 Cowper Street, Granville, NSW: Site Location**	Project No. 19305/3375C	
	Drawing No: 14/1648/1	

N

Legend

Boundary of Site

BH1 Borehole Number & Location

SMEC TESTING SERVICES Pty Ltd	Scale: 1:500 (at A4)	Date: July 2014
Client: DESIGNER HOME CONSTRUCTIONS PTY LIMITED		
PRELIMINARY SITE INVESTIGATION **Land at 2-6 BOLD and 80-82 Cowper Street, Granville, NSW: Site Features and Sampling Locations**		Project No. 19305/3375C Drawing No: 14/1646/2

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TABLES OF RESULTS

Table A Analytical Results for Soil Samples

Analyte	Borehole No.	BH1	BH1	BH2	BH2	BH3	BH3	BH4	NEPM Background Ranges	NSW EPA Threshold Concentrations	NEPM ESLs/ESLs for an Urban Residential Setting	NEPM 2013 HIL/HSL Residential B Criteria
	Sample No.	B1	B2	B3	B4	B5	B9	B10				
Metals												
Arsenic		11	11	14	14	10	8	5	1-50		100 (a)	500
Barium		290	30		70		40		100-3000		300 (c)	
Beryllium		<1	<1		<1		<1					90
Boron		<50	<50		<50		<50					40000
Cadmium		<1	<1	<1	<1	<1	<1	<1	1		3 (c)	150
Chromium		25	35	29	37	25	22	12	5-1 000		400 (c),(d)	500 (g)
Cobalt		3	<2		<2		12		1-40			900
Copper		39	7	55	11	22	16	32	2-100		100 (c)	30000
Lead		541	16	335	36	88	21	128	2-200		1100 (b)	1200
Manganese		220	8		36		23		500		500 (c)	14500
Mercury		0.1	<0.1	0.1	<0.1	0.2	<0.1	<0.1	0.001-0.1 (a)		1 (c),(e)	120 (e)
Nickel		8	<2	8	4	3	<2	9	2-500		60 (c)	1200
Selenium		<5	<5		<5		<5					1400
Vanadium		69	101		107		62		20-500			
Zinc		558	12	348	216	70	16	67	10-300		200 (c)	60000
Monocyclic Aromatic Hydrocarbons (MAHs)												
Benzene		<0.2		<0.2	<0.2	<0.2		<0.2	0.05-1 (a)	1	65 (f)	0.7 (h)
Ethylbenzene		<0.5		<0.5	<0.5	<0.5		<0.5		3.1	125 (f)	
Toluene		<0.5		<0.5	<0.5	<0.5		<0.5	0.1-1 (a)	1.4	105 (f)	680 (h)
Xylenes		<1.0		<1.0	<1.0	<1.0		<1.0		14	45 (f)	110 (h)
Naphalene		<1		<1	<1	<1		<1				5 (h)
Total MAHs above detection limits		ND		ND	ND	ND		ND				
Halogenated Aliphatic Compounds (HALCs)												
Total HALCs above detection limits		ND						ND				
Halogenated Aromatic Compounds (HARCs)												
Total HARCs above detection limits		ND						ND				
Trihalomethanes (THMs)												
Total THMs above detection limits		ND						ND				
Fumigants												
Total fumigants above detection limits		ND						ND				
Total Petroleum Hydrocarbons (TPHs)												
Total C_6-C_9		<10		<10	<10	<10		<10		65		
F1 C_6-C_{10}		<10		<10	<10	<10		<10			180 (f)	50 (h)
F2 C_{10}-C_{16}		<50		<50	<50	<50		<50			120 (f)	280 (h)
F3 >C_{16}-C_{34}		<100		<100	<100	<100		<100			1300 (f)	
F4 >C_{34}-C_{40}		<100		<100	<100	<100		<100			3600 (f)	
Total C_{10}-C_{36}		<50		<50	<50	<50		<50		1000		
Polycyclic Aromatic Hydrocarbons (PAHs)												
Carcinogenic PAHs*		<0.5		<0.5	<0.5	<0.5		<0.5				4
Total PAHs above detection limits		<0.5		<0.5	<0.5	<0.5		<0.5	0.95-5 (a)			400
Organochlorine Pesticides (OCPs)												
Dieldrin			<0.05	0.14			<0.05	<0.05				6 (i)
4-4-DDE			<0.05	0.25			<0.05	<0.05				240 (j)
Total OCPs above detection limits			ND	0.39			ND	ND				
Organophosphorus Pesticides (OPPs)												
Total OPPs above detection limits			ND	ND			ND	ND				
Phenolic Compounds												
Total Phenols				ND				ND	0.03-0.5 (a)			45000
Polychlorinated biphenyls (PCBs)												
Total PCBs above detection limits				<0.1				<0.1	0.03-0.1 (a)			1
Total Cyanide		<1		-		<1						300 (k)
Asbestos		ND		ND		ND	ND					

Notes: Results expressed as mg/kg unless otherwise indicated

ND = No individual species detected above laboratory detection limits.

* Calculated in accordance with Table 1A(3) of NEPM 2013

* Combined carcinogenic PAHs with relative potency to benzo(a)pyrene

Results shaded green exceed the NSW EPA threshold concentrations for a sensitive land use.

Results shaded blue exceed the NEPM 2013 ESL criteria for a commercial/industrial land use setting

Results shaded red exceed the NEPM 2013 HIL/HSL Residential B criteria

(a) ANZECC background ranges used where no NEPM criteria available.
(b) NEPM 2013 generic ESL criterion
(c) NEPM 1999 ESL criterion
(d) Criterion for chromium (III).
(e) Criterion for inorganic mercury.
(f) NEPM 2013 ESL fine texture grade soils
(g) Criterion for chromium (VI).
(h) NEPM 2013 HSL criterion for vapour intrusion, 0-1m depth in clay soils
(i) Criterion for combined aldrin & dieldrin
(j) Criterion for combined DDT, DDE & DDD
(k) Criterion for free cyanide

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Table B Results of Quality Control - Intra Laboratory and Inter Laboratory Duplicate Soil Samples

Analyte	Sample Numbers					
	S6	S7[1]	RPD (%)	S8	S8[2]	RPD (%)
Metals						
Arsenic	10	8	22	10	7	35
Cadmium	<1	<1	<70	<1	<1	<70
Chromium	25	16	33	25	20	22
Copper	22	22	0	22	26	17
Lead	66	36	57	68	46	39
Mercury	0.2	0.1	67	0.2	0.2	0
Nickel	3	2	40	3	3	0
Zinc	70	62	12	70	70	0
Monocyclic Aromatic Hydrocarbons (MAHs)						
Benzene	<0.2	<0.2	<70	<0.2	<0.2	<70
Ethylbenzene	<0.5	<0.5	<70	<0.5	<0.5	<70
Toluene	<0.5	<0.5	<70	<0.5	<0.5	<70
Xylenes	<1.0	<1.0	<70	<1.0	<1.0	<70
Napthalene	<1	<1	<70	<1	<1	<70
Total Petroleum Hydrocarbons (TPHs)						
Total C_6-C_{10}	<10	<10	<70	<10	<10	<70
Total C_{10}-C_{16}	<50	<50	<70	<50	<50	<70
Total C_{16}-C_{34}	<100	<100	<70	<100	<100	<70
Total C_{34}-C_{40}	<100	<100	<70	<100	<100	<70
Polycyclic Aromatic Hydrocarbons (PAHs)						
Acenaphthene	<0.5	<0.5	<70	<0.5	<0.5	<70
Acenaphthylene	<0.5	<0.5	<70	<0.5	<0.5	<70
Anthracene	<0.5	<0.5	<70	<0.5	<0.5	<70
Benz(a)anthracene	<0.5	<0.5	<70	<0.5	<0.5	<70
Benzo(a)pyrene	<0.5	<0.5	<70	<0.5	<0.5	<70
Benzo(b)fluoranthene	<0.5	<0.5	<70	<0.5	<0.5	<70
Benzo(k)fluoranthene	<0.5	<0.5	<70	<0.5	<0.5	<70
Benzo(g,h,i)perylene	<0.5	<0.5	<70	<0.5	<0.5	<70
Chrysene	<0.5	<0.5	<70	<0.5	<0.5	<70
Dibenzo(a,h)anthracene	<0.5	<0.5	<70	<0.5	<0.5	<70
Fluoranthene	<0.5	<0.5	<70	<0.5	<0.5	<70
Fluorene	<0.5	<0.5	<70	<0.5	<0.5	<70
Indeno(1,2,3-cd)pyrene	<0.5	<0.5	<70	<0.5	<0.5	<70
Naphthalene	<0.5	<0.5	<70	<0.5	<0.5	<70
Phenanthrene	<0.5	<0.5	<70	<0.5	<0.5	<70
Pyrene	<0.5	<0.5	<70	<0.5	<0.5	<70

Note: Results expressed as mg/kg dry weight.

[1] Denotes intra-laboratory duplicate sample analysed by primary laboratory (ALS Sydney)

[2] Denotes inter-laboratory duplicate sample analysed by secondary laboratory (ALS Brisbane)

RPDs that have been shaded exceed the acceptance criteria

SMEC Testing Services

APPENDIX A

AERIAL PHOTOGRAPHY

2005 Aerial Photograph Showing the Site and its Surrounds

Site boundary

Source: Department of Lands

2002 Aerial Photograph Showing the Site and its Surrounds

Site boundary

Source: Department of Lands

1994 Aerial Photograph Showing the Site and its Surrounds

Site boundary

Source: Department of Lands

1986 Aerial Photograph Showing the Site and its Surrounds

Site boundary

Source: Department of Lands

1972 Aerial Photograph Showing the Site and its Surrounds

Site boundary

Source: Department of Lands

1961 Aerial Photograph Showing the Site and its Surrounds

Site boundary

Source: Department of Lands

1951 Aerial Photograph Showing the Site and its Surrounds

Site boundary

Source: Department of Lands

1928 Aerial Photograph Showing the Site and its Surrounds

Site boundary

Source: Department of Lands

APPENDIX B

SECTION 149 (2) CERTIFICATES

PLANNING CERTIFICATE

CERTIFICATE UNDER SECTION 149

Environmental Planning and Assessment Act, 1979 as amended

SAI Global Property Division Pty Ltd
DX 885
SYDNEY

Certificate No:	2013/3531
Fee:	$53.00
Issue Date:	22 August 2013
Receipt No:	3933614
Applicant Ref:	15796952

DESCRIPTION OF LAND

Address:	2 Bold Street GRANVILLE NSW 2142
Lot Details:	Lots 19 & 20 DP 7553

SECTION A

The following Environmental Planning Instrument to which this certificate relates applies to the land:

Parramatta Local Environmental Plan 2011

For the purpose of **Section 149(2)** it is advised that as the date of this certificate the abovementioned land is affected by the matters referred to as follows:

RECEIVED
27 AUG 2013

If you do not understand this letter, please ring the Telephone Interpreter Service (131 450) and ask them to contact Council (9806 5050). Office hours are 8.30am to 4.30pm, Mondays to Fridays.

ARABIC

إذا لم تستطع فهم هذه الرسالة، الرجاء الاتصال بخدمة الترجمة الهاتفية على رقم ١٣١ ٤٥٠ وأسألهم أن يتصلوا بالبلدية على رقم ٩٨٠٦ ٥٠٥٠. دوام ساعات العمل هي من الساعة ٨:٣٠ صباحاً الى ٤:٣٠ بعد الظهر من الاثنين الى الجمعة.

CHINESE

如您看不懂此信，請打電話給「電話翻譯服務台」（131 450）請他們聯絡市政廳（市政廳電話 9806 5050）。市政廳辦公時間：星期一至星期五，上午八點半至下午四點半。

CROATIAN

Ako ne razumijete ovo pismo, molimo nazovite Službu prevodilaca i tumača (Translating and Interpreting Service – na broj 131 450) i zamolite ih da nazovu Općinu (na 9806 5050). Radno vrijeme je od 8.30 ujutro do 4.30 popodne, od ponedjeljka do petka.

FRENCH

Si vous avez des difficultés à comprendre cette lettre, vous pouvez contacter le service d'interprètes par téléphone au 131 450 et leur demander de contacter la mairie (Council) au 9806 5050. Les bureaux de la mairie sont ouverts du lundi au vendredi de 8h30 à 16h30.

GERMAN

Wenn Sie diesen Brief nicht verstehen können, rufen Sie bitte den Telefon Dolmetscher Dienst (Telephone Interpreter Service) (131 450) an und lassen Sie sich vom Personal mit dem Gemeinderat (Council) in Verbindung setzen (9806 5050). Geschäftsstunden sind von 8:30 bis 16:30 Uhr, montags bis freitags.

GREEK

Αν δεν καταλαβαίνετε αυτό το γράμμα, σας παρακαλούμε να τηλεφωνήσετε την Τηλεφωνκή Υπηρεσία Διερμηνέων (131 450) και να τους ζητήσετε να επικοινωνήσουν με το Δημοτικό Συμβούλιο (9806 5050). Τα γραφεία του είναι ανοιχτά από τις 8.30 πμ μέχρι τις 4.30 μμ, από Δευτέρα μέχρι και Παρασκευή.

HINDI

अगर आप इस पत्र को पढ़कर समझ नहीं पाते हैं तो टेलीफ़ोन अनुवादक सेवा (फ़ोन नंबर १३१ ४५०) को फ़ोन कीजिए और उन्हें काउंसिल (फ़ोन नंबर ९८०६ ५०००) से बात कराने के लिए कहिएगा। आफ़िस का समय प्रातः ८:३० से सायं ४:३० बजे प्रतिदिन सोमवार से शुक्रवार ।

ITALIAN

Se non comprendi questa lettera, telefona al Servizio traduzioni e interpreti al numero 131 450 chiedendo di essere messo in contatto con il Comune (telefono 9806 5050). Orario d'ufficio: ore 8.30-16.30, dal lunedì al venerdì.

KOREAN

만일 이 편지를 이해하지 못하시면, 전화 통역 서비스 (131 450)에 전화하여 카운슬 (9806 5050)에 연락해 달라고 부탁하십시오. 근무 시간은 월-금, 오전 8시 30분부터 오후 4시 30분까지입니다.

MALTESE

Jekk ma tifhimx din-l-ittra, jekk jogħġbok ċempel lis-Servizz ta' l-Interpretu (131 450) u itlobhom biex jikkuntatjaw lill-Kunsill (9806 5050). Il-ħinijiet ta' l-Uffiċċju huma mit-8.30 a.m. sal-4.30 p.m., mit-Tnejn sal-Ġimgħa.

POLISH

Jeśli nie rozumiesz treści niniejszego pisma, zadzwoń do Telefonicznego Biura Tłumaczy (Telephone Interpreter Service) pod numer 131 450 i poproś o telefoniczne skontaktowanie się w Twoim imieniu z Radą Miejską pod numerem 9806 5050. Godziny urzędowania: 08.30-16.30 od poniedziałku do piątku.

SPANISH

Si Ud. no entiende esta carta, por favor llame al Servicio Telefónico de Intérpretes (131 450) y pídales que llamen a la Municipalidad (Council) al 9806 5050. Las horas de oficina son de 8:30 am a 4:30 pm, de lunes a viernes.

TAGALOG

Kung hindi ninyo maunawaan ang liham na ito, tawagan lamang ang Telephone Interpereter Service (131 450) at makiusap na makipag-alam sila sa Konseho para sa inyong kapakanan (9806 5050). Oras ng trabaho 8.30 n.u. hanggang 4.30 n.h., Lunes hanggang Biyernes.

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National Relay Number: 133 677

Callers who are deaf or have a hearing impairment or speech/communication impairment may call through the National Relay Service using modem or textphone (TTY) by dialling 133 677 and quoting Parramatta City Council's Customer Service Number, 9806 5050.

The land is zoned: B4 Mixed Use PLEP2011

Issued pursuant to Section 149 of the Environmental Planning and Assessment Act, 1979.
NOTE: This table is an excerpt from Parramatta Local Environmental Plan 2011 and must be read in conjunction with and subject to the other provisions of that instrument, and in force at that date.

1 Objectives of zone

- To provide a mixture of compatible land uses.
- To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling.
- To encourage development that contributes to an active, vibrant and sustainable neighbourhood.

2 Permitted without consent

Home occupations

3 Permitted with consent

Boarding houses; Building identification signs; Business identification signs; Child care centres; Commercial premises; Community facilities; Educational establishments; Entertainment facilities; Function centres; Hotel or motel accommodation; Information and education facilities; Medical centres; Passenger transport facilities; Recreation facilities (indoor); Registered clubs; Respite day care centres; Restricted premises; Roads; Seniors housing; Shop top housing; Water recycling facilities; Any other development not specified in item 2 or 4

4 Prohibited

Agriculture; Air transport facilities; Airstrips; Amusement centres; Animal boarding or training establishments; Boat building and repair facilities; Boat launching ramps; Boat sheds; Camping grounds; Caravan parks; Cemeteries; Charter and tourism boating facilities; Crematoria; Depots; Dual occupancies; Dwelling houses; Eco-tourist facilities; Electricity generating works; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Freight transport facilities; Heavy industrial storage establishments; Helipads; Highway service centres; Home industries; Home occupations (sex services); Industrial retail outlets; Industrial training facilities; Industries; Jetties; Marinas; Mooring pens; Moorings; Mortuaries; Open cut mining; Port facilities; Recreation facilities (major); Research stations; Rural industries; Rural workers' dwellings; Secondary dwellings; Semi-detached dwellings; Sewerage systems; Sex services premises; Signage; Storage premises; Transport depots; Truck depots; Vehicle body repair workshops; Warehouse or distribution centres; Waste or resource management facilities; Water recreation structures; Water supply systems; Wharf or boating facilities; Wholesale supplies

SECTION B

State Policies and Regional Environmental Plans

The land is affected by State Environmental Planning Policies and Regional Environmental Plans as detailed in Annexure "B1".

Draft Local Environmental Plan
The land is affected by a Draft Local Environmental Plan which has been placed on Public Exhibition and has not yet been published.

Planning Proposal – Housekeeping Amendment to Parramatta LEP 2011
This land is affected by a planning proposal seeking to amend the Parramatta Local Environmental Plan 2011. The planning proposal seeks to: correct anomalies and discrepancies; update provisions in accordance with related legislative changes; and clarify dual occupancy development provisions.

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Development Contribution Plan
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Heritage Item/Heritage Conservation Area
An item of environmental heritage is not situated on the land.

The land is not located in a heritage conservation area.

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The land is not affected by road widening or road realignment under:

(a) Division 2 of Part 3 of the Roads Act 1993.
(b) Any Environmental Planning Instrument.
(c) Any Resolution of Council.

Land Reservation Acquisition
The land is not affected by Land Reservation Acquisition in Parramatta Local Environmental Plan 2011.

Site Compatibility Certificate (Seniors Housing, Infrastructure and Affordable Rental Housing)
At the date of issue of this certificate Council is not aware of any

a. Site compatibility certificate (affordable rental housing)
b. Site compatibility certificate (infrastructure)
c. Site compatibility certificate (seniors housing)

in respect to the land issued pursuant to the Environmental Planning & Assessment Amendment (Site Compatibility Certificates) Regulation 2009 (NSW).

Contamination
The land is not affected by any of the matters contained in Clause 59(2) as amended in the Contaminated Land Management Act 1997 – as listed

a. that the land to which the certificate relates is significantly contaminated land
b. that the land to which the certificate relates is subject to a management order
c. that the land to which the certificate relates is the subject of an approved voluntary management proposal
d. that the land to which the certificate relates is subject to an ongoing maintenance order
e. that the land to which the certificate relates is the subject of a site audit statement

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The land is subject to Section 5.4 Preservation of Trees or Vegetation in Parramatta Development Control Plan 2011.

Council has not been notified of an order under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

Coastal Protection
The land is not affected by Section 38 or 39 of the Coastal Protection Act 1979.

Has an order been made under Part 4D of the Coastal Protection Act 1979 in relation to temporary coastal protection works (within the meaning of the Act) on the land (or on public land adjacent to that land)?
NO

Has Council been notified under section 55x of the Coastal Protection Act 1979 that temporary coastal protection works (within the meaning of the Act) have been placed on the land (or on public land adjacent to that land)?
NO

Has the owner (or any previous owner) of the land been consented in writing to the land being subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works (within the meaning of section 553B of that Act)?
NO

Council Policy
Council has not adopted a policy to restrict the development of the land by reason of the likelihood of projected sea level rise (coastal protection), tidal inundation, subsidence or any other risk.

Council has adopted a policy covering the entire City of Parramatta to restrict development of any land by reason of the likelihood of flooding.

Mine Subsidence
The land is not affected by Section 15 of the Mine Subsidence Compensation Act 1961 proclaiming land to be a Mine Subsidence District.

Bushfire Land
The land is not bushfire prone land.

Threatened Species
The Director General with responsibility for the Threatened Species Conservation Act 1995 has not advised Council that the land includes or comprises a critical habitat.

State Environmental Planning Policy
(Exempt and Complying Development Codes) 2008

This does not constitute a Complying Development Certificate under section 85 of the EP&A Act

This information only addresses matters raised in **Clauses 1.17A (c) and (d) and 1.19** of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

It is your responsibility to ensure that you comply with the general requirements of the State Environmental Planning Policy (Exempt and Complying Codes) 2008. Failure to comply with these provisions may mean that a Complying Development Certificate issued under the provisions of State Environmental Planning Policy (Exempt and Complying Codes) 2008 is invalid.

General Housing Code
Complying development pursuant to the General Housing Code **may** be carried out on the land under **Clause 1.17A (c) and (d)**.

Complying Development pursuant to the General Housing Code **may** be carried out on the land under **Clause 1.19.**

Housing Alterations Code
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Complying Development pursuant to the General Commercial and Industrial Code may be carried out on the land under **Clause 1.19**

SPECIAL NOTES
The land is identified as Class 5 on the Acid Sulfate Soils map. Refer to Clause 6.1 of Parramatta Local Environmental Plan 2011.

Applicants for Sections 149 Certificates are advised that Council does not hold sufficient information to fully detail the effect of any encumbrances on the title of the subject land. The information available to Council is provided on the basis that neither Council nor its servants hold out advice or warrant to you in any way its accuracy, nor shall Council or its servants, be liable for any negligence in the preparation of that information. Further information should be sought from relevant Statutory Departments.

ANNEXURE "B1"

Issued pursuant to Section 149 of the Environmental Planning and Assessment Act 1979. Note:The following information is supplied in respect of Section 149 and embodies the requirements of Department of Planning Circular No. A2 dated 17 March 1989 and the Ministerial Notification dated 15 December 1986.

STATE ENVIRONMENTAL PLANNING POLICY NO.1 - Development Standards

STATE ENVIRONMENTAL PLANNING POLICY NO.4 - Development without Consent and Miscellaneous Complying Development

STATE ENVIRONMENTAL PLANNING POLICY NO.6 - Number of Storeys in a Building

STATE ENVIRONMENTAL PLANNING POLICY NO.19 - Bushland in Urban Areas

STATE ENVIRONMENTAL PLANNING POLICY NO.21 – Caravan Parks

STATE ENVIRONMENTAL PLANNING POLICY NO.22 - Shops and Commercial Premises

STATE ENVIRONMENTAL PLANNING POLICY NO.32 - Urban Consolidation (Redevelopment of Urban Land)

STATE ENVIRONMENTAL PLANNING POLICY NO.33 - Hazardous and Offensive Development

STATE ENVIRONMENTAL PLANNING POLICY NO.55 - Remediation of Land

STATE ENVIRONMENTAL PLANNING POLICY NO.60 - Exempt and Complying Development

STATE ENVIRONMENTAL PLANNING POLICY NO.64 - Advertising and Signage

STATE ENVIRONMENTAL PLANNING POLICY NO.65 – Design Quality of Residential Flat Development.

STATE ENVIRONMENTAL PLANNING POLICY NO.70 – Affordable Housing (Revised Schemes)

STATE ENVIRONMENTAL PLANNING POLICY – (Housing for Seniors or People with a Disability) 2004

STATE ENVIRONMENTAL PLANNING POLICY – (Building Sustainability Index: BASIX) 2004

STATE ENVIRONMENTAL PLANNING POLICY – (Major Development) 2005

STATE ENVIRONMENTAL PLANNING POLICY – (Mining, Petroleum Production and Extractive Industries) 2007

STATE ENVIRONMENTAL PLANNING POLICY – (Temporary Structures) 2007

STATE ENVIRONMENTAL PLANNING POLICY (Infrastructure) 2007

STATE ENVIRONMENTAL PLANNING POLICY (Exempt and Complying Development Codes) 2008

STATE ENVIRONMENTAL PLANNING POLICY (Affordable Rental Housing) 2009

SYDNEY REGIONAL ENVIRONMENTAL PLAN NO.9 (No.2) - Extractive Industries

SYDNEY REGIONAL ENVIRONMENTAL PLAN NO.24 - Homebush Bay Area

SYDNEY REGIONAL ENVIRONMENTAL PLAN – (Sydney Harbour Catchment) 2005

N.B. All enquiries as to the application of Draft, State and Regional Environmental Planning Policies should be directed to The Department of Planning and Infrastructure – 23-33 Bridge Street Sydney NSW 2000.

Dr Robert Lang
Chief Executive Officer

per

dated 22 August 2013

PLANNING CERTIFICATE

CERTIFICATE UNDER SECTION 149
Environmental Planning and Assessment Act, 1979 as amended

SAI Global Property Division Pty Ltd
DX 885
SYDNEY

Certificate No:	2013/3530
Fee:	$53.00
Issue Date:	22 August 2013
Receipt No:	3933614
Applicant Ref:	15796709

DESCRIPTION OF LAND

Address:	4 Bold Street GRANVILLE NSW 2142
Lot Details:	LOT 18 DP 7553

SECTION A
The following Environmental Planning Instrument to which this certificate relates applies to the land:

Parramatta Local Environmental Plan 2011

For the purpose of **Section 149(2)** it is advised that as the date of this certificate the abovementioned land is affected by the matters referred to as follows:

RECEIVED
27 AUG 2013

If you do not understand this letter, please ring the Telephone Interpreter Service (131 450) and ask them to contact Council (9806 5050). Office hours are 8.30am to 4.30pm, Mondays to Fridays.

ARABIC

إذا لم تستطع فهم هذه الرسالة، الرجاء الاتصال بخدمة الترجمة الهاتفية على رقم ١٣١ ٤٥٠ وأسألهم أن يتصلوا بالبلدية على رقم ٩٨٠٦ ٥٠٥٠. دوام ساعات العمل هي من الساعة ٨:٣٠ صباحاً الى ٤:٣٠ بعد الظهر من الاثنين الى الجمعة.

CHINESE

如您看不懂此信，請打電話給「電話翻譯服務台」(131 450)請他們聯絡市政廳（市政廳電話 9806 5050）。市政廳辦公時間：星期一至星期五，上午八點半至下午四點半。

CROATIAN

Ako ne razumijete ovo pismo, molimo nazovite Službu prevodilaca i tumača (Translating and Interpreting Service – na broj 131 450) i zamolite ih da nazovu Općinu (na 9806 5050). Radno vrijeme je od 8.30 ujutro do 430 popodne, od ponedjeljka do petka.

FRENCH

Si vous avez des difficultés à comprendre cette lettre, vous pouvez contacter le service d'interprètes par téléphone au 131 450 et leur demander de contacter la mairie (Council) au 9806 5050. Les bureaux de la mairie sont ouverts du lundi au vendredi de 8h30 à 16h30.

GERMAN

Wenn Sie diesen Brief nicht verstehen können, rufen Sie bitte den Telefon Dolmetscher Dienst (Telephone Interpreter Service) (131 450) an und lassen Sie sich vom Personal mit dem Gemeinderat (Council) in Verbindung setzen (9806 5050). Geschäftsstunden sind von 8:30 bis 16:30 Uhr, montags bis freitags.

GREEK

Αν δεν καταλαβαίνετε αυτό το γράμμα, σας παρακαλούμε να τηλεφωνήσετε την Τηλεφωνική Υπηρεσία Διερμηνέων (131 450) και να τους ζητήσετε να επικοινωνήσουν με το Δημοτικό Συμβούλιο (9806 5050). Τα γραφεία του είναι ανοιχτά από τις 8.30 πμ μέχρι τις 4.30 μμ, από Δευτέρα μέχρι και Παρασκευή.

HINDI

अगर आप इस पत्र को पढ़कर समझ नहीं पाते है तो टेलीफ़ोन अनुवादक सेवा (फ़ोन नंबर १३१ ४५०) को फ़ोन कीजिए और उन्हें काउंसिल (फ़ोन नंबर ९८०६ ५०००) से बात कराने के लिए कहिएगा। आफ़िस का समय प्रातः ८:३० से सायं ४:३० बजे प्रतिदिन सोमवार से शुक्रवार ।

ITALIAN

Se non comprendi questa lettera, telefona al Servizio traduzioni e interpreti al numero 131 450 chiedendo di essere messo in contatto con il Comune (telefono 9806 5050). Orario d'ufficio: ore 8.30-16.30, dal lunedì al venerdì.

KOREAN

만일 이 편지를 이해하지 못하시면, 전화 통역 서비스 (131 450)에 전화하여 카운슬(9806 5050)에 연락해 달라고 부탁하십시오. 근무 시간은 월~금, 오전 8시 30분부터 오후 4시 30분까지입니다.

MALTESE

Jekk na tifhimx din-l-ittra, jekk joghġbok ċempel lis-Servizz ta' l-Interpretu (131 450) u itlobhom biex jikkuntatjaw lill-Kunsill (9806 5050). Il-ħinijiet ta' l-Uffiċċju huma mit-8.30 a.m. sal-4.30 p.m., mit-Tnejn sal-Ġimgħa.

POLISH

Jeśli nie rozumiesz treści niniejszego pisma, zadzwoń do Telefonicznego Biura Tłumaczy (Telephone Interpreter Service) pod numer 131 450 i poproś o telefoniczne skontaktowanie się w Twoim imieniu z Radą Miejską pod numerem 9806 5050. Godziny urzędowania: 08.30-16.30 od poniedziałku do piątku.

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N.B. All enquiries as to the application of Draft, State and Regional Environmental Planning Policies should be directed to The Department of Planning and Infrastructure – 23-33 Bridge Street Sydney NSW 2000.

Dr Robert Lang
Chief Executive Officer

per

dated 22 August 2013

PLANNING CERTIFICATE

CERTIFICATE UNDER SECTION 149

Environmental Planning and Assessment Act, 1979 as amended

SAI Global Property Division Pty Ltd
DX 885
SYDNEY

Certificate No:	2013/3528
Fee:	$53.00
Issue Date:	22 August 2013
Receipt No:	3933614
Applicant Ref:	15796366

DESCRIPTION OF LAND

Address:	6 Bold Street GRANVILLE NSW 2142
Lot Details:	LOT 17 DP 7553

SECTION A

The following Environmental Planning Instrument to which this certificate relates applies to the land:

Parramatta Local Environmental Plan 2011

For the purpose of **Section 149(2)** it is advised that as the date of this certificate the abovementioned land is affected by the matters referred to as follows:

RECEIVED
27 AUG 2013

If you do not understand this letter, please ring the Telephone Interpreter Service (131 450) and ask them to contact Council (9806 5050). Office hours are 8.30am to 4.30pm, Mondays to Fridays.

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HINDI

अगर आप इस पत्र को पढ़कर समझ नहीं पाते हैं तो टेलीफ़ोन अनुवादक सेवा (फ़ोन नंबर १३१ ४५०) को फ़ोन कीजिए और उन्हें काउंसिल (फ़ोन नंबर ९८०६ ५०००) से बात कराने के लिए कहिएगा। आफ़िस का समय प्रातः ८:३० से सायं ४:३० बजे प्रतिदिन सोमवार से शुक्रवार ।

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TURKISH

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National Relay Number: 133 677

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The land is zoned: B4 Mixed Use PLEP2011

Issued pursuant to Section 149 of the Environmental Planning and Assessment Act, 1979.
NOTE: This table is an excerpt from Parramatta Local Environmental Plan 2011 and must be read in conjunction with and subject to the other provisions of that instrument, and in force at that date.

1 Objectives of zone
- To provide a mixture of compatible land uses.
- To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling.
- To encourage development that contributes to an active, vibrant and sustainable neighbourhood.

2 Permitted without consent
Home occupations

3 Permitted with consent
Boarding houses; Building identification signs; Business identification signs; Child care centres; Commercial premises; Community facilities; Educational establishments; Entertainment facilities; Function centres; Hotel or motel accommodation; Information and education facilities; Medical centres; Passenger transport facilities; Recreation facilities (indoor); Registered clubs; Respite day care centres; Restricted premises; Roads; Seniors housing; Shop top housing; Water recycling facilities; Any other development not specified in item 2 or 4

4 Prohibited
Agriculture; Air transport facilities; Airstrips; Amusement centres; Animal boarding or training establishments; Boat building and repair facilities; Boat launching ramps; Boat sheds; Camping grounds; Caravan parks; Cemeteries; Charter and tourism boating facilities; Crematoria; Depots; Dual occupancies; Dwelling houses; Eco-tourist facilities; Electricity generating works; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Freight transport facilities; Heavy industrial storage establishments; Helipads; Highway service centres; Home industries; Home occupations (sex services); Industrial retail outlets; Industrial training facilities; Industries; Jetties; Marinas; Mooring pens; Moorings; Mortuaries; Open cut mining; Port facilities; Recreation facilities (major); Research stations; Rural industries; Rural workers' dwellings; Secondary dwellings; Semi-detached dwellings; Sewerage systems; Sex services premises; Signage; Storage premises; Transport depots; Truck depots; Vehicle body repair workshops; Warehouse or distribution centres; Waste or resource management facilities; Water recreation structures; Water supply systems; Wharf or boating facilities; Wholesale supplies

SECTION B
State Policies and Regional Environmental Plans
The land is affected by State Environmental Planning Policies and Regional Environmental Plans as detailed in Annexure "B1".

Draft Local Environmental Plan
The land is affected by a Draft Local Environmental Plan which has been placed on Public Exhibition and has not yet been published.

Planning Proposal – Housekeeping Amendment to Parramatta LEP 2011
This land is affected by a planning proposal seeking to amend the Parramatta Local Environmental Plan 2011. The planning proposal seeks to: correct anomalies and discrepancies; update provisions in accordance with related legislative changes; and clarify dual occupancy development provisions.

Development Control Plan
The land is affected by Parramatta Development Control Plan 2011.

The Minister for Planning and Infrastructure has issued directions that provisions of an EPI do not apply to certain Part 4 development where a concept plan has been approved under Part 3A.

Development Standards
The land is located within State Environmental Planning Policy (Urban Renewal) 2010.

Development Contribution Plan
The Parramatta Section 94A Development Contributions Plan applies to the land.

Heritage Item/Heritage Conservation Area
An item of environmental heritage is not situated on the land.

The land is not located in a heritage conservation area.

Road Widening
The land is not affected by road widening or road realignment under:
(a) Division 2 of Part 3 of the Roads Act 1993.
(b) Any Environmental Planning Instrument.
(c) Any Resolution of Council.

Land Reservation Acquisition
The land is not affected by Land Reservation Acquisition in Parramatta Local Environmental Plan 2011.

Site Compatibility Certificate (Seniors Housing, Infrastructure and Affordable Rental Housing)
At the date of issue of this certificate Council is not aware of any
a. Site compatibility certificate (affordable rental housing)
b. Site compatibility certificate (infrastructure)
c. Site compatibility certificate (seniors housing)
in respect to the land issued pursuant to the Environmental Planning & Assessment Amendment (Site Compatibility Certificates) Regulation 2009 (NSW).

Contamination
The land is not affected by any of the matters contained in Clause 59(2) as amended in the Contaminated Land Management Act 1997 – as listed

a. that the land to which the certificate relates is significantly contaminated land
b. that the land to which the certificate relates is subject to a management order
c. that the land to which the certificate relates is the subject of an approved voluntary management proposal
d. that the land to which the certificate relates is subject to an ongoing maintenance order
e. that the land to which the certificate relates is the subject of a site audit statement

Tree Preservation
The land is subject to Section 5.4 Preservation of Trees or Vegetation in Parramatta Development Control Plan 2011.

Council has not been notified of an order under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

Coastal Protection
The land is not affected by Section 38 or 39 of the Coastal Protection Act 1979.

Has an order been made under Part 4D of the Coastal Protection Act 1979 in relation to temporary coastal protection works (within the meaning of the Act) on the land (or on public land adjacent to that land)?
NO

Has Council been notified under section 55x of the Coastal Protection Act 1979 that temporary coastal protection works (within the meaning of the Act) have been placed on the land (or on public land adjacent to that land)?
NO

Has the owner (or any previous owner) of the land been consented in writing to the land being subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works (within the meaning of section 553B of that Act)?
NO

Council Policy
Council has not adopted a policy to restrict the development of the land by reason of the likelihood of projected sea level rise (coastal protection), tidal inundation, subsidence or any other risk.

Council has adopted a policy covering the entire City of Parramatta to restrict development of any land by reason of the likelihood of flooding.

Mine Subsidence
The land is not affected by Section 15 of the Mine Subsidence Compensation Act 1961 proclaiming land to be a Mine Subsidence District.

Bushfire Land
The land is not bushfire prone land.

Threatened Species
The Director General with responsibility for the Threatened Species Conservation Act 1995 has not advised Council that the land includes or comprises a critical habitat.

State Environmental Planning Policy (Exempt and Complying Development Codes) 2008

This does not constitute a Complying Development Certificate under section 85 of the EP&A Act

This information only addresses matters raised in **Clauses 1.17A (c) and (d) and 1.19** of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

It is your responsibility to ensure that you comply with the general requirements of the State Environmental Planning Policy (Exempt and Complying Codes) 2008. Failure to comply with these provisions may mean that a Complying Development Certificate issued under the provisions of State Environmental Planning Policy (Exempt and Complying Codes) 2008 is invalid.

General Housing Code
Complying development pursuant to the General Housing Code **may** be carried out on the land under **Clause 1.17A (c) and (d)**.

Complying Development pursuant to the General Housing Code **may** be carried out on the land under **Clause 1.19.**

Housing Alterations Code
Complying Development pursuant to the Housing Alterations Code may be carried out on the land under **Clause 1.17A (c) and (d)**

Complying Development pursuant to the Housing Alterations Code **may** be carried out on the land under **Clause 1.19.**

General Development Code
Complying development pursuant to the General Development Code **may** be carried out on the land under **Clause 1.17A (c) and (d)**

Complying Development pursuant to the General Development Code **may** be carried out on the land under **Clause 1.19**

Demolition Code
Complying development pursuant to the Demolition Code **may** be carried out on the land under **Clause 1.17A (c) and (d)**

Complying Development pursuant to the Demolition Code **may** be carried out on the land under **Clause 1.19.**

General Commercial and Industrial Code

Complying development pursuant to the General Commercial and Industrial Code **may be** carried out on the land under **Clause 1.17A (c) and (d)**

Complying Development pursuant to the General Commercial and Industrial Code **may be** carried out on the land under **Clause 1.19**

SPECIAL NOTES

The land is identified as Class 5 on the Acid Sulfate Soils map. Refer to Clause 6.1 of Parramatta Local Environmental Plan 2011.

Applicants for Sections 149 Certificates are advised that Council does not hold sufficient information to fully detail the effect of any encumbrances on the title of the subject land. The information available to Council is provided on the basis that neither Council nor its servants hold out advice or warrant to you in any way its accuracy, nor shall Council or its servants, be liable for any negligence in the preparation of that information. Further information should be sought from relevant Statutory Departments.

ANNEXURE "B1"

Issued pursuant to Section 149 of the Environmental Planning and Assessment Act 1979. Note:The following information is supplied in respect of Section 149 and embodies the requirements of Department of Planning Circular No. A2 dated 17 March 1989 and the Ministerial Notification dated 15 December 1988.

STATE ENVIRONMENTAL PLANNING POLICY NO.1 - Development Standards

STATE ENVIRONMENTAL PLANNING POLICY NO.4 - Development without Consent and Miscellaneous Complying Development

STATE ENVIRONMENTAL PLANNING POLICY NO.6 - Number of Storeys in a Building

STATE ENVIRONMENTAL PLANNING POLICY NO.19 - Bushland in Urban Areas

STATE ENVIRONMENTAL PLANNING POLICY NO.21 – Caravan Parks

STATE ENVIRONMENTAL PLANNING POLICY NO.22 - Shops and Commercial Premises

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Dr Robert Lang
Chief Executive Officer

per

dated 22 August 2013

PLANNING CERTIFICATE

CERTIFICATE UNDER SECTION 149

Environmental Planning and Assessment Act, 1979 as amended

SAI Global Property Division Pty Ltd
DX 885
SYDNEY

Certificate No:	2013/3532
Fee:	$53.00
Issue Date:	22 August 2013
Receipt No:	3933614
Applicant Ref:	15797717

DESCRIPTION OF LAND

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Lot Details:	Lot 21 DP 7553

SECTION A

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The land is zoned: B4 Mixed Use PLEP2011

Issued pursuant to Section 149 of the Environmental Planning and Assessment Act, 1979.
NOTE: This table is an excerpt from Parramatta Local Environmental Plan 2011 and must be read in conjunction with and subject to the other provisions of that instrument, and in force at that date.

1 Objectives of zone

- To provide a mixture of compatible land uses.
- To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling.
- To encourage development that contributes to an active, vibrant and sustainable neighbourhood.

2 Permitted without consent

Home occupations

3 Permitted with consent

Boarding houses; Building identification signs; Business identification signs; Child care centres; Commercial premises; Community facilities; Educational establishments; Entertainment facilities; Function centres; Hotel or motel accommodation; Information and education facilities; Medical centres; Passenger transport facilities; Recreation facilities (indoor); Registered clubs; Respite day care centres; Restricted premises; Roads; Seniors housing; Shop top housing; Water recycling facilities; Any other development not specified in item 2 or 4

4 Prohibited

Agriculture; Air transport facilities; Airstrips; Amusement centres; Animal boarding or training establishments; Boat building and repair facilities; Boat launching ramps; Boat sheds; Camping grounds; Caravan parks; Cemeteries; Charter and tourism boating facilities; Crematoria; Depots; Dual occupancies; Dwelling houses; Eco-tourist facilities; Electricity generating works; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Freight transport facilities; Heavy industrial storage establishments; Helipads; Highway service centres; Home industries; Home occupations (sex services); Industrial retail outlets; Industrial training facilities; Industries; Jetties; Marinas; Mooring pens; Moorings; Mortuaries; Open cut mining; Port facilities; Recreation facilities (major); Research stations; Rural industries; Rural workers' dwellings; Secondary dwellings; Semi-detached dwellings; Sewerage systems; Sex services premises; Signage; Storage premises; Transport depots; Truck depots; Vehicle body repair workshops; Warehouse or distribution centres; Waste or resource management facilities; Water recreation structures; Water supply systems; Wharf or boating facilities; Wholesale supplies

SECTION B

State Policies and Regional Environmental Plans

The land is affected by State Environmental Planning Policies and Regional Environmental Plans as detailed in Annexure "B1".

Draft Local Environmental Plan
The land is affected by a Draft Local Environmental Plan which has been placed on Public Exhibition and has not yet been published.

Planning Proposal – Housekeeping Amendment to Parramatta LEP 2011
This land is affected by a planning proposal seeking to amend the Parramatta Local Environmental Plan 2011. The planning proposal seeks to: correct anomalies and discrepancies; update provisions in accordance with related legislative changes; and clarify dual occupancy development provisions.

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The land is affected by Parramatta Development Control Plan 2011.

The Minister for Planning and Infrastructure has issued directions that provisions of an EPI do not apply to certain Part 4 development where a concept plan has been approved under Part 3A.

Development Standards
The land is located within State Environmental Planning Policy (Urban Renewal) 2010.

Development Contribution Plan
The Parramatta Section 94A Development Contributions Plan applies to the land.

Heritage Item/Heritage Conservation Area
An item of environmental heritage is not situated on the land.

The land is not located in a heritage conservation area.

Road Widening
The land is not affected by road widening or road realignment under:

(a) Division 2 of Part 3 of the Roads Act 1993.
(b) Any Environmental Planning Instrument.
(c) Any Resolution of Council.

Land Reservation Acquisition
The land is not affected by Land Reservation Acquisition in Parramatta Local Environmental Plan 2011.

Site Compatibility Certificate (Seniors Housing, Infrastructure and Affordable Rental Housing)
At the date of issue of this certificate Council is not aware of any

a. Site compatibility certificate (affordable rental housing)
b. Site compatibility certificate (infrastructure)
c. Site compatibility certificate (seniors housing)

in respect to the land issued pursuant to the Environmental Planning & Assessment Amendment (Site Compatibility Certificates) Regulation 2009 (NSW).

Contamination
The land is not affected by any of the matters contained in Clause 59(2) as amended in the Contaminated Land Management Act 1997 – as listed

a. that the land to which the certificate relates is significantly contaminated land
b. that the land to which the certificate relates is subject to a management order
c. that the land to which the certificate relates is the subject of an approved voluntary management proposal
d. that the land to which the certificate relates is subject to an ongoing maintenance order
e. that the land to which the certificate relates is the subject of a site audit statement

Tree Preservation
The land is subject to Section 5.4 Preservation of Trees or Vegetation in Parramatta Development Control Plan 2011.

Council has not been notified of an order under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

Coastal Protection
The land is not affected by Section 38 or 39 of the Coastal Protection Act 1979.

Has an order been made under Part 4D of the Coastal Protection Act 1979 in relation to temporary coastal protection works (within the meaning of the Act) on the land (or on public land adjacent to that land)?
NO

Has Council been notified under section 55x of the Coastal Protection Act 1979 that temporary coastal protection works (within the meaning of the Act) have been placed on the land (or on public land adjacent to that land)?
NO

Has the owner (or any previous owner) of the land been consented in writing to the land being subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works (within the meaning of section 553B of that Act)?
NO

Council Policy
Council has not adopted a policy to restrict the development of the land by reason of the likelihood of projected sea level rise (coastal protection), tidal inundation, subsidence or any other risk.

Council has adopted a policy covering the entire City of Parramatta to restrict development of any land by reason of the likelihood of flooding.

Mine Subsidence
The land is not affected by Section 15 of the Mine Subsidence Compensation Act 1961 proclaiming land to be a Mine Subsidence District.

Bushfire Land
The land is not bushfire prone land.

Threatened Species
The Director General with responsibility for the Threatened Species Conservation Act 1995 has not advised Council that the land includes or comprises a critical habitat.

State Environmental Planning Policy
(Exempt and Complying Development Codes) 2008

This does not constitute a Complying Development Certificate under section 85 of the EP&A Act

This information only addresses matters raised in **Clauses 1.17A (c) and (d) and 1.19** of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

It is your responsibility to ensure that you comply with the general requirements of the State Environmental Planning Policy (Exempt and Complying Codes) 2008. Failure to comply with these provisions may mean that a Complying Development Certificate issued under the provisions of State Environmental Planning Policy (Exempt and Complying Codes) 2008 is invalid.

General Housing Code
Complying development pursuant to the General Housing Code **may** be carried out on the land under **Clause 1.17A (c) and (d)**.

Complying Development pursuant to the General Housing Code **may** be carried out on the land under **Clause 1.19.**

Housing Alterations Code
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SPECIAL NOTES

The land is identified as Class 5 on the Acid Sulfate Soils map. Refer to Clause 6.1 of Parramatta Local Environmental Plan 2011.

Applicants for Sections 149 Certificates are advised that Council does not hold sufficient information to fully detail the effect of any encumbrances on the title of the subject land. The information available to Council is provided on the basis that neither Council nor its servants hold out advice or warrant to you in any way its accuracy, nor shall Council or its servants, be liable for any negligence in the preparation of that information. Further information should be sought from relevant Statutory Departments.

ANNEXURE "B1"

Issued pursuant to Section 149 of the Environmental Planning and Assessment Act 1979. Note:The following information is supplied in respect of Section 149 and embodies the requirements of Department of Planning Circular No. A2 dated 17 March 1989 and the Ministerial Notification dated 15 December 1986.

STATE ENVIRONMENTAL PLANNING POLICY NO.1 - Development Standards

STATE ENVIRONMENTAL PLANNING POLICY NO.4 - Development without Consent and Miscellaneous Complying Development

STATE ENVIRONMENTAL PLANNING POLICY NO.6 - Number of Storeys in a Building

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STATE ENVIRONMENTAL PLANNING POLICY NO.21 – Caravan Parks

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STATE ENVIRONMENTAL PLANNING POLICY NO.33 - Hazardous and Offensive Development

STATE ENVIRONMENTAL PLANNING POLICY NO.55 - Remediation of Land

STATE ENVIRONMENTAL PLANNING POLICY NO.60 - Exempt and Complying Development

STATE ENVIRONMENTAL PLANNING POLICY NO.64 - Advertising and Signage

STATE ENVIRONMENTAL PLANNING POLICY NO.65 – Design Quality of Residential Flat Development.

STATE ENVIRONMENTAL PLANNING POLICY NO.70 – Affordable Housing (Revised Schemes)

STATE ENVIRONMENTAL PLANNING POLICY – (Housing for Seniors or People with a Disability) 2004

STATE ENVIRONMENTAL PLANNING POLICY – (Building Sustainability Index: BASIX) 2004

STATE ENVIRONMENTAL PLANNING POLICY – (Major Development) 2005

STATE ENVIRONMENTAL PLANNING POLICY – (Mining, Petroleum Production and Extractive Industries) 2007

STATE ENVIRONMENTAL PLANNING POLICY – (Temporary Structures) 2007

STATE ENVIRONMENTAL PLANNING POLICY (Infrastructure) 2007

STATE ENVIRONMENTAL PLANNING POLICY (Exempt and Complying Development Codes) 2008

STATE ENVIRONMENTAL PLANNING POLICY (Affordable Rental Housing) 2009

SYDNEY REGIONAL ENVIRONMENTAL PLAN NO.9 (No.2) - Extractive Industries

SYDNEY REGIONAL ENVIRONMENTAL PLAN NO.24 - Homebush Bay Area

SYDNEY REGIONAL ENVIRONMENTAL PLAN – (Sydney Harbour Catchment) 2005

N.B. All enquiries as to the application of Draft, State and Regional Environmental Planning Policies should be directed to The Department of Planning and Infrastructure – 23-33 Bridge Street Sydney NSW 2000.

Dr Robert Lang
Chief Executive Officer

per

dated 22 August 2013

PLANNING CERTIFICATE

CERTIFICATE UNDER SECTION 149

Environmental Planning and Assessment Act, 1979 as amended

SAI Global Property Division Pty Ltd
DX 885
SYDNEY

Certificate No:	2013/3533
Fee:	$53.00
Issue Date:	22 August 2013
Receipt No:	3933614
Applicant Ref:	15797980

DESCRIPTION OF LAND

Address:	82 Cowper Street GRANVILLE NSW 2142
Lot Details:	LOT 22 DP 651169

SECTION A

The following Environmental Planning Instrument to which this certificate relates applies to the land:

Parramatta Local Environmental Plan 2011

For the purpose of **Section 149(2)** it is advised that as the date of this certificate the abovementioned land is affected by the matters referred to as follows:

RECEIVED
27 AUG 2013

If you do not understand this letter, please ring the Telephone Interpreter Service (131 450) and ask them to contact Council (9806 5050). Office hours are 8.30am to 4.30pm, Mondays to Fridays.

ARABIC

إذا لم تستطع فهم هذه الرسالة، الرجاء الاتصال بخدمة الترجمة الهاتفية على رقم ١٣١ ٤٥٠ وأسألهم أن يتصلوا بالبلدية على رقم ٩٨٠٦ ٥٠٥٠. دوام ساعات العمل هي من الساعة ٨:٣٠ صباحاً الى ٤:٣٠ بعد الظهر من الاثنين الى الجمعة.

CHINESE

如您看不懂此信，請打電話給「電話翻譯服務台」（131 450）請他們聯絡市政廳（市政廳電話 9806 5050）。市政廳辦公時間：星期一至星期五，上午八點半至下午四點半。

CROATIAN

Ako ne razumijete ovo pismo, molimo nazovite Službu prevodilaca i tumača (Translating and Interpreting Service – na broj 131 450) i zamolite ih da nazovu Općinu (na 9806 5050). Radno vrijeme je od 8.30 ujutro do 4.30 popodne, od ponedjeljka do petka.

FRENCH

Si vous avez des difficultés à comprendre cette lettre, vous pouvez contacter le service d'interprètes par téléphone au 131 450 et leur demander de contacter la mairie (Council) au 9806 5050. Les bureaux de la mairie sont ouverts du lundi au vendredi de 8h30 à 16h30.

GERMAN

Wenn Sie diesen Brief nicht verstehen können, rufen Sie bitte den Telefon Dolmetscher Dienst (Telephone Interpreter Service) (131 450) an und lassen Sie sich vom Personal mit dem Gemeinderat (Council) in Verbindung setzen (9806 5050). Geschäftsstunden sind von 8:30 bis 16:30 Uhr, montags bis freitags.

GREEK

Αν δεν καταλαβαίνετε αυτό το γράμμα, σας παρακαλούμε να τηλεφωνήσετε την Τηλεφωνκή Υπηρεσία Διερμηνέων (131 450) και να τους ζητήσετε να επικοινωνήσουν με το Δημοτικό Συμβούλιο (9806 5050). Τα γραφεία του είναι ανοιχτά από τις 8.30 πμ μέχρι τις 4.30 μμ, από Δευτέρα μέχρι και Παρασκευή.

HINDI

अगर आप इस पत्र को पढ़कर समझ नहीं पाते हैं तो टेलीफ़ोन अनुवादक सेवा (फ़ोन नंबर १३१ ४५०) को फ़ोन कीजिए और उन्हें काउंसिल (फ़ोन नंबर ९८०६ ५०००) से बात कराने के लिए कहिएगा। आफ़िस का समय प्रातः ८:३० से सायं ४:३० बजे प्रतिदिन सोमवार से शुक्रवार ।

ITALIAN

Se non comprendi questa lettera, telefona al Servizio traduzioni e interpreti al numero 131 450 chiedendo di essere messo in contatto con il Comune (telefono 9806 5050). Orario d'ufficio: ore 8.30-16.30, dal lunedì al venerdì.

KOREAN

만일 이 편지를 이해하지 못하시면, 전화 통역 서비스 (131 450)에 전화하여 카운슬(9806 5050)에 연락해 달라고 부탁하십시오. 근무 시간은 월-금, 오전 8시 30분부터 오후 4시 30분까지입니다.

MALTESE

Jekk na tifhimx din-l-ittra, jekk joghġbok ċempel lis-Servizz ta' l-Interpretù (131 450) u itlobhom biex jikkuntatjaw lill-Kunsill (9806 5050). Il-hinijiet ta' l-Uffiċċju huma mit-8.30 a.m. sal-4.30 p.m., mit-Tnejn sal-Ġimgha.

POLISH

Jeśli nie rozumiesz treści niniejszego pisma, zadzwoń do Telefonicznego Biura Tłumaczy (Telephone Interpreter Service) pod numer 131 450 i poproś o telefoniczne skontaktowanie się w Twoim imieniu z Radą Miejską pod numerem 9806 5050. Godziny urzędowania: 08.30-16.30 od poniedziałku do piątku.

SPANISH

Si Ud. no entiende esta carta, por favor llame al Servicio Telefónico de Intérpretes (131 450) y pídales que llamen a la Municipalidad (Council) al 9806 5050. Las horas de oficina son de 8:30 am a 4:30 pm, de lunes a viernes.

TAGALOG

Kung hindi ninyo maunawaan ang liham na ito, tawagan lamang ang Telephone Interpereter Service (131 450) at makiusap na makipag-alam sila sa Konseho para sa inyong kapakanan (9806 5050). Oras ng trabaho 8.30 n.u. hanggang 4.30 n.h., Lunes hanggang Biyernes.

TURKISH

Bu mektubu anlayamazsanız, lütfen Telefonla Tercüme Servisi'ne (131 450) telefon ederek, Belediye ile (9806 5050) ilişkiye geçmelerini isteyiniz. Çalışma saatleri Pazartesi — Cuma günleri arasında saat sabah 8.30'dan öğleden sonra 4.30'a Kadardır.

VIETNAMESE

Nếu quý vị không hiểu thư này, xin điện thoại Telephone Interpreter Service (Dịch Vụ Thông Nhôn bằng Điện Thoại) ở số 131 450 và nhờ họ liên lạc với Council (Hội Đồng) số 9806 5050. Giờ Làm Việc từ 8 giờ 30 sáng đến 4 giờ 30 chiều, Thứ Hai đến Thứ Sáu.

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Council advises that the land maybe contaminated and persons should make their own enquiries as to the extent and or existence of any contamination due to previous or current use.

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STATE ENVIRONMENTAL PLANNING POLICY (Exempt and Complying Development Codes) 2008

STATE ENVIRONMENTAL PLANNING POLICY (Affordable Rental Housing) 2009

SYDNEY REGIONAL ENVIRONMENTAL PLAN NO.9 (No.2) - Extractive Industries

SYDNEY REGIONAL ENVIRONMENTAL PLAN NO.24 - Homebush Bay Area

SYDNEY REGIONAL ENVIRONMENTAL PLAN – (Sydney Harbour Catchment) 2005

N.B. All enquiries as to the application of Draft, State and Regional Environmental Planning Policies should be directed to The Department of Planning and Infrastructure – 23-33 Bridge Street Sydney NSW 2000.

Dr Robert Lang
Chief Executive Officer

per

dated 22 August 2013

APPENDIX C

HISTORICAL LAND TITLE INFORMATION

SEARCH REPORT

SUBJECT LAND: 2-6 Bold Street and 80-82 Cowper Street, Granville
Lots 17, 18, 19, 20 & 21 DP7533
Lot 22 DP651169

OWNERSHIP:

As regards Lot 17

from circa 1917 to 14.1.1931	Isabel King, wife of Samuel Walter King, Railway Employee
from 14.1.1931 to 4.2.1947	Samuel Walter King, Retired Railway Employee
from 4.2.1947 to 26.2.1965	Vera May McNab, wife of Archibald James McNab, Coach Builder
from 26.2.1965 to 15.3.1978	Archibald James McNab and Eric Archibald Walter McNab, Accountants
from 15.3.1978 to 2.11.1978	Eric Archibald Walter McNab, Accountant
from 2.11.1978 to Date	George Namnoum, Panel Beater

As regards Lot 18

from circa 1917 to 14.1.1931	Isabel King, wife of Samuel Walter King, Railway Employee
from 14.1.1931 to 4.2.1947	Samuel Walter King, Retired Railway Employee
from 4.2.1947 to 5.2.1964	Vera May McNab, wife of Archibald James McNab, Coach Builder
from 5.2.1964 to 2.11.1978	Harold Carlton Brown, Turner and Muriel Lorraine Brown his wife
from 2.11.1978 to Date	George Namnoum

SEARCH REPORT

As regards Lots 19 & 20

from circa 1917 to 7.9.1938	George William Deane, Commercial Traveller and his Estate
from 7.9.1938 to 2.10.1951	George Frankland Hughes, Railway Guard
from 2.10.1951 to 6.6.1963	George Frankland Hughes and Walter Ernest Hughes, Retired Railway Employees
from 6.6.1963 to 23.7.1981	Marjorie Essmaa Veitch, Married Woman
from 23.7.1981 to 13.9.1983	Tony Namnoum
from 13.9.1983 to Date	George Namnoum

As regards Lot 21

from circa 1914 to 18.10.1934	Elsie Mary Stockwell, wife of James de Jersey Stockwell, Photographer
from 18.10.1934 to 8.3.1951	James de Jersey Stockwell, Photographer
from 8.3.1951 to 17.5.1967	Kathleen Jane Stockwell, Spinster
from 17.5.1967 to 17.8.1973	Antonio Guiseppina Richardson, Widow
from 17.8.1973 to 11.6.1980	Alfred James Gribble and James William Brennan, Rigging Contractors
from 11.6.1980 to 26.6.2007	George Namnoum, Panel Beater
from 26.6.2007 to Date	NCG Pty Limited

SEARCH REPORT

As regards Lot 22

from circa 1915 to 13.7.1950	Oscar Cecil Vernon Garnett, Confectioner
from 13.7.1950 to 29.8.1960	Charles Bawden Gribble, Café Proprietor
from 29.8.1960 to 28.9.1965	Mabel Gribble, Widow
from 28.9.1965 to 11.9.1979	Chahid Tony Namnoum, Welder
from 11.9.1979 to 28.6.2007	Tony Namnoum and George Namnoum, Panel Beaters
from 28.6.2007 to Date	TNSF Pty Ltd

27 August, 2013

SAI GLOBAL PROPERTY

CERTIFICATE OF TITLE.

(C.)

New South Wales.

CANCELLED

Last No. 4972
(Reference to Last Certificate)
Vol. 2492 Folio 197

REGISTER BOOK,
Vol. 2807 Fol. 235

Isabel King wife of Samuel Walter King of Granville Railway Employee Transferee under Instrument of Transfer from George William Glover AB345978 is now the proprietor of an Estate in Fee Simple, subject nevertheless to the reservations and conditions, if any, contained in the Grant hereinafter referred to, but also subject to such encumbrances, liens, and interest as are notified hereon, in that piece of land situated in the Municipality of Granville, Parish of Liberty Plains, and County of Cumberland containing Twenty eight perches and one half perches, or thereabouts, as shown on the Plan hereon, and therein edged red, being Lots 17 and 18 on a Plan deposited in the Land Titles Office, Sydney, No. 1033 and part of the Crown land bounded and described as follows: delineated in the Public Map of the said Parish in the Department of Lands originally granted to Jonathan Richards by Crown Grant dated the first day of January one thousand eight hundred and [illegible]

In witness whereof I have hereunto signed my name and affixed my Seal, this fourth day of December one thousand nine hundred and [illegible]

Signed this 4th day of December 1917.
in the presence of J. Mahony

Deputy Registrar General.

Cowper St

17
28½ perches
18
19
21

St

Bold

NOTIFICATION REFERRED TO.

No. A 519926 MORTGAGE dated 23rd November 1917
from the said Isabel King to The Commonwealth Savings Bank of New South Wales
Produced 27th November 1917 and entered 4th December 1917 at 12 o'clock noon.

REGISTRAR GENERAL.

No. C 87475 APPLICATION BY TRANSMISSION
Samuel Walter King of Granville Railway Employee
as owner the registered Proprietor of the Land within described in pursuance of the above Application Produced 23rd November 1931 and entered 4th January 1932 at 11 o'clock in the forenoon.

REGISTRAR GENERAL.

Plans not to scale unless shown.

COPIED

No. C 25046 DISCHARGE of within Mortgage
£ 248928 dated 10th August 1939
Produced 22nd December 1939 and entered
4th January 1940
at 11 o'clock in the fore noon.
H M Clayton
REGISTRAR GENERAL

No. 3E 88795 APPLICATION BY TRANSMISSION
[illegible] the registered
Proprietor of the land within mentioned in pursuance of the above
Application Produced 15th December 1946 and
entered 4th February 1947
at [illegible] o'clock in the [illegible] noon.
L. Wells
REGISTRAR GENERAL

The within land is subject to the restraint on anticipation imposed by the will of Samuel Walter King deceased of 31/10/19
Dated 4th February 1947
Title Qualification
Transmission Mortgage Lease etc. Registrar General

The above-noted restriction will operate as the restraint on anticipation imposed by the Will of Samuel Walter King is duly satisfied
Dated 6th February 1964
Registrar General

No. 3E 88795 TRANSFER dated 4th December 1964
Harold Carlton Brown and Daniel Lawrence Brown as joint tenants of
Lot 11
all the land within described
Entered 6th February 1964
at 10.25 o'clock
REGISTRAR GENERAL

Vol. 9121 Fol. 164
Vol. 3E 88795

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 17/7553

SEARCH DATE	TIME	EDITION NO	DATE
27/8/2013	2:02 PM	1	21/5/1992

LAND

LOT 17 IN DEPOSITED PLAN 7553
LOCAL GOVERNMENT AREA PARRAMATTA
PARISH OF LIBERTY PLAINS COUNTY OF CUMBERLAND
TITLE DIAGRAM DP7553

FIRST SCHEDULE

GEORGE NAMNOUM (T Q932835)

SECOND SCHEDULE (2 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2 E470164 MORTGAGE TO NATIONAL AUSTRALIA BANK LIMITED

NOTATIONS

NOTE: THE CERTIFICATE OF TITLE FOR THIS FOLIO OF THE REGISTER DOES NOT INCLUDE SECURITY FEATURES INCLUDED ON COMPUTERISED CERTIFICATES OF TITLE ISSUED FROM 4TH JANUARY, 2004. IT IS RECOMMENDED THAT STRINGENT PROCESSES ARE ADOPTED IN VERIFYING THE IDENTITY OF THE PERSON(S) CLAIMING A RIGHT TO DEAL WITH THE LAND COMPRISED IN THIS FOLIO.
UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

PRINTED ON 27/8/2013

C.

NEW SOUTH WALES

For Grant and title reference prior to first edition see Deposited Plan.

CERTIFICATE OF TITLE

REAL PROPERTY ACT, 1900, as amended.

09626144

Vol. 9626 Fol. 144

1st. Edition issued 13-2-1964

MA J504363

Vol. 9626 Fol. 144 (Page 1)

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

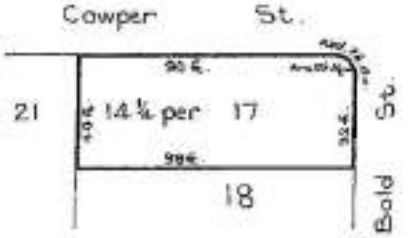
Witness S Maclennan

Registrar-General.

PLAN SHOWING LOCATION OF LAND

CANCELLED

SEE AUTO FOLIO



J504363

Scale: 50 feet to one inch

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 17 in Deposited Plan 7553 in the City of Parramatta Parish of Liberty Plains and County of Cumberland.

Registrar General.

FIRST SCHEDULE (continued overleaf)

~~VERA MAY McNAB, wife of Archibald James McNab, of Granville, Coach Builder.~~

Registrar General.

SECOND SCHEDULE (continued overleaf)

1. Reservations and conditions, if any, contained in the Crown Grant(s) referred to in the said Deposited Plan.

Registrar General.

Vol. 9626 Fol. 144

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar-General
~~Archibald James McMah of Granville and Eric Archibald Walter McMah of Epping both Accountants, Australia as tenants in common in equal shares~~	Transmission	T937800	21-2-1985	6-4-1985	
~~Eric Archibald Walter McMah of Beecroft, Accountant~~	Transmission	Q604678		15-3-1978	
George Bannoum of Granville, Panelbeater.	Transfer	Q932835	-------	2-11-1978	

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION		
~~Mortgage~~	~~Q932836~~		~~to Bank of New South Wales.~~	~~2-11-1978~~		Discharged	X599600	
MX	X599601 Mortgage to Westpac Banking Corporation. Registered 21-6-1988.							

CANCELLED

SEE AUTO FOLIO

FORM No. 183A

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR-GENERAL ARE CANCELLED

[redacted]

C.

CERTIFICATE OF TITLE

NEW SOUTH WALES — REAL PROPERTY ACT, 1900, as amended.

For Grant and title reference prior to first edition see Deposited Plan.

09625061

Vol. 9625 Fol. 61

1st Edition issued 12-2-1964

NA J504362

R

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

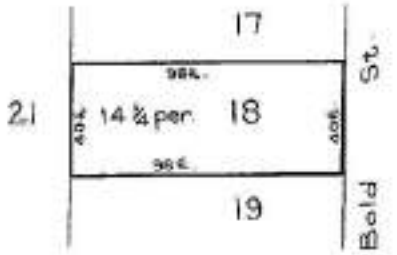
Witness S Maclennan

Registrar-General.

CANCELLED

SEE AUTO FOLIO

PLAN SHOWING LOCATION OF LAND



Scale: 50 feet to one inch

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 18 in Deposited Plan 7553 in the City of Parramatta Parish of Liberty Plains and County of Cumberland.

Registrar General.

FIRST SCHEDULE (continued overleaf)

~~HAROLD CARLTON BROWN, of Granville, Turner, and MURIEL LORRAINE BROWN, his wife, as Joint Tenants.~~

Registrar General.

GRY

SECOND SCHEDULE (continued overleaf)

1. Reservations and conditions, if any, contained inthe Crown Grant(s) referred to in the said Deposited Plan.

Registrar General.

(Page 1) Vol. 9625 Fol. 61

Vol. 9625 Fol 61

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar-General
~~Tony Nammoun of Granville, Motor Mechanic~~ George Nammoun by Transfer T735487. Registered 15-9-1983	~~Transfer~~	~~Q932033~~	~~~~	2-11-1978	

T735486 R T

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION		
~~Mortgage~~	~~Q932034~~		~~to Bank of New South Wales~~	~~2-11-1978~~		Discharged	T282693 T735486	

CANCELLED

SEE AUTO FOLIO

FORM No. 183A

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR-GENERAL ARE CANCELLED

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 18/7553

SEARCH DATE	TIME	EDITION NO	DATE
27/8/2013	2:03 PM	1	21/5/1992

LAND

LOT 18 IN DEPOSITED PLAN 7553
LOCAL GOVERNMENT AREA PARRAMATTA
PARISH OF LIBERTY PLAINS COUNTY OF CUMBERLAND
TITLE DIAGRAM DP7553

FIRST SCHEDULE

GEORGE NAMNOUM (T T735487)

SECOND SCHEDULE (2 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2 E470165 MORTGAGE TO NATIONAL AUSTRALIA BANK LIMITED

NOTATIONS

NOTE: THE CERTIFICATE OF TITLE FOR THIS FOLIO OF THE REGISTER DOES NOT INCLUDE SECURITY FEATURES INCLUDED ON COMPUTERISED CERTIFICATES OF TITLE ISSUED FROM 4TH JANUARY, 2004. IT IS RECOMMENDED THAT STRINGENT PROCESSES ARE ADOPTED IN VERIFYING THE IDENTITY OF THE PERSON(S) CLAIMING A RIGHT TO DEAL WITH THE LAND COMPRISED IN THIS FOLIO.
UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

PRINTED ON 27/8/2013

CERTIFICATE OF TITLE.

(C.)

New South Wales.

[Appⁿ No. 19693]
[Reference to last Certificate]
[Vol. 2492 Folio 197]

REGISTER BOOK,
Vol. 2808 Folio 240

CANCELLED [W]
ON ISSUE OF NEW FOLIO SEE CANCL 2808-241

George William Deane of Yarraville Commercial Traveller by virtue of Certificate of Title Volume 2492 Folio 197 now surrendered as to residue after Transfer No. A 24925 is now the proprietor of an Estate in Fee Simple, subject nevertheless to the reservations and conditions, if any, contained in the Grant hereinafter referred to, and also subject to such encumbrances, liens, and interests as are notified hereon, in that piece of land situated in the Municipality of Yarraville, Parish of Tuloray Nauru, and County of Cumberland, containing Twenty Six and one quarter perches, or thereabouts, as shown on the Plan hereon, and thereon edged red, being Lots 19 and 20 on a Plan deposited in the Land Titles Office, Sydney, No. 923 a and being part of 85.5 acres (Portion 16 of Parish) delineated in the Public Map of the said Parish in the Department of Lands originally granted to Yarraburra Blaxcell by Crown Grant dated the 31st day of January one thousand eight hundred and six

In witness whereof, I have hereunto signed my name and affixed my Seal, this Eighth day of December one thousand nine hundred and Seventeen

Signed the 8th day of December 1917
in the presence of [illegible]

Deputy Registrar General

NOTIFICATION REFERRED TO.

No. A 632643 Caveat Dated 16th November 1917 Produced and lodged 17th December 1917 at 31 min past 12 O'Clock in the afternoon

Registrar General

No. C 102652 A Vesting Order Transmission dated 9th January 1918 of the Executors Company of New Zealand Limited as Trustee of the Will of the registered Proprietor of the Land within described in pursuance of the above Application Produced 11th January 1918 and entered 11th August 1918 at 10 minutes past 10 o'clock in the forenoon in Book [illegible]

Registrar General

No. C 182597 CAVEAT dated 8th January 1957 by the Registrar General Produced and entered 8th April 1957 at 4 o'clock in the afternoon.

Acting REGISTRAR GENERAL

The within Caveat No. F 222674 Dated 6th June 63

REGISTRAR GENERAL

No. C 199955 WITHDRAWAL of the within Caveat No. 182597 entered 2nd September 19 57 Produced 7th September 19 57 and entered 7th September 19 57 at 12 o'clock in the noon.

REGISTRAR GENERAL

Margaret Thomas Cook of Armadale, married woman, is now the registered proprietor of the land within described. See Section 74 Application No. F 263358 Entered 6th June 1963

REGISTRAR GENERAL

The within Caveat No. C 182597 is hereby withdrawn. Dated 7th September 19 57

REGISTRAR GENERAL

No. F 263358 CAVEAT by the Registrar General Entered 6th June 1963 Cancelled 23-1-1981

REGISTRAR GENERAL

No. C 199270 TRANSFER dated 2nd July 1957 from the said The European Coal and Lignite Company of the United Kingdom to George Frankland Hughes of Subiaco Catering Board of the land within described Produced 4th August 19 57 and entered 7th September 19 57 at 11 o'clock in the forenoon.

REGISTRAR GENERAL

23-1-1981

No. L 852370 MORTGAGE dated 7th March 1956 from the said George Frankland Hughes to The National Bank of Australasia Limited Produced and entered 8th March 1956 at 2 minutes past 3 o'clock in the afternoon.

REGISTRAR GENERAL

REGISTERED PROPRIETOR Mary Norman by Transfer C599645 Registered 23-1-1981

REGISTRAR GENERAL

No. F 274443 DISCHARGE of within mortgage No. C 884570 dated 2nd January 1957 Produced and entered 6th February 1957 at 10 minutes past 10 o'clock in the forenoon.

J. Wells REGISTRAR GENERAL

C599645 Mortgage to Perth & Metropolitan Building Society Registered 23-1-1981

REGISTRAR GENERAL

No. C 199270 APPLICATION BY TRANSMISSION George Frankland Hughes of Subiaco Caterer and Walter Thomas Hughes of Subiaco Caterer and Alfred Barling Hughes of Subiaco Caterer the registered proprietors of the land within described by virtue of the above instrument Produced 7th August 1957 and entered 2nd October 1957 at 2 o'clock in the afternoon.

J. Wells REGISTRAR GENERAL

George Norman

REGISTRAR GENERAL

No. C 199271 CAVEAT dated 7th August 1957 by the Registrar General Produced 7th August 1957 and entered 2nd October 1957 at 2 o'clock in the afternoon.

J. Wells REGISTRAR GENERAL

X 599599 Mortgage to Westfarmers Banking Corporation Registered 7-8-1981.

CONSIDERATION DEALINGS TO BE NOTIFIED NO FURTHER

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: AUTO CONSOL 2808-240

SEARCH DATE	TIME	EDITION NO	DATE
27/8/2013	2:04 PM	-	-

VOL 2808 FOL 240 IS THE CURRENT CERTIFICATE OF TITLE

LAND

LAND DESCRIBED IN SCHEDULE OF PARCELS
LOCAL GOVERNMENT AREA PARRAMATTA
PARISH OF LIBERTY PLAINS COUNTY OF CUMBERLAND
TITLE DIAGRAM DP7553

FIRST SCHEDULE

GEORGE NAMNOUM (T T735489)

SECOND SCHEDULE (2 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2 X599599 MORTGAGE TO WESTPAC BANKING CORPORATION

NOTATIONS

UNREGISTERED DEALINGS: NIL

SCHEDULE OF PARCELS

LOTS 19-20 IN DP7553.

*** END OF SEARCH ***

PRINTED ON 27/8/2013

CERTIFICATE OF TITLE.

(C.)

New South Wales.

CANCELLED

[Appⁿ No. 16072
[Reference to [illegible]
[Vol. 2466 Folio 117

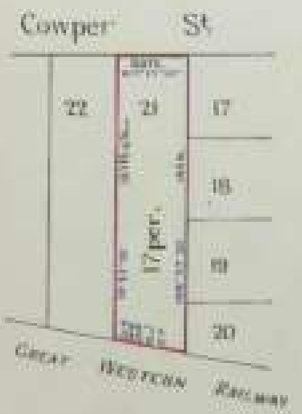
REGISTER BOOK,
Vol. 2483 Fol. 59

Elsie Mary Stockwell wife of James [illegible] Stockwell of [illegible] photographer [illegible] under Instrument of Transfer from Robert McKay [illegible] is now the proprietor of an Estate in Fee Simple, subject nevertheless to the reservations and conditions, if any, contained in the Grant hereinafter referred to, and also subject to such encumbrances, liens, and interests as are notified hereon, in that piece of land situated in the Municipality of Granville, Parish of Liberty Plains, and County of Cumberland containing seventeen perches, or thereabouts, as shown in the Plan hereon, and therein edged red, being lot 21 on a Plan deposited in the Land Titles Office, Sydney, No. 3553 and part of [illegible] delineated in the Public map of the said parish in the Department of Lands originally granted to [illegible] by Crown Grant dated the first day of January one thousand eight hundred and six

In witness whereof, I have hereunto signed my name and affixed my Seal, this thirteenth day of June one thousand nine hundred and fourteen

Signed the 13th day of June 1914
in the presence of [signature]

[signature]
Deputy Registrar General.



SCALE – 50ft to an inch

NOTIFICATION REFERRED TO.

No. [illegible] APPLICATION BY TRANSMISSION
[illegible] Stockwell of Granville [illegible]
Production of the [illegible]
entered [illegible]
[signature]
REGISTRAR GENERAL

No. C 299277 MORTGAGE dated 23rd November 1932
From the said [illegible] Stockwell [illegible]
Produced and entered 3rd December 1932
at [illegible] in the [illegible] noon.
[signature]
REGISTRAR GENERAL

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 21/7553

SEARCH DATE	TIME	EDITION NO	DATE
27/8/2013	2:05 PM	1	26/6/2007

LAND

LOT 21 IN DEPOSITED PLAN 7553
LOCAL GOVERNMENT AREA PARRAMATTA
PARISH OF LIBERTY PLAINS COUNTY OF CUMBERLAND
TITLE DIAGRAM DP7553

FIRST SCHEDULE

NCG PTY LIMITED (T AD219742)

SECOND SCHEDULE (1 NOTIFICATION)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

PRINTED ON 27/8/2013

[redacted]ICATE OF TITLE

NEW SOUTH WALES

, PROPERTY ACT, 1900

Vol. 14194 Fol. 247

Appln No 19072

Prior Title Vol. 2483 Fol. 59

EDITION ISSUED

18 8 1960

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

CANCELLED

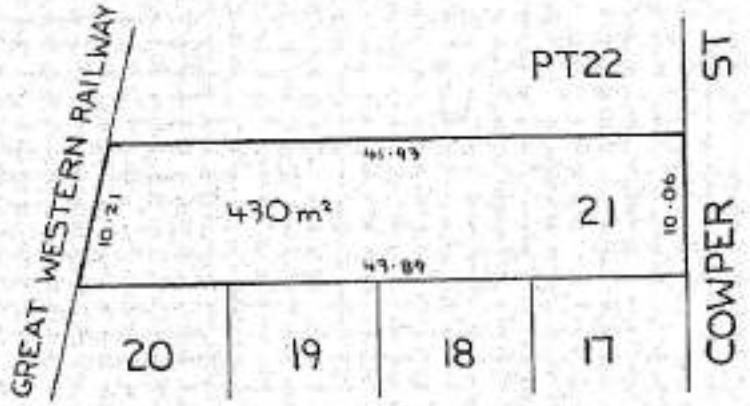
SEE AUTO FOLIO.

14194 Fol. 247

(Page 1) Vol.

PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



R845654 R.A

REDUCTION RATIO 1 : 400

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 21 in Deposited Plan 7553 in the City of Parramatta Parish of Liberty Plains County of Cumberland being part of Portion 1 granted to Garnham Blaxcell on 1-1-1806.

FIRST SCHEDULE

GEORGE NAMNOUM of Granville, Panel Beater.

SECOND SCHEDULE

GRY

1. Reservations and conditions, if any, contained in the Crown grant above referred to.

Vol. 14194 Fol. 247

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	REGISTERED	Signature of Registrar General
CANCELLED				
SEE AUTO FOLIO				

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	PARTICULARS	REGISTERED	Signature of Registrar General	CANCELLATION	

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

CERTIFICATE OF TITLE.

(C.)

New South Wales.

[App^n No. 1917]
[Reference to Grant]
[Vol. 1066 Folio 131]

REGISTER BOOK,
Vol. 2626 Folio 243

CANCELLED m
CONSOL OF NEW FOLIO 7/1066631

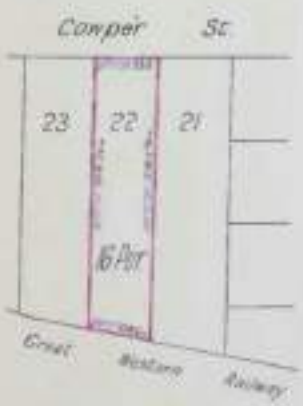
Oscar Cecil Vernon Gannett of Granville in the Parish of Liverpool and County of Cumberland Gentleman is now the proprietor of an Estate in Fee Simple, subject nevertheless to the reservations and conditions, if any, contained in the Grant hereinafter referred to, and also subject to such encumbrances, liens, and interests as are notified hereon, in that piece of land situated in the Municipality of Granville, Parish of Liberty Plains, and County of Cumberland containing Sixteen perches or thereabouts, as shown on the Plan hereon, and thereon edged red, being Lot 11 on a Plan deposited in the Land Titles Office, Sydney, No. 1066631 and being part of Portion 99 delineated in the Public Map of the Parish in the Department of Lands originally granted to Cornelius Connell by Crown Grant dated the first day of January One thousand eight hundred and one for

In witness whereof, I have hereunto signed my name and affixed my Seal, this 31st day of October one thousand nine hundred and Ten

Signed this 6 day of November 1913,
in the presence of

Deputy Registrar General

NOTIFICATION REFERRED TO



No. A 394760 MORTGAGE dated 31st January 1917 from the said Oscar Cecil Vernon Gannett to Margaret Bradley Morgan of Bowral Spinster.
Produced and entered 31st January 1917 at 12 o'clock in the forenoon
Registrar General

No. A 735223 DISCHARGE of within Mortgage No. 394760 dated 15 January 1917
Produced 2nd January 1917 and entered 2nd January 1917 at 4 o'clock in the afternoon
Registrar General

No. 501724 MORTGAGE dated 3rd October 1919
from the Oscar Basil Vernon Barnett
to Harold Marr Saunders of
Parramatta Motor Garage
Proprietor

Produced and entered 8th October 1919
at [illegible] o'clock in the afternoon.

B. R. Williams
REGISTRAR GENERAL.

No. [illegible] TRANSFER OF MORTGAGE No. [illegible] dated
[illegible] July 1920 from the said Harold [illegible]
[illegible] to [illegible] of [illegible]

Produced 6th July 1920
entered [illegible] 1920
at [illegible] o'clock in the [illegible] noon.

B. R. Williams
REGISTRAR GENERAL.

No. F263234 DISCHARGE of within mortgage
No. A501724 dated 29th August 1949
Produced and entered 13th July 1950
at 8 mins past 11 o'clock in the fore noon.

L. Wells
REGISTRAR GENERAL.

No. F263231 TRANSFER dated 20th June 1950
from the said Oscar Basil Vernon Barnett
to Charles Brandon Gribble of Granville
Café Proprietor
of the land within described

Produced and entered 13th July 1950
at 8 mins past 11 o'clock in the fore noon.

L. Wells
REGISTRAR GENERAL.

No. F263232 MORTGAGE dated 20th June 1950
from the said Charles Brandon Gribble to
George Matthew [illegible]
Land Agent

Produced and entered 13th July 1950
at 8 mins past 11 o'clock in the fore noon.

L. Wells
REGISTRAR GENERAL.

No. [illegible] NOTICE OF RESUMPTION
The Commissioner for Railways
is the proprietor of part [illegible] of the land
within described [illegible] which
is provided by Section [illegible] of the Public Works Act [illegible] freed from
all other interests.

Entered 19th August 1960

J. Watson
Registrar General

Mabel Gribble of Granville Widow is
now the registered proprietor of the land within described.
See Section [illegible] Application No. K 213500
Entered [illegible] March 1960

J. Watson
REGISTRAR GENERAL.

MORTGAGE No. F263236 has been discharged.
No. H 501290 Entered 18th November 1960

J. Watson
REGISTRAR GENERAL.

No. [illegible] TRANSFER dated 11th June 1962
to Mabel Irene [illegible]
wife of [illegible]
of the land within described

Entered 21st [illegible] 1962

J. Watson
REGISTRAR GENERAL.

COMPUTER FOLIO 7/1044 NO FURTHER
DEALINGS TO BE REGISTERED.

[illegible] CANCELLED [illegible]
[illegible] under
[illegible]
[illegible] H 483002

[redacted]

CATE OF TITLE

[redacted]TY ACT, 1900, as amended.

10123207

NEW SOUTH WALES

Appln. No. 19072

Prior Title Vol. 2626 Fol. 243

Vol. 10123 Fol. 207

1st Edition issued 29-9-1965 CANCELLED

IT K29075

SEE AUTO FOLIO

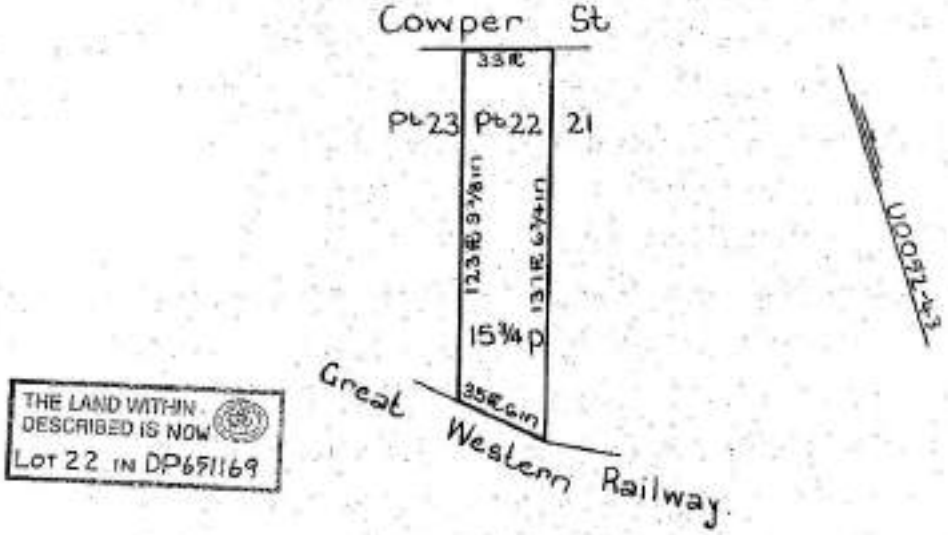
(Page 1) Vol. 10123 Fol. 207

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Witness M J Hassell

Registrar General.

PLAN SHOWING LOCATION OF LAND



K29075

Scale: 50 feet to one inch

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in part of Lot 22 in Deposited Plan 7553 in the City of Parramatta Parish of Liberty Plains and County of Cumberland being part of Portion 1 granted to Gernham Blaxcell on 1-1-1806.

Registrar General.

FIRST SCHEDULE (continued overleaf)

~~CHARLES TONY HARBURN of Granville, Welder.~~

Registrar General.

SECOND SCHEDULE (continued overleaf)

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.

Registrar General.

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(Page 2 of 2 pages)

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar General
Tony ~~Mamoun~~ Mamoun in ½ share and George ~~Mamoun~~ Mamoun in ½ share both of Granville, Panel Beaters, tenancy in common. CANCELLED	Transfers	R412989 R412990	-------	11-9-1979	

SEE AUTO FOLIO

R412989 T to R-90T R

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION		

FORM No. 62

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 22/651169

SEARCH DATE	TIME	EDITION NO	DATE
27/8/2013	2:05 PM	1	28/6/2007

LAND

LOT 22 IN DEPOSITED PLAN 651169
AT GRANVILLE
LOCAL GOVERNMENT AREA PARRAMATTA
PARISH OF LIBERTY PLAINS COUNTY OF CUMBERLAND
TITLE DIAGRAM DP651169

FIRST SCHEDULE

TNSF PTY LTD (T AD230384)

SECOND SCHEDULE (1 NOTIFICATION)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

PRINTED ON 27/8/2013

APPENDIX D

WORKCOVER NSW INFORMATION

WorkCover
Our Ref: D13/160027
Your Ref: David Yonge

WorkCover NSW
92-100 Donnison Street, Gosford, NSW 2250
Locked Bag 2906, Lisarow, NSW 2252
T 02 4321 5000 F 02 4325 4145
WorkCover Assistance Service 13 10 50
DX 731 Sydney workcover.nsw.gov.au

26 August 2013

Attention: David Yonge
SMEC Testing Services Pty Ltd
PO Box 6989
Wetherill Park NSW 2164

Dear Mr Yonge,

RE SITE: 2-6 Bold St & 80-82 Cowper St Granville NSW

I refer to your site search request received by WorkCover NSW on 22 August 2013 requesting information on licences to keep dangerous goods for the above site.

A search of the Stored Chemical Information Database (SCID) and the microfiche records held by WorkCover NSW has not located any records pertaining to the above mentioned premises.

If you have any further queries please contact the Dangerous Goods Licensing Team on (02) 4321 5500.

Yours Sincerely

Brent Jones
Senior Licensing Officer
Dangerous Goods Team

APPENDIX E

SOIL PROFILE LOG SHEETS

SMEC Testing Services Pty Ltd **GEOTECHNICAL LOG - NON CORE BOREHOLE**

Client: Designer Home Constructions Pty Limited
Project: 2-6 Reid and 80-82 Cowper Street, Granville
Location: Refer to Drawing No. 84/16462

Project No.: 19905/3575C
Date: August 28, 2013
Logged: JK

BOREHOLE NO.: BH 1
Sheet 1 of 1

WATER TABLE	SAMPLES	DEPTH (m)	DESCRIPTION OF DRILLED PRODUCT (Soil type, colour, grain size, plasticity, minor components, observations)	SYMBOL	CONSISTENCY (cohesive soils) or RELATIVE DENSITY (sands and gravels)	MOISTURE
	S1 @ 0.05 m		SANDY GRAVEL: light grey with dark grey and red brown FILL PID = 0.6 ppm	GW		D
			SILTY CLAY: dark grey/brown, medium plasticity, trace of gravel	CL		D-M
			FILL			
	S2 @ 0.4 m		SILTY CLAY: orange brown with light grey, medium to high plasticity PID = 0.5 ppm	CL/CH	FIRM TO STIFF	M
		0.5			STIFF	
		1.0				
			SILTY CLAY: light grey with orange brown, medium plasticity, occasional shale gravel	CL	VERY STIFF	M
		1.5				
			WEATHERED SHALE: dark grey with orange brown, occasional clay seams		EXTREMELY LOW STRENGTH	D
		2.0				
			AUGER REFUSAL AT 2.3 M ON WEATHERED SHALE			
		2.5				

NOTES: D - disturbed sample U - undisturbed tube sample B - bulk sample
WT - level of water table or free water N - Standard Penetration Test (SPT)

See explanation sheets for meaning of all descriptive terms and symbols

Operator: STS
Equipment: Edson RP70
Hole Diameter (mm): 100
Angle from Vertical (°): 0

SMEC Testing Services Pty Ltd **GEOTECHNICAL LOG - NON CORE BOREHOLE**

Client: Designer Home Constructions Pty Limited
Project: 2-6 Reid and 80-82 Cowper Street, Granville
Location: Refer to Drawing No. 84/16467/2

Project No.: 19905/3575C
Date: August 28, 2013
Logged: JK

BOREHOLE NO.: BH 2
Sheet 1 of 1

WATER TABLE	SAMPLES	DEPTH (m)	DESCRIPTION OF DRILLED PRODUCT (Soil type, colour, grain size, plasticity, minor components, observations)	SYMBOL	CONSISTENCY (cohesive soils) or RELATIVE DENSITY (sands and gravels)	MOISTURE
			CONCRETE: (90 mm thick)			
	S1 @ 0.2 m		SILTY SANDY CLAY: dark grey with occasional light grey, fine grained sand, low plasticity, trace of gravel PID = 0.2 ppm	CL	FIRM	M
			FILL			
	S4 @ 0.4 m	0.5	SILTY CLAY: orange brown with dark grey, medium plasticity, trace of fine grained sand, trace of gravel PID = 0.3 ppm	CL	FIRM TO STIFF	M
			FILL			
	S5 @ 1.5 m	1.0	SILTY CLAY: orange brown with light grey, medium to high plasticity PID = 0.2 ppm	CL/CH	STIFF	M
		1.5	SILTY CLAY: light grey with orange brown, medium to high plasticity, occasional shale gravel	CL/CI	VERY STIFF	M
		2.0	WEATHERED SHALE: dark grey with orange brown, clay recon		EXTREMELY LOW STRENGTH	D
			AUGER REFUSAL AT 2.3 M ON WEATHERED SHALE			
		2.5				

NOTES: D - disturbed sample U - undisturbed tube sample B - bulk sample
WT - level of water table or free water N - Standard Penetration Test (SPT)

See explanation sheets for meaning of all descriptive terms and symbols

Operator: STS
Equipment: Edson RP70
Hole Diameter (mm): 100
Angle from Vertical (°): 0

SMEC Testing Services Pty Ltd **GEOTECHNICAL LOG - NON CORE BOREHOLE**

Client: Designer Home Constructions Pty Limited
Project: 2-6 Reid and 80-82 Cowper Street, Granville
Location: Refer to Drawing No. 84/16462

Project No.: 19805/3575C
Date: August 28, 2013
Logged: JK

BOREHOLE NO.: BH 5
Sheet 1 of 1

WATER TABLE	SAMPLES	DEPTH (m)	DESCRIPTION OF DRILLED PRODUCT (Soil type, colour, grain size, plasticity, minor components, observations)	SYMBOL	CONSISTENCY (cohesive soils) or RELATIVE DENSITY (sands and gravels)	MOISTURE
			CONCRETE: (150 mm thick)			
	S6/3936 @ 0.2 m		SILTY CLAY: dark brown with dark grey and orange brown and light grey, medium to high plasticity, trace of fine grained sand, trace of gravel PID = 0.4 ppm	CL	FIRM TO STIFF	M
			FILL			
	S9 @ 0.4 m	0.5	SILTY CLAY: orange brown with light grey, medium to high plasticity PID 0.2 ppm	CI-CH	FIRM TO STIFF	M
					STIFF	
		1.0	SILTY CLAY: light grey with orange brown, medium plasticity	CL	STIFF	M
					VERY STIFF	
			WEATHERED SHALE: dark grey with light grey and orange brown, clay seams		EXTREMELY LOW STRENGTH	D
		1.5				
		2.0				
		2.5				
			AUGER REFUSAL AT 3.0 M ON WEATHERED SHALE			

NOTES: D - disturbed sample U - undisturbed tube sample B - bulk sample
WT - level of water table or free water N - Standard Penetration Test (SPT)

See explanation sheets for meaning of all descriptive terms and symbols

Operator: STS
Equipment: Edson RP70
Hole Diameter (mm): 100
Angle from Vertical (°): 0

SMEC Testing Services Pty Ltd **GEOTECHNICAL LOG - NON CORE BOREHOLE**

Client: Designer Home Constructions Pty Limited
Project: 2-6 Reid and 80-82 Cowper Street, Granville
Location: Refer to Drawing No. 84/16462

Project No.: 19805/3575C
Date: August 28, 2013
Logged: JK

BOREHOLE NO.: BH 4
Sheet 1 of 1

WATER TABLE	SAMPLES	DEPTH (m)	DESCRIPTION OF DRILLED PRODUCT (Soil type, colour, grain size, plasticity, minor components, observations)		BY MOISTURE CONDITION	CONSISTENCY (cohesive soils) or RELATIVE DENSITY (sands and gravels)	MOISTURE
			ASPHALT/SANDY GRAVEL: dark grey	FILL	GW		D
	S10 @ 0.2 m		SILTY CLAY: orange brown with dark grey and light grey, medium to high plasticity, trace of gravel	PID = 0.5 ppm	CLAY	FIRM TO VERY STIFF	M
	S11 @ 0.4 m	0.5	SILTY CLAY: orange brown with light grey, medium to high plasticity	FILL PID 0.2 ppm	CLAY	FIRM TO STIFF	M
						STIFF	
		1.0	SILTY CLAY: light grey with orange brown, medium to high plasticity		CLAY	VERY STIFF	M
		1.5	WEATHERED SHALE: dark grey with light grey, clay seams			EXTREMELY LOW STRENGTH	D
		2.0					
		2.5	AUGER REFUSAL AT 2.5 M ON WEATHERED SHALE				

NOTES: D - disturbed sample; U - undisturbed tube sample; B - bulk sample
WT - level of water table or free water; N - Standard Penetration Test (SPT)

See explanation sheets for meaning of all descriptive terms and symbols

Operator: STS
Equipment: Edson RP70
Hole Diameter (mm): 100
Angle from Vertical (°): 0

APPENDIX F

CHAIN OF CUSTODY DOCUMENTATION

ALS Group

Environmental Division

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES1319417**		
Client	: **SMEC TESTING SERVICES PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: DAVID YONGE	Contact	: Client Services
Address	: P O BOX 6989 WETHERILL PARK NSW, AUSTRALIA 2164	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: dyonge@smectesting.com.au	E-mail	: sydney@alsglobal.com
Telephone	: +61 02 9756 2166	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 9756 1137	Facsimile	: +61-2-8784 8500
Project	: 19305 3376C	Page	: 1 of 3
Order number	: 10371		
C-O-C number	: P19305-COC1	Quote number	: ES2013SMETES0267 (EN/025/13)
Site	: ----		
Sampler	: ----	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 03-SEP-2013	Issue Date	: 04-SEP-2013 14:39
Client Requested Due Date	: 10-SEP-2013	Scheduled Reporting Date	: **10-SEP-2013**

Delivery Details

Mode of Delivery	: Client Drop off	Temperature	: 19°C
No. of coolers/boxes	: 1 HARD	No. of samples received	: 10
Security Seal	: Intact.	No. of samples analysed	: 10

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- Samples received in appropriately pretreated and preserved containers.
- Asbestos analysis will be subcontracted to ASET.
- **Samples received in appropriately pretreated and preserved containers.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **Sample S8 will be forwarded to ALS Brisbane as per COC.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (60 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default to 15:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory for processing purposes and will be shown bracketed without a time component.

Matrix: **SOIL**

Laboratory sample ID	Client sampling date / time	Client sample ID	SOIL - ASB-SOL (Subcontracted) Asbestos - Count (Soil)	SOIL - EA002 pH (1:5)	SOIL - EA010 (solids): Electrical Conductivity (1:5) Electrical Conductivity (1:5)	SOIL - EA055-103 Moisture Content	SOIL - ED045G Soluble Major Anions	SOIL - ED045G (solids) Chloride Soluble by Discrete Analyser	SOIL - EK026SF (Solids) Total Cyanide By Segmented Flow Analyser	SOIL - EP074(SF) (solids) VOC - Fumigants, Hal Aliphatics, Hal Aromatics,
ES1319417-001	28-AUG-2013 15:00	S1	✓	✓	✓	✓	✓	✓	✓	✓
ES1319417-002	28-AUG-2013 15:00	S2		✓	✓	✓	✓	✓		
ES1319417-003	28-AUG-2013 15:00	S3	✓							
ES1319417-005	28-AUG-2013 15:00	S5		✓	✓	✓	✓	✓		
ES1319417-006	28-AUG-2013 15:00	S6	✓						✓	
ES1319417-009	28-AUG-2013 15:00	S10	✓							✓
ES1319417-010	28-AUG-2013 15:00	S11		✓	✓	✓	✓	✓		

Matrix: **SOIL**

Laboratory sample ID	Client sampling date / time	Client sample ID	SOIL - S-02 8 Metals (Incl. Digestion)	SOIL - S-03 13 Metals (NEPM 2013 Suite - Incl. Digestion)	SOIL - S-07 TRH-BTEX/PAH (SIM)	SOIL - S-12 OC/OP Pesticides	SOIL - S-19 TRH/BTEX/PPR/OC/OP/PCBS metals
ES1319417-001	28-AUG-2013 15:00	S1		✓	✓		
ES1319417-002	28-AUG-2013 15:00	S2		✓		✓	
ES1319417-003	28-AUG-2013 15:00	S3					✓
ES1319417-004	28-AUG-2013 15:00	S4		✓	✓		
ES1319417-006	28-AUG-2013 15:00	S6	✓		✓		
ES1319417-007	28-AUG-2013 15:00	S7	✓		✓		
ES1319417-008	28-AUG-2013 15:00	S9		✓		✓	
ES1319417-009	28-AUG-2013 15:00	S10					✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ALL INVOICES		
- A4 - AU Tax Invoice (INV)	Email	accounts@smectesting.com.au
ALL REPORTS		
- *AU Certificate of Analysis - NATA (COA)	Email	enquiries@smectesting.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	enquiries@smectesting.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	enquiries@smectesting.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	enquiries@smectesting.com.au
- Chain of Custody (CoC) (COC)	Email	enquiries@smectesting.com.au
- EDI Format - ENMRG (ENMRG)	Email	enquiries@smectesting.com.au
DAVID YONGE		
- *AU Certificate of Analysis - NATA (COA)	Email	dyonge@smectesting.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	dyonge@smectesting.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	dyonge@smectesting.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN	Email	dyonge@smectesting.com.au
- A4 - AU Tax Invoice (INV)	Email	dyonge@smectesting.com.au
- Attachment - Report (SUBCO)	Email	dyonge@smectesting.com.au
- Chain of Custody (CoC) (COC)	Email	dyonge@smectesting.com.au
- EDI Format - ENMRG (ENMRG)	Email	dyonge@smectesting.com.au
- EDI Format - ESDAT (ESDAT)	Email	dyonge@smectesting.com.au

Environmental Division
Sydney
Work Order
ES1319417

Telephone : +61-2-8784 8555

Page 1 of 1

CHAIN OF CUSTODY RECORD

SMEC Testing Services Pty Ltd Job No: 19305/3376C Order No: 10371

PO Box 6989 (postal)
14/1 Cowpasture Place (office), Wetherill Park NSW 2164

Telephone: (02) 9756 2166 Fax: (02) 9756 1137
E-Mail: dyonge@smeclesting.com.au Contact: David Yonge

Laboratory: ALS Laboratory Group - Sydney Environmental Division
277-289 Woodpark Road, SMITHFIELD NSW 2164
Telephone: (02) 8784 8555 Fax: (02) 8784 8500 Contact: Jacob Waugh

Laboratory number	Sample number	jar/ bottle	bag	Date sampled	Composite number	Sample type	Comments	S2 Metals	S3 Metals	S7	S4	S12	S19	Total Cyanide	VHC Scan	Asbestos	Total PCB	pH + EC	Sulfate + Chloride						
1	S1	1		28/08/2013		soil			X	X				X	X	X		X	X						
2	S2	1		28/08/2013		soil			X			X						X	X						
3	S3	1		28/08/2013		soil							X			X									
4	S4	1		29/08/2013		soil			X	X															
5	S5	1		28/08/2013		soil												X	X						
6	S6	1		28/08/2013		soil		X		X				X		X									
7	S7	1		28/08/2013		soil		X		X															
~~8~~	S8	1		28/08/2013		soil	Please forward to ALS Brisbane	X		X															
8	S9	1		28/08/2013		soil			X			X													
9	S10	1		28/08/2013		soil							X		X	X									
10	S11	1		28/08/2013		soil												X	X						
TOTAL		11						3	4	5		2	2	2	2	4		4	4						

ANALYSIS

Released by SMEC Testing Services	Date:	Time:	CoC Number: P19305 - COC1
David Yonge Signed:	3/09/2013	11:30 AM	Your quotation: SMEC 2012 (EN/025/12)
Received by: Signed: Steven	Date: 3/9/13	Time: 11:40	Preliminary results by: Tues 10 Sept 2013 / Final results by: Tues 10 Sept 2013

Comments:

Standard Detection Limits Apply, Standard Turnaround Required on Results

Please forward Sample S8 to ALS Brisbane for Analysis

ALS Group

Environmental Division

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: EB1321498		
Client	: SMEC TESTING SERVICES PTY LTD	Laboratory	: Environmental Division Brisbane
Contact	: DAVID YONGE	Contact	: Customer Services
Address	: P O BOX 6989 WETHERILL PARK NSW, AUSTRALIA 2164	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: dyonge@smectesting.com.au	E-mail	: Brisbane.Enviro.Services@alsglobal.com
Telephone	: +61 02 9756 2166	Telephone	: +61 7 3243 7222
Facsimile	: +61 02 9756 1137	Facsimile	: +61 7 3243 7218
Project	: 19305 3376C	Page	: 1 of 2
Order number	: 10371		
C-O-C number	: P19305 - COC1	Quote number	: ES2013SMETES0267 (EN/025/13)
Site	: ----		
Sampler	: ----	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 04-SEP-2013	Issue Date	: 04-SEP-2013 18:01
Client Requested Due Date	: 10-SEP-2013	Scheduled Reporting Date	: **10-SEP-2013**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 1.2°C - Ice present
No. of coolers/boxes	: 1 MEDIUM	No. of samples received	: 1
Security Seal	: Intact.	No. of samples analysed	: 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' etc. suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Matt Goodwin.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- Sample Disposal - Aqueous (14 days), Solid (60 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default to 15:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory for processing purposes and will be shown bracketed without a time component.

Matrix: **SOIL**

Laboratory sample ID	Client sampling date / time	Client sample ID	SOIL - S-02 8 Metals (incl. Digestion)	SOIL - S-07 TPH/BTEX/PAH (SIM)
EB1321498-001	26-AUG-2013 15:00	S8	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ALL INVOICES		
- A4 - AU Tax Invoice (INV)	Email	accounts@smectesting.com.au
ALL REPORTS		
- *AU Certificate of Analysis - NATA (COA)	Email	enquiries@smectesting.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	enquiries@smectesting.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	enquiries@smectesting.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	enquiries@smectesting.com.au
- Chain of Custody (CoC) (COC)	Email	enquiries@smectesting.com.au
- EDI Format - ENMRG (ENMRG)	Email	enquiries@smectesting.com.au
DAVID YONGE		
- *AU Certificate of Analysis - NATA (COA)	Email	dyonge@smectesting.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	dyonge@smectesting.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	dyonge@smectesting.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN	Email	dyonge@smectesting.com.au
- Chain of Custody (CoC) (COC)	Email	dyonge@smectesting.com.au
- EDI Format - ENMRG (ENMRG)	Email	dyonge@smectesting.com.au

Environmental Division
Brisbane
Work Order JO
EB1321498

Telephone : +61-7-3243 7222

Page 1 of 1

CHAIN OF CUSTODY RECORD

SMEC Testing Services Pty Ltd Job No: 19305/3376C Order No: 10371

PO Box 6989 (postal)
14/1 Cowpasture Place (office), Wetherill Park NSW 2164

Telephone: (02) 9756 2166 Fax: (02) 9756 1137
E-Mail: dyonge@smectesting.com.au Contact: David Yonge

Laboratory: ALS Laboratory Group - Sydney Environmental Division
277-289 Woodpark Road, SMITHFIELD NSW 2164
Telephone: (02) 8784 8555 Fax: (02) 8784 8500 Contact: Jacob Waugh

ALS Brisbane

Laboratory number	Sample number	jar/ bottle	bag	Date sampled	Composite number	Sample type	Comments / Split WO
1	S1	1		28/08/2013		soil	Lab / Analysis: [redacted]
2	S2	1		28/08/2013		soil	Organised By / Date:
3	S3	1		28/08/2013		soil	Relinquished By / Date:
4	S4	1		28/08/2013		soil	Connote / Courier:
5	S5	1		28/08/2013		soil	WO No:
6	S6	1		28/08/2013		soil	Attach By PO / Internal Sheet:
7	S7	1		28/08/2013		soil	
8	S8	1		28/08/2013		soil	Please forward to ALS Brisbane
8	S9	1		28/08/2013		soil	
9	S10	1		28/08/2013		soil	
10	S11	1		28/08/2013		soil	
TOTAL		11					

ANALYSIS

S2 Metals	S3 Metals	S7	S4	S12	S19	Total Cyanide	VHC Scan	Asbestos	Total PCB	pH + EC	Sulfate + Chloride					
	X	X				X	X	X		X	X					
	X			X						X	X					
					X			X								
	X	X														
										X	X					
X		X				X		X								
X		X														
X		X														
	X			X												
					X		X	X								
										X	X					
3	4	5		2	2	2	2	4		4	4					

Released by SMEC Testing Services
David Yonge
Signed: DYge
Date: 3/09/2013
Time: 11:30 AM

CoC Number: P19305 - COC1

Your quotation: SMEC 2012 (EN/025/12)

Received by:
Signed: Steven
Date: 3/9/13
Time: 11:40

Preliminary results by: Tues 10 Sept 2013
Final results by: Tues 10 Sept 2013

Comments:

Standard Detection Limits Apply, Standard Turnaround Required on Results

Please forward Sample S8 to ALS Brisbane for Analysis

RECEIVED 04/09/13 08:55

SMEC Testing Services

APPENDIX G

ANALYTICAL LABORATORY REPORTS

ALS Group

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES1319417**	Page	: 1 of 17
Client	: **SMEC TESTING SERVICES PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: DAVID YONGE	Contact	: Client Services
Address	: P O BOX 6989 WETHERILL PARK NSW, AUSTRALIA 2164	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: dyonge@smectesting.com.au	E-mail	: sydney@alsglobal.com
Telephone	: +61 02 9756 2166	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 9756 1137	Facsimile	: +61-2-8784 8500
Project	: 19305 3376C	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 10371		
C-O-C number	: P19305-COC1	Date Samples Received	: 03-SEP-2013
Sampler	: ----	Issue Date	: 10-SEP-2013
Site	: ----		
		No. of samples received	: 10
Quote number	: EN/025/13	No. of samples analysed	: 10

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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.

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

- **EK026SF: Spike failed for Total Cyanide due to matrix interferences (confirmed by re-analysis).**
- **EP068: Positive results on sample S3 confirmed by re-extraction and re-analysis.**

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	Position	Accreditation Category
Alex Rossi	Organic Chemist	Sydney Organics
		Sydney Organics
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
		Sydney Inorganics
Hoa Nguyen	Senior Inorganic Chemist	Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	S1	S2	S3	S4	S5
			Client sampling date / time	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00
Compound	CAS Number	LOR	Unit	ES1319417-001	ES1319417-002	ES1319417-003	ES1319417-004	ES1319417-005
EA002 : pH (Soils)								
pH Value	---	0.1	pH Unit	7.2	5.5	---	---	5.1
EA010: Conductivity								
Electrical Conductivity @ 25°C	---	1	µS/cm	175	111	---	---	71
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	---	1.0	%	12.6	25.8	19.2	23.0	20.1
ED040S : Soluble Sulfate by ICPAES								
Sulfate as SO4 2-	14808-79-8	10	mg/kg	200	250	---	---	180
ED045G: Chloride Discrete analyser								
Chloride	16887-00-6	10	mg/kg	30	50	---	---	10
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	11	11	14	14	---
Barium	7440-39-3	10	mg/kg	290	30	---	70	---
Beryllium	7440-41-7	1	mg/kg	<1	<1	---	<1	---
Boron	7440-42-8	50	mg/kg	<50	<50	---	<50	---
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	---
Chromium	7440-47-3	2	mg/kg	25	35	29	37	---
Cobalt	7440-48-4	2	mg/kg	3	<2	---	<2	---
Copper	7440-50-8	5	mg/kg	39	7	55	11	---
Lead	7439-92-1	5	mg/kg	541	16	335	39	---
Manganese	7439-96-5	5	mg/kg	230	6	---	36	---
Nickel	7440-02-0	2	mg/kg	8	<2	6	4	---
Selenium	7782-49-2	5	mg/kg	<5	<5	---	<5	---
Vanadium	7440-62-2	5	mg/kg	60	101	---	107	---
Zinc	7440-66-6	5	mg/kg	598	12	349	216	---
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.1	<0.1	0.1	<0.1	---
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	<1	---	---	---	---
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	---	0.1	mg/kg	---	---	<0.1	---	---
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	---	<0.05	<0.05	---	---
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	---	<0.05	<0.05	---	---

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	S1	S2	S3	S4	S5
				Client sampling date / time	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00
Compound	CAS Number	LOR	Unit		ES1319417-001	ES1319417-002	ES1319417-003	ES1319417-004	ES1319417-005
EP068A: Organochlorine Pesticides (OC) - Continued									
beta-BHC	319-85-7	0.05	mg/kg		---	<0.05	<0.05	---	---
gamma-BHC	58-89-9	0.05	mg/kg		---	<0.05	<0.05	---	---
delta-BHC	319-86-8	0.05	mg/kg		---	<0.05	<0.05	---	---
Heptachlor	76-44-8	0.05	mg/kg		---	<0.05	<0.05	---	---
Aldrin	309-00-2	0.05	mg/kg		---	<0.05	<0.05	---	---
Heptachlor epoxide	1024-57-3	0.05	mg/kg		---	<0.05	<0.05	---	---
A Total Chlordane (sum)	---	0.05	mg/kg		---	<0.05	<0.05	---	---
trans-Chlordane	5103-74-2	0.05	mg/kg		---	<0.05	<0.05	---	---
alpha-Endosulfan	959-98-8	0.05	mg/kg		---	<0.05	<0.05	---	---
cis-Chlordane	5103-71-9	0.05	mg/kg		---	<0.05	<0.05	---	---
Dieldrin	60-57-1	0.05	mg/kg		---	<0.05	0.14	---	---
4,4`-DDE	72-55-9	0.05	mg/kg		---	<0.05	0.25	---	---
Endrin	72-20-8	0.05	mg/kg		---	<0.05	<0.05	---	---
beta-Endosulfan	33213-65-9	0.05	mg/kg		---	<0.05	<0.05	---	---
A Endosulfan (sum)	115-29-7	0.05	mg/kg		---	<0.05	<0.05	---	---
4,4`-DDD	72-54-8	0.05	mg/kg		---	<0.05	<0.05	---	---
Endrin aldehyde	7421-93-4	0.05	mg/kg		---	<0.05	<0.05	---	---
Endosulfan sulfate	1031-07-8	0.05	mg/kg		---	<0.05	<0.05	---	---
4,4`-DDT	50-29-3	0.2	mg/kg		---	<0.2	<0.2	---	---
Endrin ketone	53494-70-5	0.05	mg/kg		---	<0.05	<0.05	---	---
Methoxychlor	72-43-5	0.2	mg/kg		---	<0.2	<0.2	---	---
A Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		---	<0.05	0.14	---	---
A Sum of DDD + DDE + DDT	---	0.05	mg/kg		---	<0.05	0.25	---	---
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		---	<0.05	<0.05	---	---
Demeton-S-methyl	919-86-8	0.05	mg/kg		---	<0.05	<0.05	---	---
Monocrotophos	6923-22-4	0.2	mg/kg		---	<0.2	<0.2	---	---
Dimethoate	60-51-5	0.05	mg/kg		---	<0.05	<0.05	---	---
Diazinon	333-41-5	0.05	mg/kg		---	<0.05	<0.05	---	---
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		---	<0.05	<0.05	---	---
Parathion-methyl	298-00-0	0.2	mg/kg		---	<0.2	<0.2	---	---
Malathion	121-75-5	0.05	mg/kg		---	<0.05	<0.05	---	---
Fenthion	55-38-9	0.05	mg/kg		---	<0.05	<0.05	---	---
Chlorpyrifos	2921-88-2	0.05	mg/kg		---	<0.05	<0.05	---	---

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	S1	S2	S3	S4	S5
				Client sampling date / time	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00
Compound	CAS Number	LOR	Unit		ES1319417-001	ES1319417-002	ES1319417-003	ES1319417-004	ES1319417-005
EP068B: Organophosphorus Pesticides (OP) - Continued									
Parathion	56-38-2	0.2	mg/kg		---	<0.2	<0.2	---	---
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		---	<0.05	<0.05	---	---
Chlorfenvinphos	470-90-6	0.05	mg/kg		---	<0.05	<0.05	---	---
Bromophos-ethyl	4824-78-6	0.05	mg/kg		---	<0.05	<0.05	---	---
Fenamiphos	22224-92-6	0.05	mg/kg		---	<0.05	<0.05	---	---
Prothiofos	34643-46-4	0.05	mg/kg		---	<0.05	<0.05	---	---
Ethion	563-12-2	0.05	mg/kg		---	<0.05	<0.05	---	---
Carbophenothion	786-19-6	0.05	mg/kg		---	<0.05	<0.05	---	---
Azinphos Methyl	86-50-0	0.05	mg/kg		---	<0.05	<0.05	---	---
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	---	---	---	---

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	S1	S2	S3	S4	S5
				Client sampling date / time	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00
Compound	CAS Number	LOR	Unit		ES1319417-001	ES1319417-002	ES1319417-003	ES1319417-004	ES1319417-005
EP074E: Halogenated Aliphatic Compounds - Continued									
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	---	---	---	---
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	---	---	---	---
Hexachlorobutadiene	87-68-3	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	---	---	---	---
1.3-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	---	---	---	---
1.2.4-Trichlorobenzene	120-82-1	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)A: 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	1	mg/kg		---	---	<1	---	---
2-Nitrophenol	88-75-5	0.5	mg/kg		---	---	<0.5	---	---
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		---	---	<0.5	---	---

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	S1	S2	S3	S4	S5
				Client sampling date / time	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00
Compound	CAS Number	LOR	Unit		ES1319417-001	ES1319417-002	ES1319417-003	ES1319417-004	ES1319417-005
EP075(SIM)A: Phenolic Compounds - Continued									
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	2	mg/kg		---	---	<2	---	---
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	---	<0.5	<0.5	---
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	---	<0.5	<0.5	---
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	---	<0.5	<0.5	---
Fluorene	86-73-7	0.5	mg/kg		<0.5	---	<0.5	<0.5	---
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	---	<0.5	<0.5	---
Anthracene	120-12-7	0.5	mg/kg		<0.5	---	<0.5	<0.5	---
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	---	<0.5	<0.5	---
Pyrene	129-00-0	0.5	mg/kg		<0.5	---	<0.5	<0.5	---
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	---	<0.5	<0.5	---
Chrysene	218-01-9	0.5	mg/kg		<0.5	---	<0.5	<0.5	---
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg		<0.5	---	<0.5	<0.5	---
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	---	<0.5	<0.5	---
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	---	<0.5	<0.5	---
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	---	<0.5	<0.5	---
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	---	<0.5	<0.5	---
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	---	<0.5	<0.5	---
^ Sum of polycyclic aromatic hydrocarbons	---	0.5	mg/kg		<0.5	---	<0.5	<0.5	---
^ Benzo(a)pyrene TEQ (zero)	---	0.5	mg/kg		<0.5	---	<0.5	<0.5	---
^ Benzo(a)pyrene TEQ (half LOR)	---	0.5	mg/kg		0.6	---	0.6	0.6	---
^ Benzo(a)pyrene TEQ (LOR)	---	0.5	mg/kg		1.2	---	1.2	1.2	---
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	---	10	mg/kg		<10	---	<10	<10	---
C10 - C14 Fraction	---	50	mg/kg		<50	---	<50	<50	---
C15 - C28 Fraction	---	100	mg/kg		<100	---	<100	<100	---
C29 - C36 Fraction	---	100	mg/kg		<100	---	<100	<100	---
^ C10 - C36 Fraction (sum)	---	50	mg/kg		<50	---	<50	<50	---

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	S1	S2	S3	S4	S5
				Client sampling date / time	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00
Compound	CAS Number	LOR	Unit		ES1319417-001	ES1319417-002	ES1319417-003	ES1319417-004	ES1319417-005
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	---	<10	<10	---
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	---	<10	<10	---
>C10 - C16 Fraction	>C10_C16	50	mg/kg		<50	---	<50	<50	---
>C16 - C34 Fraction	---	100	mg/kg		<100	---	<100	<100	---
>C34 - C40 Fraction	---	100	mg/kg		<100	---	<100	<100	---
^ >C10 - C40 Fraction (sum)	---	50	mg/kg		<50	---	<50	<50	---
^ >C10 - C16 Fraction minus Naphthalene (F2)	---	50	mg/kg		<50	---	<50	<50	---
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	---	<0.2	<0.2	---
Toluene	108-88-3	0.5	mg/kg		<0.5	---	<0.5	<0.5	---
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	---	<0.5	<0.5	---
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	---	<0.5	<0.5	---
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	---	<0.5	<0.5	---
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	---	<0.5	<0.5	---
^ Sum of BTEX	---	0.2	mg/kg		<0.2	---	<0.2	<0.2	---
Naphthalene	91-20-3	1	mg/kg		<1	---	<1	<1	---
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		---	---	83.3	---	---
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		---	92.0	116	---	---
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		---	112	123	---	---
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		103	---	---	---	---
Toluene-D8	2037-26-5	0.1	%		116	---	---	---	---
4-Bromofluorobenzene	460-00-4	0.1	%		105	---	---	---	---
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		92.7	---	95.4	90.7	---
2-Chlorophenol-D4	93951-73-6	0.1	%		88.6	---	88.0	88.6	---
2.4.6-Tribromophenol	118-79-6	0.1	%		89.4	---	83.3	91.0	---
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		90.7	---	90.4	89.3	---

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	S1	S2	S3	S4	S5
				Client sampling date / time	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00
Compound	CAS Number	LOR	Unit		ES1319417-001	ES1319417-002	ES1319417-003	ES1319417-004	ES1319417-005
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	0.1	%		90.3	---	91.4	90.0	---
4-Terphenyl-d14	1718-51-0	0.1	%		95.3	---	95.2	96.5	---
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		101	---	121	111	---
Toluene-D8	2037-26-5	0.1	%		108	---	98.5	90.4	---
4-Bromofluorobenzene	460-00-4	0.1	%		102	---	101	96.1	---

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	S6	S7	S9	S10	S11
				Client sampling date / time	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00
Compound	CAS Number	LOR	Unit		ES1319417-006	ES1319417-007	ES1319417-008	ES1319417-009	ES1319417-010
EA002 : pH (Soils)									
pH Value	---	0.1	pH Unit		---	---	---	---	5.0
EA010: Conductivity									
Electrical Conductivity @ 25°C	---	1	µS/cm		---	---	---	---	104
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	---	1.0	%		22.8	20.7	26.0	22.4	24.0
ED040S : Soluble Sulfate by ICPAES									
Sulfate as SO4 2-	14808-79-8	10	mg/kg		---	---	---	---	280
ED045G: Chloride Discrete analyser									
Chloride	16887-00-6	10	mg/kg		---	---	---	---	30
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		10	8	8	8	---
Barium	7440-39-3	10	mg/kg		---	---	40	---	---
Beryllium	7440-41-7	1	mg/kg		---	---	<1	---	---
Boron	7440-42-8	50	mg/kg		---	---	<50	---	---
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	---
Chromium	7440-47-3	2	mg/kg		25	18	22	12	---
Cobalt	7440-48-4	2	mg/kg		---	---	12	---	---
Copper	7440-50-8	5	mg/kg		22	22	16	32	---
Lead	7439-92-1	5	mg/kg		68	38	21	126	---
Manganese	7439-96-5	5	mg/kg		---	---	23	---	---
Nickel	7440-02-0	2	mg/kg		3	2	<2	9	---
Selenium	7782-49-2	5	mg/kg		---	---	<5	---	---
Vanadium	7440-62-2	5	mg/kg		---	---	62	---	---
Zinc	7440-66-6	5	mg/kg		70	62	16	57	---
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.2	0.1	<0.1	<0.1	---
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	1	mg/kg		<1	---	---	---	---
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	---	0.1	mg/kg		---	---	---	<0.1	---
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		---	---	<0.05	<0.05	---
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		---	---	<0.05	<0.05	---

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	S6	S7	S9	S10	S11
				Client sampling date / time	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00
Compound	CAS Number	LOR	Unit		ES1319417-006	ES1319417-007	ES1319417-008	ES1319417-009	ES1319417-010
EP068A: Organochlorine Pesticides (OC) - Continued									
beta-BHC	319-85-7	0.05	mg/kg		---	---	<0.05	<0.05	---
gamma-BHC	58-89-9	0.05	mg/kg		---	---	<0.05	<0.05	---
delta-BHC	319-86-8	0.05	mg/kg		---	---	<0.05	<0.05	---
Heptachlor	76-44-8	0.05	mg/kg		---	---	<0.05	<0.05	---
Aldrin	309-00-2	0.05	mg/kg		---	---	<0.05	<0.05	---
Heptachlor epoxide	1024-57-3	0.05	mg/kg		---	---	<0.05	<0.05	---
[A] Total Chlordane (sum)	---	0.05	mg/kg		---	---	<0.05	<0.05	---
trans-Chlordane	5103-74-2	0.05	mg/kg		---	---	<0.05	<0.05	---
alpha-Endosulfan	959-98-8	0.05	mg/kg		---	---	<0.05	<0.05	---
cis-Chlordane	5103-71-9	0.05	mg/kg		---	---	<0.05	<0.05	---
Dieldrin	60-57-1	0.05	mg/kg		---	---	<0.05	<0.05	---
4,4`-DDE	72-55-9	0.05	mg/kg		---	---	<0.05	<0.05	---
Endrin	72-20-8	0.05	mg/kg		---	---	<0.05	<0.05	---
beta-Endosulfan	33213-65-9	0.05	mg/kg		---	---	<0.05	<0.05	---
[A] Endosulfan (sum)	115-29-7	0.05	mg/kg		---	---	<0.05	<0.05	---
4,4`-DDD	72-54-8	0.05	mg/kg		---	---	<0.05	<0.05	---
Endrin aldehyde	7421-93-4	0.05	mg/kg		---	---	<0.05	<0.05	---
Endosulfan sulfate	1031-07-8	0.05	mg/kg		---	---	<0.05	<0.05	---
4,4`-DDT	50-29-3	0.2	mg/kg		---	---	<0.2	<0.2	---
Endrin ketone	53494-70-5	0.05	mg/kg		---	---	<0.05	<0.05	---
Methoxychlor	72-43-5	0.2	mg/kg		---	---	<0.2	<0.2	---
[A] Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		---	---	<0.05	<0.05	---
[A] Sum of DDD + DDE + DDT	---	0.05	mg/kg		---	---	<0.05	<0.05	---
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		---	---	<0.05	<0.05	---
Demeton-S-methyl	919-86-8	0.05	mg/kg		---	---	<0.05	<0.05	---
Monocrotophos	6923-22-4	0.2	mg/kg		---	---	<0.2	<0.2	---
Dimethoate	60-51-5	0.05	mg/kg		---	---	<0.05	<0.05	---
Diazinon	333-41-5	0.05	mg/kg		---	---	<0.05	<0.05	---
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		---	---	<0.05	<0.05	---
Parathion-methyl	298-00-0	0.2	mg/kg		---	---	<0.2	<0.2	---
Malathion	121-75-5	0.05	mg/kg		---	---	<0.05	<0.05	---
Fenthion	55-38-9	0.05	mg/kg		---	---	<0.05	<0.05	---
Chlorpyrifos	2921-88-2	0.05	mg/kg		---	---	<0.05	<0.05	---

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	S6	S7	S9	S10	S11
				Client sampling date / time	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00
Compound	CAS Number	LOR	Unit		ES1319417-006	ES1319417-007	ES1319417-008	ES1319417-009	ES1319417-010
EP068B: Organophosphorus Pesticides (OP) - Continued									
Parathion	56-38-2	0.2	mg/kg		---	---	<0.2	<0.2	---
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		---	---	<0.05	<0.05	---
Chlorfenvinphos	470-90-6	0.05	mg/kg		---	---	<0.05	<0.05	---
Bromophos-ethyl	4824-78-6	0.05	mg/kg		---	---	<0.05	<0.05	---
Fenamiphos	22224-92-6	0.05	mg/kg		---	---	<0.05	<0.05	---
Prothiofos	34643-46-4	0.05	mg/kg		---	---	<0.05	<0.05	---
Ethion	563-12-2	0.05	mg/kg		---	---	<0.05	<0.05	---
Carbophenothion	786-19-6	0.05	mg/kg		---	---	<0.05	<0.05	---
Azinphos Methyl	86-50-0	0.05	mg/kg		---	---	<0.05	<0.05	---
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	---

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	S6	S7	S9	S10	S11
				Client sampling date / time	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00
Compound	CAS Number	LOR	Unit		ES1319417-006	ES1319417-007	ES1319417-008	ES1319417-009	ES1319417-010
EP074E: Halogenated Aliphatic Compounds - Continued									
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	---
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	---
Hexachlorobutadiene	87-68-3	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	---
1.3-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	---
1.2.4-Trichlorobenzene	120-82-1	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)A: 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	1	mg/kg	---	---	---	<1	---
2-Nitrophenol	88-75-5	0.5	mg/kg	---	---	---	<0.5	---
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	---	---	---	<0.5	---

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	S6	S7	S9	S10	S11
				Client sampling date / time	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00
Compound	CAS Number	LOR	Unit		ES1319417-006	ES1319417-007	ES1319417-008	ES1319417-009	ES1319417-010
EP075(SIM)A: Phenolic Compounds - Continued									
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	2	mg/kg		---	---	---	<2	---
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	---	<0.5	---
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	---	<0.5	---
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	---	<0.5	---
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	---	<0.5	---
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	---	<0.5	---
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	---	<0.5	---
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	---	<0.5	---
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	---	<0.5	---
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	---	<0.5	---
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	---	<0.5	---
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg		<0.5	<0.5	---	<0.5	---
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	---	<0.5	---
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	---	<0.5	---
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	---	<0.5	---
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	---	<0.5	---
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	---	<0.5	---
^ Sum of polycyclic aromatic hydrocarbons	---	0.5	mg/kg		<0.5	<0.5	---	<0.5	---
^ Benzo(a)pyrene TEQ (zero)	---	0.5	mg/kg		<0.5	<0.5	---	<0.5	---
^ Benzo(a)pyrene TEQ (half LOR)	---	0.5	mg/kg		0.6	0.6	---	0.6	---
^ Benzo(a)pyrene TEQ (LOR)	---	0.5	mg/kg		1.2	1.2	---	1.2	---
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	---	10	mg/kg		<10	<10	---	<10	---
C10 - C14 Fraction	---	50	mg/kg		<50	<50	---	<50	---
C15 - C28 Fraction	---	100	mg/kg		<100	<100	---	<100	---
C29 - C36 Fraction	---	100	mg/kg		<100	<100	---	<100	---
^ C10 - C36 Fraction (sum)	---	50	mg/kg		<50	<50	---	<50	---

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	S6	S7	S9	S10	S11
				Client sampling date / time	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00
Compound	CAS Number	LOR	Unit		ES1319417-006	ES1319417-007	ES1319417-008	ES1319417-009	ES1319417-010
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	---	<10	---
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	---	<10	---
>C10 - C16 Fraction	>C10_C16	50	mg/kg		<50	<50	---	<50	---
>C16 - C34 Fraction	---	100	mg/kg		<100	<100	---	<100	---
>C34 - C40 Fraction	---	100	mg/kg		<100	<100	---	<100	---
^ >C10 - C40 Fraction (sum)	---	50	mg/kg		<50	<50	---	<50	---
^ >C10 - C16 Fraction minus Naphthalene (F2)	---	50	mg/kg		<50	<50	---	<50	---
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	---	<0.2	---
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	---	<0.5	---
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	---	<0.5	---
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	---	<0.5	---
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	---	<0.5	---
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	<0.5	---	<0.5	---
^ Sum of BTEX	---	0.2	mg/kg		<0.2	<0.2	---	<0.2	---
Naphthalene	91-20-3	1	mg/kg		<1	<1	---	<1	---
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		---	---	---	83.4	---
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		---	---	88.7	88.8	---
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		---	---	106	88.3	---
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		---	---	---	106	---
Toluene-D8	2037-26-5	0.1	%		---	---	---	115	---
4-Bromofluorobenzene	460-00-4	0.1	%		---	---	---	106	---
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		98.2	90.0	---	98.6	---
2-Chlorophenol-D4	93951-73-6	0.1	%		92.4	90.2	---	93.8	---
2.4.6-Tribromophenol	118-79-6	0.1	%		83.9	88.7	---	97.3	---
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		93.0	90.4	---	95.5	---

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	S6	S7	S9	S10	S11
				Client sampling date / time	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00	28-AUG-2013 15:00
Compound	CAS Number	LOR	Unit		ES1319417-006	ES1319417-007	ES1319417-008	ES1319417-009	ES1319417-010
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	0.1	%		90.9	90.0	---	84.2	---
4-Terphenyl-d14	1718-51-0	0.1	%		101	99.3	---	99.3	---
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		122	128	---	104	---
Toluene-D8	2037-26-5	0.1	%		102	104	---	100	---
4-Bromofluorobenzene	460-00-4	0.1	%		106	99.9	---	102	---

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	84	130
Toluene-D8	2037-26-5	66	136
4-Bromofluorobenzene	460-00-4	80	122
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	83	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	68	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	72.8	133.2
Toluene-D8	2037-26-5	73.9	132.1
4-Bromofluorobenzene	460-00-4	71.6	130.0

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref: ASET34982/ 38162 / 1 - 4
Your ref: ES1319417
NATA Accreditation No: 14484

9 September 2013

Australian Laboratory Services Pty Ltd
277 – 284 Woodpark Road
Smithfield NSW 2164

Attn: Ms Nanthini Coilparampil

Dear Nanthini

Asbestos Identification
This report presents the results of four samples, forwarded by Australian Laboratory Services Pty Ltd on 5 September 2013, for analysis for asbestos.

1.Introduction: Four samples forwarded were examined and analysed for the presence of asbestos.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method **(Safer Environment Method 1.)**

3. Results :

Sample No. 1. ASET34982 / 38162 / 1. ES1319417 - 001 - S1.
Approx dimensions 2.5 cm x 2.5 cm x 1.2 cm
The sample consisted of a mixture of soil, stones and plant matter.
No asbestos detected.

Sample No. 2. ASET34982 / 38162 / 2. ES1319417 - 003 - S3.
Approx dimensions 2.0 cm x 2.0 cm x 1.3 cm
The sample consisted of a mixture of soil, stones, plant matter and fragments of plaster.
No asbestos detected.

Sample No. 3. ASET34982 / 38162 / 3. ES1319417 - 006 - S6.
Approx dimensions 2.5 cm x 2.5 cm x 2.0 cm
The sample consisted of a mixture of clayish soil, stones, plant matter and fragments of plaster.
No asbestos detected.

Sample No. 4. ASET34982 / 38162 / 4. ES1319417 - 009 - S9.
Approx dimensions 3.5 cm x 3.5 cm x 2.0 cm
The sample consisted of a mixture of clayish soil, stones, plant matter, fragments of plaster and bitumen.
No asbestos detected.

Analysed and reported by,

Nisansala Maddage. BSc(Hons)
Environmental Scientist/Approved Identifier
Approved Signatory

NATA
WORLD RECOGNISED ACCREDITATION

This document is issued in accordance with NATA's Accreditation requirements. Accredited for compliance with ISO/IEC 17025.

Environmental Division

QUALITY CONTROL REPORT

Work Order	: **ES1319417**	Page	: 1 of 18
Client	: **SMEC TESTING SERVICES PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: DAVID YONGE	Contact	: Client Services
Address	: P O BOX 6989 WETHERILL PARK NSW, AUSTRALIA 2164	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: dyonge@smectesting.com.au	E-mail	: sydney@alsglobal.com
Telephone	: +61 02 9756 2166	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 9756 1137	Facsimile	: +61-2-8784 8500
Project	: 19305 3376C	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: P19305-COC1	Date Samples Received	: 03-SEP-2013
Sampler	: ----	Issue Date	: 10-SEP-2013
Order number	: 10371		
		No. of samples received	: 10
Quote number	: EN/025/13	No. of samples analysed	: 10

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

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

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.

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

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	Position	Accreditation Category
Alex Rossi	Organic Chemist	Sydney Organics
		Sydney Organics
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
		Sydney Inorganics
Hoa Nguyen	Senior Inorganic Chemist	Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics

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 (%)
EA002 : pH (Soils) (QC Lot: 3046088)									
ES1319417-002	S2	EA002: pH Value	—	0.1	pH Unit	5.5	5.6	0.0	0% - 20%
ES1319577-003	Anonymous	EA002: pH Value	—	0.1	pH Unit	6.4	6.4	0.0	0% - 20%
EA010: Conductivity (QC Lot: 3046089)									
ES1319417-002	S2	EA010: Electrical Conductivity @ 25°C	—	1	µS/cm	111	115	3.4	0% - 20%
ES1319577-003	Anonymous	EA010: Electrical Conductivity @ 25°C	—	1	µS/cm	101	97	3.9	0% - 20%
EA055: Moisture Content (QC Lot: 3045685)									
ES1319366-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	—	1.0	%	37.8	36.9	3.4	0% - 20%
ES1319417-010	S11	EA055-103: Moisture Content (dried @ 103°C)	—	1.0	%	24.0	24.8	3.0	0% - 20%
ED040S: Soluble Major Anions (QC Lot: 3046090)									
ES1319417-002	S2	ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	250	250	0.0	0% - 20%
ED045G: Chloride by Discrete Analyser (QC Lot: 3046091)									
ES1319417-002	S2	ED045G: Chloride	16887-00-6	10	mg/kg	50	50	0.0	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 3050920)									
ES1319361-001	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	60	90	31.7	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	8	8	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	3	3	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	5	5	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	7	21.7	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	13	14	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	34	25	30.6	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	144	134	6.8	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	18	18	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	81	54	39.6	0% - 50%
		EG005T: Boron	7440-42-8	50	mg/kg	<50	<50	0.0	No Limit
ES1319467-013	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	40	20	57.6	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	3	3	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	4	<2	65.1	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	3	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit

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 (%)
EG005T: Total Metals by ICP-AES (QC Lot: 3050920) - continued									
ES1319467-013	Anonymous	EG005T: Lead	7439-92-1	5	mg/kg	6	<5	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	15	5	96.4	No Limit
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	6	6	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	39	20	64.1	No Limit
		EG005T: Boron	7440-42-8	50	mg/kg	<50	<50	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3050921)									
ES1319361-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EW1302512-005	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 3044574)									
ES1319366-001	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EP068: Polychlorinated Biphenyls (PCB) (QC Lot: 3044395)									
ES1319417-003	S3	EP068: Total Polychlorinated biphenyls	---	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3044394)									
ES1319417-003	S3	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	0.14	0.13	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	0.25	0.23	6.3	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3044394)									
ES1319417-003	S3	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit

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 (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3044394) - continued									
ES1319417-003	S3	EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP074D: Fumigants (QC Lot: 3044582)									
ES1319417-001	S1	EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 3044582)									
ES1319417-001	S1	EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

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: 3044582) - continued									
ES1319417-001	S1	EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 3044582)									
ES1319417-001	S1	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 3044582)									
ES1319417-001	S1	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 3044398)									
ES1319417-001	S1	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3044398)									

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: 3044398) - continued									
ES1319417-001	S1	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	—	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	—	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3044397)									
ES1319417-001	S1	EP071: C15 - C28 Fraction	—	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	—	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	—	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3044581)									
ES1319417-001	S1	EP080: C6 - C9 Fraction	—	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3045681)									
ES1319398-001	Anonymous	EP080: C6 - C9 Fraction	—	10	mg/kg	<10	<10	0.0	No Limit
ES1319467-006	Anonymous	EP080: C6 - C9 Fraction	—	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QC Lot: 3044397)									
ES1319417-001	S1	EP071: >C16 - C34 Fraction	—	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	—	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QC Lot: 3044581)									
ES1319417-001	S1	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QC Lot: 3045681)									
ES1319398-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
ES1319467-006	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEXN (QC Lot: 3044581)									
ES1319417-001	S1	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit

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 (%)
EP080: BTEXN (QC Lot: 3044581) - continued									
ES1319417-001	S1	EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 3045681)									
ES1319398-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
ES1319467-006	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	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 Sample (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: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA010: Conductivity (QCLot: 3046089)								
EA010: Electrical Conductivity @ 25°C	---	1	µS/cm	<1	1412 µS/cm	98.4	70	130
ED040S: Soluble Major Anions (QCLot: 3046090)								
ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	<10	750 mg/kg	105	84	112
ED045G: Chloride by Discrete Analyser (QCLot: 3046091)								
ED045G: Chloride	16887-00-6	10	mg/kg	<10	5000 mg/kg	98.9	79	125
EG005T: Total Metals by ICP-AES (QCLot: 3050920)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	112	87	129
EG005T: Barium	7440-39-3	10	mg/kg	<10	143 mg/kg	106	83	129
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.63 mg/kg	108	88	130
EG005T: Boron	7440-42-8	50	mg/kg	<50	---	---	---	---
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	99.0	80	122
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	107	71	133
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	16.0 mg/kg	103	84	128
EG005T: Copper	7440-50-8	5	mg/kg	<5	32.0 mg/kg	102	86	126
EG005T: Lead	7439-92-1	5	mg/kg	<5	40.0 mg/kg	99.9	81	123
EG005T: Manganese	7439-96-5	5	mg/kg	<5	130 mg/kg	109	85	127
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.0 mg/kg	109	84	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	5.37 mg/kg	101	75	131
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	29.6 mg/kg	110	95	129
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	107	81	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3050921)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	85.7	66	112
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 3044574)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	99.9	83	123
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3044395)								
EP066: Total Polychlorinated biphenyls	---	0.1	mg/kg	<0.1	1 mg/kg	85.6	57.4	117
EP068A: Organochlorine Pesticides (OC) (QCLot: 3044394)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	82.5	71	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	77.4	66	122
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	82.8	69	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	87.0	71	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	82.2	65	113
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	82.4	68	116
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	79.8	68	118

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 3044394) - continued								
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	81.7	68	116
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	82.2	68	120
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	81.1	69	119
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	81.5	67	121
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	81.4	66	118
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	81.7	69	117
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.3	67	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	83.1	76	120
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	80.5	76	120
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	89.0	57.3	115
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.7	60	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	94.4	67	127
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	88.4	65	123
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	95.0	65	129
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3044394)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	96.1	56	126
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	100	64	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	86.1	54	122
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	91.4	64	124
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	84.3	73	117
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	84.2	55	119
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	82.8	69	123
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	87.3	70	120
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	85.1	71	115
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	83.7	68	114
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	84.0	68	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	84.5	69	115
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	87.4	70	118
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	86.6	68	116
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	83.6	64	120
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	82.8	68	116
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	83.0	70	118
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	91.6	67	123
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	70.9	42	126
EP074D: Fumigants (QCLot: 3044582)								
EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	83.4	55	133
EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	98.6	69	127
EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	85.2	54	124
EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	83.0	51	125

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP074D: Fumigants (QCLot: 3044582) - continued								
EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	89.2	66	126
EP074E: Halogenated Aliphatic Compounds (QCLot: 3044582)								
EP074: Dichlorodifluoromethane	75-71-8	1	mg/kg	—	10 mg/kg	64.2	30	148
		5	mg/kg	<5	—	—	—	—
EP074: Chloromethane	74-87-3	1	mg/kg	—	10 mg/kg	97.5	41	141
		5	mg/kg	<5	—	—	—	—
EP074: Vinyl chloride	75-01-4	1	mg/kg	—	10 mg/kg	103	43	147
		5	mg/kg	<5	—	—	—	—
EP074: Bromomethane	74-83-9	1	mg/kg	—	10 mg/kg	109	47	141
		5	mg/kg	<5	—	—	—	—
EP074: Chloroethane	75-00-3	1	mg/kg	—	10 mg/kg	106	49	143
		5	mg/kg	<5	—	—	—	—
EP074: Trichlorofluoromethane	75-69-4	1	mg/kg	—	10 mg/kg	97.3	49	135
		5	mg/kg	<5	—	—	—	—
EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	98.3	54	126
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	89.0	43	129
EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	93.7	62	130
EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	98.2	66	132
EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	98.6	66	132
EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	81.1	62	126
EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	93.0	64	128
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	90.3	59	125
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	97.9	65	123
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	96.9	64	120
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	95.9	65	127
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	98.1	70	130
EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	100	72	128
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	95.7	67	143
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	71.7	62	122
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	85.5	54	128
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	84.5	55	129
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	101	66	132
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	97.7	65	135
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	90.0	19.8	134
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	77.9	53	129
EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1 mg/kg	94.7	48	136
EP074F: Halogenated Aromatic Compounds (QCLot: 3044582)								
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	96.4	70	128
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	94.0	67	127

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074F: Halogenated Aromatic Compounds (QCLot: 3044582) - continued								
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	93.8	64	130
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	94.9	62	130
EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1 mg/kg	95.2	63	129
EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1 mg/kg	93.7	63	129
EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1 mg/kg	92.6	66	128
EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1 mg/kg	87.2	54	134
EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	87.3	60	132
EP074G: Trihalomethanes (QCLot: 3044582)								
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	95.7	62	120
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	89.1	61	121
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	91.1	63	121
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	91.5	60	126
EP075(SIM)A: Phenolic Compounds (QCLot: 3044398)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	88.0	74	116
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	83.1	74	116
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	87.3	72	116
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1	8 mg/kg	81.6	69	123
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	87.1	60.3	117
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	84.4	69	117
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	82.4	68	112
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	86.1	73	117
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	81.8	76.4	114
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	93.0	57	111
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	83.8	68.9	112
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1	8 mg/kg	34.9	3.9	57
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3044398)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	83.8	80	124
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	83.1	77	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	84.1	79	123
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	82.4	77	123
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	85.8	79	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	81.8	79	123
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	82.5	79	123
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	83.6	79	125
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	89.5	73	121
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	105	81	123
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	89.0	70	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	101	77	123
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	103	76	122

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3044398) - continued								
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	99.9	71	113
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	91.7	71.7	113
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	89.4	72.4	114
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3044397)								
EP071: C10 - C14 Fraction	---	50	mg/kg	<50	200 mg/kg	101	71	131
EP071: C15 - C28 Fraction	---	100	mg/kg	<100	300 mg/kg	103	74	138
EP071: C29 - C36 Fraction	---	100	mg/kg	<100	200 mg/kg	97.3	64	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3044581)								
EP080: C6 - C9 Fraction	---	10	mg/kg	<10	26 mg/kg	101	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3045681)								
EP080: C6 - C9 Fraction	---	10	mg/kg	<10	26 mg/kg	97.0	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3044397)								
EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	250 mg/kg	103	70	130
EP071: >C16 - C34 Fraction	---	100	mg/kg	<100	350 mg/kg	101	74	138
EP071: >C34 - C40 Fraction	---	100	mg/kg	<100	---	---	---	---
		50	mg/kg	---	150 mg/kg	87.1	63	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3044581)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	105	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3045681)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	95.9	68.4	128
EP080: BTEXN (QCLot: 3044581)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	88.4	62	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	94.1	62	128
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	90.6	58	118
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	92.8	60	120
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	93.3	60	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	87.8	62	138
EP080: BTEXN (QCLot: 3045681)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	90.8	62	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	96.6	62	128
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	96.5	58	118
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	94.9	60	120
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	98.3	60	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	88.0	62	138

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**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
ED045G: Chloride by Discrete Analyser (QCLot: 3046091)							
ES1319417-002	S2	ED045G: Chloride	16887-00-6	1250 mg/kg	110	70	130
EG005T: Total Metals by ICP-AES (QCLot: 3050920)							
ES1319361-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	101	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	99.0	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	101	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	104	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	94.8	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	103	70	130
		EG005T: Selenium	7782-49-2	50 mg/kg	104	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	88.3	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3050921)							
ES1319361-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	96.6	70	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 3044574)							
ES1319366-001	Anonymous	EK026SF: Total Cyanide	57-12-5	20 mg/kg	# 24.6	70	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3044395)							
ES1319417-003	S3	EP066: Total Polychlorinated biphenyls	---	1 mg/kg	96.8	70	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 3044394)							
ES1319417-003	S3	EP068: gamma-BHC	58-89-9	0.5 mg/kg	84.0	70	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	99.7	70	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	96.1	70	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	80.6	70	130
		EP068: Endrin	72-20-8	2 mg/kg	89.7	70	130
		EP068: 4,4'-DDT	50-29-3	2 mg/kg	86.0	70	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3044394)							
ES1319417-003	S3	EP068: Diazinon	333-41-5	0.5 mg/kg	97.2	70	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	73.4	70	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	92.9	70	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	94.9	70	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	87.4	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 3044582)							
ES1319417-001	S1	EP074: 1,1-Dichloroethene	75-35-4	2.5 mg/kg	107	70	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	93.4	70	130
EP074F: Halogenated Aromatic Compounds (QCLot: 3044582)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP074F: Halogenated Aromatic Compounds (QCLot: 3044582) - continued							
ES1319417-001	S1	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	91.8	70	130
EP075(SIM)A: Phenolic Compounds (QCLot: 3044396)							
ES1319417-003	S3	EP075(SIM): Phenol	108-95-2	10 mg/kg	87.2	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	82.8	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	82.1	60	130
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	79.2	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	59.8	20	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3044398)							
ES1319417-003	S3	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	83.9	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	83.7	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3044397)							
ES1319417-001	S1	EP071: C10 - C14 Fraction	---	640 mg/kg	80.8	73	137
		EP071: C15 - C28 Fraction	---	3140 mg/kg	97.5	53	131
		EP071: C29 - C36 Fraction	---	2660 mg/kg	77.1	52	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3044581)							
ES1319417-001	S1	EP080: C6 - C9 Fraction	---	32.5 mg/kg	105	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3045681)							
ES1319467-006	Anonymous	EP080: C6 - C9 Fraction	---	32.5 mg/kg	111	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3044397)							
ES1319417-001	S1	EP071: >C10 - C16 Fraction	>C10_C16	850 mg/kg	103	73	137
		EP071: >C16 - C34 Fraction	---	4800 mg/kg	74.1	53	131
		EP071: >C34 - C40 Fraction	---	2400 mg/kg	59.0	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3044581)							
ES1319417-001	S1	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	107	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3045681)							
ES1319467-006	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	107	70	130
EP080: BTEXN (QCLot: 3044581)							
ES1319417-001	S1	EP080: Benzene	71-43-2	2.5 mg/kg	79.9	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	90.2	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	87.1	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	89.4	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	89.8	70	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	80.9	70	130
EP080: BTEXN (QCLot: 3045681)							
ES1319467-006	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	75.0	70	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: Spike Recovery (%): MS	Matrix Spike (MS) Report: Recovery Limits (%): Low	Matrix Spike (MS) Report: Recovery Limits (%): High
EP080: BTEXN (QCLot: 3045681) - continued							
ES1319467-006	Anonymous	EP080: Toluene	108-88-3	2.5 mg/kg	81.6	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	83.8	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	84.3	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	87.8	70	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	86.3	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are 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**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%): MS	Spike Recovery (%): MSD	Recovery Limits (%): Low	Recovery Limits (%): High	RPDs (%): Value	RPDs (%): Control Limit
EP068A: Organochlorine Pesticides (OC) (QCLot: 3044394)										
ES1319417-003	S3	EP068: gamma-BHC	58-89-9	0.5 mg/kg	84.0	---	70	130	---	---
		EP068: Heptachlor	76-44-8	0.5 mg/kg	99.7	---	70	130	---	---
		EP068: Aldrin	309-00-2	0.5 mg/kg	96.1	---	70	130	---	---
		EP068: Dieldrin	60-57-1	0.5 mg/kg	80.8	---	70	130	---	---
		EP068: Endrin	72-20-8	2 mg/kg	89.7	---	70	130	---	---
		EP068: 4,4'-DDT	50-29-3	2 mg/kg	86.0	---	70	130	---	---
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3044394)										
ES1319417-003	S3	EP068: Diazinon	333-41-5	0.5 mg/kg	97.2	---	70	130	---	---
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	73.4	---	70	130	---	---
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	92.9	---	70	130	---	---
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	94.9	---	70	130	---	---
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	97.4	---	70	130	---	---
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3044395)										
ES1319417-003	S3	EP066: Total Polychlorinated biphenyls	---	1 mg/kg	98.8	---	70	130	---	---
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3044397)										
ES1319417-001	S1	EP071: C10 - C14 Fraction	---	640 mg/kg	80.8	---	73	137	---	---
		EP071: C15 - C28 Fraction	---	3140 mg/kg	97.5	---	53	131	---	---
		EP071: C29 - C36 Fraction	---	2860 mg/kg	77.1	---	52	132	---	---
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3044397)										
ES1319417-001	S1	EP071: >C10 - C16 Fraction	>C10_C16	850 mg/kg	103	---	73	137	---	---
		EP071: >C16 - C34 Fraction	---	4800 mg/kg	74.1	---	53	131	---	---
		EP071: >C34 - C40 Fraction	---	2400 mg/kg	59.0	---	52	132	---	---
EP075(SIM)A: Phenolic Compounds (QCLot: 3044398)										

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP075(SIM)A: Phenolic Compounds (QCLot: 3044398) - continued										
ES1319417-003	S3	EP075(SIM): Phenol	108-95-2	10 mg/kg	87.2	---	70	130	---	---
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	82.8	---	70	130	---	---
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	82.1	---	60	130	---	---
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	79.2	---	70	130	---	---
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	59.8	---	20	130	---	---
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3044398)										
ES1319417-003	S3	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	83.9	---	70	130	---	---
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	83.7	---	70	130	---	---
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 3044574)										
ES1319366-001	Anonymous	EK026SF: Total Cyanide	57-12-5	20 mg/kg	# 24.6	---	70	130	---	---
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3044581)										
ES1319417-001	S1	EP080: C8 - C9 Fraction	---	32.5 mg/kg	105	---	70	130	---	---
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3044581)										
ES1319417-001	S1	EP080: C8 - C10 Fraction	C8_C10	37.5 mg/kg	107	---	70	130	---	---
EP080: BTEXN (QCLot: 3044581)										
ES1319417-001	S1	EP080: Benzene	71-43-2	2.5 mg/kg	79.9	---	70	130	---	---
		EP080: Toluene	108-88-3	2.5 mg/kg	90.2	---	70	130	---	---
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	87.1	---	70	130	---	---
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	89.4	---	70	130	---	---
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	89.8	---	70	130	---	---
		EP080: Naphthalene	91-20-3	2.5 mg/kg	80.9	---	70	130	---	---
EP074E: Halogenated Aliphatic Compounds (QCLot: 3044582)										
ES1319417-001	S1	EP074: 1,1-Dichloroethene	75-35-4	2.5 mg/kg	107	---	70	130	---	---
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	93.4	---	70	130	---	---
EP074F: Halogenated Aromatic Compounds (QCLot: 3044582)										
ES1319417-001	S1	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	91.8	---	70	130	---	---
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3045681)										
ES1319467-006	Anonymous	EP080: C6 - C9 Fraction	---	32.5 mg/kg	111	---	70	130	---	---
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3045681)										
ES1319467-006	Anonymous	EP080: C8 - C10 Fraction	C8_C10	37.5 mg/kg	107	---	70	130	---	---
EP080: BTEXN (QCLot: 3045681)										
ES1319467-006	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	75.0	---	70	130	---	---
		EP080: Toluene	108-88-3	2.5 mg/kg	81.6	---	70	130	---	---
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	83.8	---	70	130	---	---
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	84.3	---	70	130	---	---

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080: BTEXN (QCLot: 3045681) - continued										
ES1319467-006	Anonymous	EP080: ortho-Xylene	95-47-6	2.5 mg/kg	87.8	—	70	130	—	—
		EP080: Naphthalene	91-20-3	2.5 mg/kg	86.3	—	70	130	—	—
ED045G: Chloride by Discrete Analyser (QCLot: 3046091)										
ES1319417-002	S2	ED045G: Chloride	16887-00-6	1250 mg/kg	110	—	70	130	—	—
EG005T: Total Metals by ICP-AES (QCLot: 3050920)										
ES1319361-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	101	—	70	130	—	—
		EG005T: Cadmium	7440-43-9	50 mg/kg	99.0	—	70	130	—	—
		EG005T: Chromium	7440-47-3	50 mg/kg	101	—	70	130	—	—
		EG005T: Copper	7440-50-8	250 mg/kg	104	—	70	130	—	—
		EG005T: Lead	7439-92-1	250 mg/kg	94.8	—	70	130	—	—
		EG005T: Nickel	7440-02-0	50 mg/kg	103	—	70	130	—	—
		EG005T: Selenium	7782-49-2	50 mg/kg	104	—	70	130	—	—
		EG005T: Zinc	7440-66-6	250 mg/kg	88.3	—	70	130	—	—
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3050921)										
ES1319361-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	96.6	—	70	130	—	—

Environmental Division

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1319417**	Page	: 1 of 9
Client	: SMEC TESTING SERVICES PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: DAVID YONGE	Contact	: Client Services
Address	: P O BOX 6989 WETHERILL PARK NSW, AUSTRALIA 2164	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: dyonge@smectesting.com.au	E-mail	: sydney@alsglobal.com
Telephone	: +61 02 9756 2166	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 9756 1137	Facsimile	: +61-2-8784 8500
Project	: 19305 3376C	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: P19305-COC1	Date Samples Received	: 03-SEP-2013
Sampler	: ----	Issue Date	: 10-SEP-2013
Order number	: 10371		
		No. of samples received	: 10
Quote number	: EN/025/13	No. of samples analysed	: 10

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (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.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA002 : pH (Soils)							
Soil Glass Jar - Unpreserved (EA002)							
S1, S2, S5, S11	28-AUG-2013	05-SEP-2013	04-SEP-2013	×	05-SEP-2013	05-SEP-2013	✓
EA010: Conductivity							
Soil Glass Jar - Unpreserved (EA010)							
S1, S2, S5, S11	28-AUG-2013	05-SEP-2013	04-SEP-2013	×	05-SEP-2013	03-OCT-2013	✓
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103)							
S1, S2, S3, S4, S5, S6, S7, S9, S10, S11	28-AUG-2013	---	---	---	05-SEP-2013	11-SEP-2013	✓
ED040S : Soluble Sulfate by ICPAES							
Soil Glass Jar - Unpreserved (ED040S)							
S1, S2, S5, S11	28-AUG-2013	05-SEP-2013	25-SEP-2013	✓	06-SEP-2013	03-OCT-2013	✓
ED045G: Chloride Discrete analyser							
Soil Glass Jar - Unpreserved (ED045G)							
S1, S2, S5, S11	28-AUG-2013	05-SEP-2013	25-SEP-2013	✓	06-SEP-2013	03-OCT-2013	✓
EG005T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
S1, S2, S3, S4, S6, S7, S9, S10	28-AUG-2013	09-SEP-2013	24-FEB-2014	✓	09-SEP-2013	24-FEB-2014	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
S1, S2, S3, S4, S6, S7, S8, S10	28-AUG-2013	09-SEP-2013	25-SEP-2013	✓	09-SEP-2013	25-SEP-2013	✓
EK026SF: Total CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK026SF)							
S1, S6	28-AUG-2013	04-SEP-2013	11-SEP-2013	✓	05-SEP-2013	18-SEP-2013	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066)							
S3, S10	28-AUG-2013	05-SEP-2013	11-SEP-2013	✓	06-SEP-2013	15-OCT-2013	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP066)							
S2, S3, S8, S10	28-AUG-2013	05-SEP-2013	11-SEP-2013	✓	06-SEP-2013	15-OCT-2013	✓
EP068B: Organophosphorus Pesticides (OP)							
Soil Glass Jar - Unpreserved (EP066)							
S2, S3, S9, S10	28-AUG-2013	05-SEP-2013	11-SEP-2013	✓	06-SEP-2013	15-OCT-2013	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP071)							
S1, S3, S4, S6, S7, S10	28-AUG-2013	05-SEP-2013	11-SEP-2013	✓	05-SEP-2013	15-OCT-2013	✓
EP074D: Fumigants							
Soil Glass Jar - Unpreserved (EP074)							
S1, S10	28-AUG-2013	04-SEP-2013	04-SEP-2013	✓	04-SEP-2013	04-SEP-2013	✓
EP074E: Halogenated Aliphatic Compounds							
Soil Glass Jar - Unpreserved (EP074)							
S1, S10	28-AUG-2013	04-SEP-2013	04-SEP-2013	✓	04-SEP-2013	04-SEP-2013	✓
EP074F: Halogenated Aromatic Compounds							
Soil Glass Jar - Unpreserved (EP074)							
S1, S10	28-AUG-2013	04-SEP-2013	04-SEP-2013	✓	04-SEP-2013	04-SEP-2013	✓
EP074G: Trihalomethanes							
Soil Glass Jar - Unpreserved (EP074)							
S1, S10	28-AUG-2013	04-SEP-2013	04-SEP-2013	✓	04-SEP-2013	04-SEP-2013	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
S3, S10	28-AUG-2013	05-SEP-2013	11-SEP-2013	✓	06-SEP-2013	15-OCT-2013	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM))								
S1,	S3,	28-AUG-2013	05-SEP-2013	11-SEP-2013	✓	06-SEP-2013	15-OCT-2013	✓
S4,	S6,							
S7,	S10							
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080)								
S1,	S10	28-AUG-2013	04-SEP-2013	11-SEP-2013	✓	04-SEP-2013	11-SEP-2013	✓
Soil Glass Jar - Unpreserved (EP080)								
S3,	S4,	28-AUG-2013	05-SEP-2013	11-SEP-2013	✓	05-SEP-2013	11-SEP-2013	✓
S6,	S7							
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080)								
S1,	S10	28-AUG-2013	04-SEP-2013	11-SEP-2013	✓	04-SEP-2013	11-SEP-2013	✓
Soil Glass Jar - Unpreserved (EP080)								
S3,	S4,	28-AUG-2013	05-SEP-2013	11-SEP-2013	✓	05-SEP-2013	11-SEP-2013	✓
S6,	S7							

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(where) 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)							
Chloride Soluble By Discrete Analyser	ED045G	1	4	25.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Electrical Conductivity (1:5)	EA010	2	18	11.1	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Major Anions - Soluble	ED040S	1	14	7.1	10.0	✗	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	6	16.7	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	4	25.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
pH (1:5)	EA002	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	2	50.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Cyanide by Segmented Flow Analyser	EK026SF	1	4	25.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	14	14.3	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	15	13.3	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	6	16.7	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	3	23	13.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	3	33.3	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Chloride Soluble By Discrete Analyser	ED045G	2	4	50.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Electrical Conductivity (1:5)	EA010	1	18	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Major Anions - Soluble	ED040S	1	14	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	6	16.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	4	25.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	2	50.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Cyanide by Segmented Flow Analyser	EK026SF	2	4	50.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	14	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	6	16.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	3	33.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Chloride Soluble By Discrete Analyser	ED045G	1	4	25.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Electrical Conductivity (1:5)	EA010	1	18	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Major Anions - Soluble	ED040S	1	14	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	6	16.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	4	25.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	2	50.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Cyanide by Segmented Flow Analyser	EK026SF	1	4	25.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	14	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

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	
Method Blanks (MB) - Continued							
Total Metals by ICP-AES	EG005T	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	6	16.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	3	33.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Chloride Soluble By Discrete Analyser	ED045G	1	4	25.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	6	16.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	4	25.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP068	1	2	50.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Cyanide by Segmented Flow Analyser	EK026SF	1	4	25.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	14	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	6	16.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	3	33.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

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
pH (1:5)	EA002	SOIL	(APHA 21st ed., 4500H+) pH is determined on soil samples after a 1:5 soil/water leach. This method is compliant with NEPM (2013) Schedule B(3) (Method 103)
Electrical Conductivity (1:5)	EA010	SOIL	(APHA 21st ed., 2510) Conductivity is determined on soil samples using a 1:5 soil/water leach. This method is compliant with NEPM (2013) Schedule B(3) (Method 104)
Moisture Content	EA055-103	SOIL	A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Major Anions - Soluble	ED040S	SOIL	In-house. Soluble Anions are determined off a 1:5 soil / water extract by ICPAES.
Chloride Soluble By Discrete Analyser	ED045G	SOIL	APHA 21st edition 4500-Cl- E. 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 librated thiocynate forms highly-coloured ferric thiocynate which is measured at 460 nm. Analysis is performed on a 1:5 soil / water leachate.
Total Metals by ICP-AES	EG005T	SOIL	(APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) 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)
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(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 SnCl2 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 Cyanide by Segmented Flow Analyser	EK026SF	SOIL	APHA 4500-CN-O. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM (2013) Schedule B(3) (Appdx. 2)
Polychlorinated Biphenyls (PCB)	EP068	SOIL	(USEPA SW 846 - 8270B) 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)
Pesticides by GCMS	EP068	SOIL	(USEPA SW 846 - 8270B) 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 504,505)
TPH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (2013) Schedule B(3) (Method 506.1)

Analytical Methods	Method	Matrix	Method Descriptions
Volatile Organic Compounds	EP074	SOIL	(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)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) 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)
TPH Volatiles/BTEX	EP080	SOIL	(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)

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for CN in Soils	CN-PR	SOIL	In-house, APHA 4500 CN. Samples are extracted by end-over-end tumbling with NaOH.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(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 (Option A - Concentrating)	ORG17A	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17B	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

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
Matrix Spike (MS) Recoveries							
EK026SF: Total CN by Segmented Flow Analyser	ES1319366-001	Anonymous	**Total Cyanide**	57-12-5	24.6 %	70-130%	**Recovery less than lower data quality objective**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**
- **For all matrices, no Laboratory Control outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

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
EA002 : pH (Soils)						
Soil Glass Jar - Unpreserved						
S1, S2, S5, S11	05-SEP-2013	04-SEP-2013	1	---	---	---
EA010: Conductivity						
Soil Glass Jar - Unpreserved						
S1, S2, S5, S11	05-SEP-2013	04-SEP-2013	1	---	---	---

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

Matrix: **SOIL**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Major Anions - Soluble	1	14	7.1	10.0	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

ALS Group

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: EB1321498	Page	: 1 of 6
Client	: SMEC TESTING SERVICES PTY LTD	Laboratory	: Environmental Division Brisbane
Contact	: DAVID YONGE	Contact	: Customer Services
Address	: P O BOX 6989 WETHERILL PARK NSW, AUSTRALIA 2164	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: dyonge@smectesting.com.au	E-mail	: Brisbane.Enviro.Services@alsglobal.com
Telephone	: +61 02 9756 2166	Telephone	: +61 7 3243 7222
Facsimile	: +61 02 9756 1137	Facsimile	: +61 7 3243 7218
Project	: 19305 3376C	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 10371		
C-O-C number	: P19305 - COC1	Date Samples Received	: 04-SEP-2013
Sampler	: —	Issue Date	: 10-SEP-2013
Site	: —		
		No. of samples received	: 1
Quote number	: EN/025/13	No. of samples analysed	: 1

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA

WORLD RECOGNISED ACCREDITATION

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	Position	Accreditation Category
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics
Matt Frost	Senior Organic Chemist	Brisbane Inorganics
Matt Frost	Senior Organic Chemist	Brisbane Organics
Matt Frost	Senior Organic Chemist	Brisbane Organics

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.

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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	S8	---	---	---	---
				Client sampling date / time	28-AUG-2013 15:00	---	---	---	---
Compound	CAS Number	LOR	Unit	EB1321498-001	---	---	---	---	---
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	---	1.0	%		24.4	---	---	---	---
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		7	---	---	---	---
Cadmium	7440-43-9	1	mg/kg		<1	---	---	---	---
Chromium	7440-47-3	2	mg/kg		20	---	---	---	---
Copper	7440-50-8	5	mg/kg		26	---	---	---	---
Lead	7439-92-1	5	mg/kg		46	---	---	---	---
Nickel	7440-02-0	2	mg/kg		3	---	---	---	---
Zinc	7440-66-6	5	mg/kg		70	---	---	---	---
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.2	---	---	---	---
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)fluoranthene	205-99-2	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	---	---	---	---
^ 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	---	---	---	---
EP080/071: Total Petroleum Hydrocarbons									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	S8	---	---	---	---
				Client sampling date / time	28-AUG-2013 15:00	---	---	---	---
Compound	CAS Number	LOR	Unit	EB1321498-001	---	---	---	---	
EP080/071: Total Petroleum Hydrocarbons - Continued									
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									
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	>C10_C16	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	1330-20-7	0.5	mg/kg	<0.5	---	---	---	---	
Naphthalene	91-20-3	1	mg/kg	<1	---	---	---	---	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%	82.6	---	---	---	---	
2-Chlorophenol-D4	93951-73-6	0.1	%	90.4	---	---	---	---	
2.4.6-Tribromophenol	118-79-6	0.1	%	63.0	---	---	---	---	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%	70.6	---	---	---	---	
Anthracene-d10	1719-06-8	0.1	%	77.7	---	---	---	---	
4-Terphenyl-d14	1718-51-0	0.1	%	102	---	---	---	---	
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%	107	---	---	---	---	

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	S8	---	---	---	---
				Client sampling date / time	28-AUG-2013 15:00	---	---	---	---
Compound	CAS Number	LOR	Unit	EB1321498-001	---	---	---	---	---
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.1	%	94.0	---	---	---	---	---
4-Bromofluorobenzene	460-00-4	0.1	%	89.5	---	---	---	---	---

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	34.8	154.5
2-Chlorophenol-D4	93951-73-6	41.9	152.8
2.4.6-Tribromophenol	118-79-6	26.0	156.8
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	33.8	156.5
Anthracene-d10	1719-06-8	36.9	153.1
4-Terphenyl-d14	1718-51-0	41.8	172.2
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	52.7	133.7
Toluene-D8	2037-26-5	60.3	131.1
4-Bromofluorobenzene	460-00-4	59.2	126.8

ALS Group

Environmental Division

QUALITY CONTROL REPORT

Work Order	: **EB1321498**	Page	: 1 of 8
Client	: **SMEC TESTING SERVICES PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: DAVID YONGE	Contact	: Customer Services
Address	: P O BOX 6989 WETHERILL PARK NSW, AUSTRALIA 2164	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: dyonge@smectesting.com.au	E-mail	: Brisbane.Enviro.Services@alsglobal.com
Telephone	: +61 02 9756 2166	Telephone	: +61 7 3243 7222
Facsimile	: +61 02 9756 1137	Facsimile	: +61 7 3243 7218
Project	: 19305 3376C	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: P19305 - COC1	Date Samples Received	: 04-SEP-2013
Sampler	: ----	Issue Date	: 10-SEP-2013
Order number	: 10371		
		No. of samples received	: 1
Quote number	: EN/026/13	No. of samples analysed	: 1

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

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

NATA

WORLD RECOGNISED ACCREDITATION

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics
Matt Frost	Senior Organic Chemist	Brisbane Inorganics
Matt Frost	Senior Organic Chemist	Brisbane Organics
Matt Frost	Senior Organic Chemist	Brisbane Organics

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.

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 (%)
EA055: Moisture Content (QC Lot: 3046161)									
EB1321439-003	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	—	1.0	%	11.4	11.3	0.9	0% - 50%
EB1321563-011	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	—	1.0	%	26.6	25.7	3.4	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 3045888)									
EB1321439-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	8	9	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	7	9	26.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	10	12	13.3	No Limit
EB1321558-015	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	6	6	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	2	3	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	6	7	17.9	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	8	8	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3045889)									
EB1321439-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EB1321558-015	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3045773)									
EB1321362-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

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: 3045773) - continued									
EB1321362-001	Anonymous	EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	---	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3045770)									
EB1321362-001	Anonymous	EP080: C6 - C9 Fraction	---	10	mg/kg	<10	<10	0.0	No Limit
EB1321559-002	Anonymous	EP080: C6 - C9 Fraction	---	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3045772)									
EB1321362-001	Anonymous	EP071: C15 - C28 Fraction	---	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	---	100	mg/kg	110	120	16.1	No Limit
		EP071: C10 - C14 Fraction	---	50	mg/kg	<50	<50	0.0	No Limit
EB1321559-003	Anonymous	EP071: C15 - C28 Fraction	---	100	mg/kg	140	140	0.0	No Limit
		EP071: C29 - C36 Fraction	---	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	---	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QC Lot: 3045770)									
EB1321362-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EB1321559-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QC Lot: 3045772)									
EB1321362-001	Anonymous	EP071: >C16 - C34 Fraction	---	100	mg/kg	130	150	16.6	No Limit
		EP071: >C34 - C40 Fraction	---	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	0.0	No Limit
EB1321559-003	Anonymous	EP071: >C16 - C34 Fraction	---	100	mg/kg	120	120	0.0	No Limit
		EP071: >C34 - C40 Fraction	---	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 3045770)									
EB1321362-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EB1321559-002	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	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 Sample (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: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 3045888)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	103	84	124
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	103	88	116
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	89.7	73	127
EG005T: Copper	7440-50-8	5	mg/kg	<5	32.0 mg/kg	106	86	122
EG005T: Lead	7439-92-1	5	mg/kg	<5	40.0 mg/kg	98.3	84	121
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.0 mg/kg	102	89	126
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	104	87	127
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3045889)								
EG035T: Mercury	7439-97-6	0.10	mg/kg	<0.1	2.57 mg/kg	92.9	78	114
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3045773)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	5.0 mg/kg	79.1	71	119
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	5.0 mg/kg	84.1	67	118
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	5.0 mg/kg	101	83	121
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	5.0 mg/kg	102	76	116
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	5.0 mg/kg	104	72	117
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	5.0 mg/kg	113	70	115
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	5.0 mg/kg	113	69	116
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	5.0 mg/kg	111	69	134
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	5.0 mg/kg	96.4	61	120
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	5.0 mg/kg	118	62	119
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	5.0 mg/kg	78.0	49	129
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	5.0 mg/kg	110	64	129
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	5.0 mg/kg	112	65	121
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	5.0 mg/kg	94.8	51	135
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	5.0 mg/kg	89.8	45	134
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	5.0 mg/kg	106	53	133
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3045770)								
EP080: C6 - C9 Fraction	---	10	mg/kg	<10	16 mg/kg	90.5	66	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3045772)								
EP071: C10 - C14 Fraction	---	50	mg/kg	<50	312 mg/kg	87.1	84	117
EP071: C15 - C28 Fraction	---	100	mg/kg	<100	500 mg/kg	88.0	80	118
EP071: C29 - C36 Fraction	---	100	mg/kg	<100	---	---	---	---
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3045770)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	18.5 mg/kg	89.1	66	126

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Laboratory Control Spike (LCS) Report: Spike Recovery (%): LCS	Laboratory Control Spike (LCS) Report: Recovery Limits (%): Low	Laboratory Control Spike (LCS) Report: Recovery Limits (%): High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3045772)								
EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	413 mg/kg	89.7	86	117
EP071: >C16 - C34 Fraction	---	100	mg/kg	<100	360 mg/kg	88.0	72	113
EP071: >C34 - C40 Fraction	---	100	mg/kg	<100	---	---	---	---
EP080: BTEXN (QCLot: 3045770)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	83.2	73	108
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	84.0	73	111
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	85.7	67	110
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	82.5	66	112
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	87.6	68	110
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	89.0	72	115

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**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG005T: Total Metals by ICP-AES (QCLot: 3045888)							
EB1321439-002	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	91.7	70	130
		EG005T: Cadmium	7440-43-9	25 mg/kg	101	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	100	70	130
		EG005T: Copper	7440-50-8	50 mg/kg	103	70	130
		EG005T: Lead	7439-92-1	50 mg/kg	96.4	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	101	70	130
		EG005T: Zinc	7440-66-6	50 mg/kg	103	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3045889)							
EB1321439-002	Anonymous	EG035T: Mercury	7439-97-6	5.0 mg/kg	96.0	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3045773)							
EB1321498-001	S6	EP075(SIM): Acenaphthene	83-32-9	2.5 mg/kg	112	70	130
		EP075(SIM): Pyrene	129-00-0	2.5 mg/kg	106	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3045770)							
EB1321439-001	Anonymous	EP080: C6 - C9 Fraction	---	8 mg/kg	73.6	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3045772)							
EB1321439-001	Anonymous	EP071: C10 - C14 Fraction	---	312 mg/kg	89.6	70	130
		EP071: C15 - C28 Fraction	---	500 mg/kg	91.2	70	130

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 (QCLot: 3045770)							
EB1321439-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	8 mg/kg	76.1	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3045772)							
EB1321439-001	Anonymous	EP071: >C10 - C16 Fraction	>C10_C16	413 mg/kg	92.3	70	130
		EP071: >C16 - C34 Fraction	---	360 mg/kg	88.5	70	130
EP080: BTEXN (QCLot: 3045770)							
EB1321439-001	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	72.3	70	130
		EP080: Toluene	108-88-3	2 mg/kg	70.0	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are 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**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report							
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)		
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3045770)											
EB1321439-001	Anonymous	EP080: C6 - C9 Fraction	---	8 mg/kg	73.6	---	70	130	---	---	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3045770)											
EB1321439-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	8 mg/kg	76.1	---	70	130	---	---	
EP080: BTEXN (QCLot: 3045770)											
EB1321439-001	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	72.3	---	70	130	---	---	
		EP080: Toluene	108-88-3	2 mg/kg	70.0	---	70	130	---	---	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3045772)											
EB1321439-001	Anonymous	EP071: C10 - C14 Fraction	---	312 mg/kg	89.6	---	70	130	---	---	
		EP071: C15 - C28 Fraction	---	500 mg/kg	91.2	---	70	130	---	---	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3045772)											
EB1321439-001	Anonymous	EP071: >C10 - C16 Fraction	>C10_C16	413 mg/kg	92.3	---	70	130	---	---	
		EP071: >C16 - C34 Fraction	---	360 mg/kg	88.5	---	70	130	---	---	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3045773)											
EB1321498-001	SB	EP075(SIM): Acenaphthene	83-32-9	2.5 mg/kg	112	---	70	130	---	---	
		EP075(SIM): Pyrene	129-00-0	2.5 mg/kg	105	---	70	130	---	---	
EG005T: Total Metals by ICP-AES (QCLot: 3045688)											
EB1321439-002	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	91.7	---	70	130	---	---	
		EG005T: Cadmium	7440-43-9	25 mg/kg	101	---	70	130	---	---	
		EG005T: Chromium	7440-47-3	50 mg/kg	100	---	70	130	---	---	
		EG005T: Copper	7440-50-8	50 mg/kg	103	---	70	130	---	---	
		EG005T: Lead	7439-92-1	50 mg/kg	95.4	---	70	130	---	---	

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG005T: Total Metals by ICP-AES (QCLot: 3045888) - continued										
EB1321439-002	Anonymous	EG005T: Nickel	7440-02-0	50 mg/kg	101	—	70	130	—	—
		EG005T: Zinc	7440-66-6	50 mg/kg	103	—	70	130	—	—
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3045889)										
EB1321439-002	Anonymous	EG035T: Mercury	7439-97-6	5.0 mg/kg	95.0	—	70	130	—	—

Environmental Division

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: EB1321498	Page	: 1 of 5
Client	: SMEC TESTING SERVICES PTY LTD	Laboratory	: Environmental Division Brisbane
Contact	: DAVID YONGE	Contact	: Customer Services
Address	: P O BOX 6989 WETHERILL PARK NSW, AUSTRALIA 2164	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: dyonge@smectesting.com.au	E-mail	: Brisbane.Enviro.Services@alsglobal.com
Telephone	: +61 02 9756 2166	Telephone	: +61 7 3243 7222
Facsimile	: +61 02 9756 1137	Facsimile	: +61 7 3243 7218
Project	: 19305 3376C	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: P19305 - COC1	Date Samples Received	: 04-SEP-2013
Sampler	: ----	Issue Date	: 10-SEP-2013
Order number	: 10371		
		No. of samples received	: 1
Quote number	: EN/025/13	No. of samples analysed	: 1

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (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.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103)							
S8	28-AUG-2013	---	---	---	05-SEP-2013	11-SEP-2013	✓
EG005T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
S8	28-AUG-2013	09-SEP-2013	24-FEB-2014	✓	09-SEP-2013	24-FEB-2014	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
S8	28-AUG-2013	09-SEP-2013	25-SEP-2013	✓	09-SEP-2013	25-SEP-2013	✓
EP060/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP071)							
S8	28-AUG-2013	06-SEP-2013	11-SEP-2013	✓	06-SEP-2013	16-OCT-2013	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
S8	28-AUG-2013	06-SEP-2013	11-SEP-2013	✓	06-SEP-2013	16-OCT-2013	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
S8	28-AUG-2013	05-SEP-2013	11-SEP-2013	✓	06-SEP-2013	11-SEP-2013	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013							
Soil Glass Jar - Unpreserved (EP080)							
S8	28-AUG-2013	05-SEP-2013	11-SEP-2013	✓	06-SEP-2013	11-SEP-2013	✓

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(where) 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: x = 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	EA055-103	2	19	10.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	3	33.3	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	16	12.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	17	11.8	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	3	33.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	16	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	17	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	3	33.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	16	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	17	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	3	33.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	16	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	17	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

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
Moisture Content	EA055-103	SOIL	A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Total Metals by ICP-AES	EG005T	SOIL	(APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) 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)
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(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 SnCl2 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)
TPH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (2013) Schedule B(3) (Method 506.1)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) 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)
TPH Volatiles/BTEX	EP080	SOIL	(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)

Preparation Methods	Method	Matrix	Method Descriptions
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	(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 (Option B - Non-concentrating)	ORG17B	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**
- **For all matrices, no Laboratory Control outliers occur.**
- **For all matrices, no Matrix Spike outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**