# PRELIMINARY SITE INVESTIGATION

N10167

**Greenscape Design**

Proposed development located at:

No. 10 Ben Bullen Place,

Goulburn NSW 2580

Wednesday, 27th November 2024

NEO CONSULTING

**Report Distribution**

**Preliminary Site Investigation**

Address: No. 10 Ben Bullen Place, Goulburn NSW 2580

Report No: N10167

Date: Wednesday, 27th November 2024

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*Issued By:*

***Nick Caltabiano***

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## Executive Summary

NEO Consulting was appointed by Greenscape Design (the client) to undertake a Preliminary Site Investigation (PSI) for the property located at No. 10 Ben Bullen Place, Goulburn NSW 2580 (the site). The site is legally defined as Lot 156/-/DP248976, has an approximate total area of 2,089.45m$^2$, and is currently zoned as R2 – Low Density Residential. The proposed development for the site is the construction of a childcare facility with on ground carparking area.

The following scope of works were undertaken:

- A site inspection to identify potential sources of contamination on site;
- Soil sampling for chemical analysis;
- Review of historical investigations relating to the site (if any);
- Review of local Council records and planning certificates;
- Review of the NSW EPA Contaminated Land Records, Protection of the Environment Operation (POEO) Register and PFAS Investigation Program map;
- Review of local geological and hydrogeological information, including an evaluation of the NSW Groundwater registered groundwater bore database;
- Review of Acid Sulphate Soil data maps;
- Development of a Conceptual Site Model (CSM) to identify the connections between potential sources of contamination and exposure pathways, human and/or ecological receptors; and
- Recommendations for additional investigations (if any), based on the identified data gaps and findings of this report.

A site investigation was undertaken on 17th November 2024 by qualified environmental consultants. During the site inspection, a soil investigation program was undertaken with a judgemental approach across the site to identify areas of contamination. Nine (9) primary soil samples were obtained from nine (9) test pit locations. The samples were submitted to a National Association of Testing Authorities, Australia (NATA) accredited laboratory for analysis of Chemicals of Potential Concern (CoPC) that may have impacted the site during historical or present activities.

The preliminary analytical results indicate no exceedances above the NEPM Health and Ecological Assessment Criteria for Residential (A) sites.

The consent authority may be satisfied that the required considerations of Cl 4.6 of State Environmental Planning Policy (Resilience and Hazards) 2021are satisfied for the following reasons:

1. Site observations did not indicate significant visible indications of contamination or contaminating sources;
2. Analytical results for all analytes were below the NEPM Health and Ecological Assessment Criteria for Residential (A).

NEO Consulting considers that the potential for significant contamination of soil to be low and find that the site is suitable for the proposed land use, provided the Recommendations within Section 16 are undertaken.

# 1. Introduction

## 1.1 Background

NEO Consulting was appointed by Greenscape Design (the client) to undertake a Preliminary Site Investigation (PSI) for the property located at No. 10 Ben Bullen Place, Goulburn NSW 2580 (the site). The site is legally defined as Lot 156/-/DP248976, has an approximate total area of 2,089.45m$^2$, and is currently zoned as R2 – Low Density Residential. The proposed development for the site is the construction of a childcare facility with on ground carparking area.

A site inspection was undertaken on 17th November 2024 by qualified environmental consultants. Reporting, photographs and sampling were conducted on this day and with reference to the relevant regulatory criteria (**2. Scope of Work**). Further information of the inspection is described in **4. Site Condition**.

## 1.2 Objectives

This report provides a preliminary assessment of current and/or historical potentially contaminating activities that may have impacted the soils and to determine if the site is suitable for the proposed development and land use.

## 1.3 Regulatory Framework

This PSI has been prepared in general accordance with the following regulatory framework:

- State Environmental Planning Policy (Resilience and Hazard) 2021;
- National Environment Protection Measures (NEPM), 2013;
- NSW Environmental Protection Authority, *Guidelines on the Duty to Report Contamination under Contaminated Land Management Act*, 1997;
- NSW Environmental Protection Authority, *Consultants Reporting on Contaminated Land: Contaminated Land Guidelines,* 2020;
- Protection of the Environment and Operation Act 1997; and
- Protection of the Environment Operations (Waste) Regulations, 2005.

# 2. Scope of Work

To meet the requirements in Section 1.3 of this report, the following scope of works were included:

- A site inspection to identify potential sources of contamination on site;
- Soil sampling for chemical analysis;
- Review of historical investigations relating to the site (if any);
- Review of local Council records and planning certificates;
- Review of the NSW EPA Contaminated Land Records, Protection of the Environment Operation (POEO) Register and PFAS Investigation Program map;
- Review of local geological and hydrogeological information, including an evaluation of the NSW Groundwater registered groundwater bore database;
- Review of Acid Sulphate Soil data maps;
- Development of a Conceptual Site Model (CSM) to identify the connections between potential sources of contamination and exposure pathways, human and/or ecological receptors; and
- Recommendations for additional investigations (if any), based on the identified data gaps and findings of this report.

## 3. Site Details

**Table 1**. Site Details

| | |
|---|---|
| **Address** | No. 10 Ben Bullen Place, Goulburn NSW 2580 |
| **Deposited plan** | Lot 156/-/DP248976 |
| **Zoning** | R2 – Low Density Residential |
| **Area** | 2,089.45m$^2$ |
| **LGA** | Goulburn Mulwaree Council |

**Table 2**. Surrounding land-use

| Direction from site | Land-use |
|---|---|
| North | Residential lots |
| East | Residential lots |
| South | Residential lots |
| West | Residential lots |

## 4. Site Condition

A site inspection was undertaken on 17th November 2024 by NEO Consulting. During the site inspection, the following observations were noted (photographs in **Appendix A**):

- The site was a residential lot free from building structures and hardstands;
- The groundcover was unsealed across the extent of the site with healthy overgrown grass cover;
- No indications of underground storage of petroleum products were identified;
- No malodourous indications of contamination were identified;
- No visual or aesthetic issues identified.

## 5. Site History

### 5.1 History of Site

**Table 3**. Historical aerial images of the site and surrounding area.

| Year | Description |
|---|---|
| 1978 | The site was a semi-rural low vegetated lot free from structures. The surrounding area contained low density residential and rural lots. |
| 1997 | The site was unchanged. The surrounding area increased in developments. |
| 2014 | The site was largely unchanged, trailers were stored on site. The surrounding area was largely unchanged. |
| 2024 | The site and surrounding area remained largely unchanged. |

### 5.2 Section 10.7 (2) & (5) Planning Certificate

A Section 10.7 Planning Certificate describes how a property may be used and the restrictions on development. The Planning Certificate is issued under Section 149 of the Environmental Planning and Assessment Act 1979. At the time of reporting, the Planning Certificate was not provided at the time of preparation.

### 5.3 NSW EPA Notified Sites

A search within the NSW EPA Notified Sites was undertaken for the site. No results were found for the site or land within 200m of the site.

### 5.4 NSW EPA Contaminated Land Register

A search within the NSW EPA contaminated land register was undertaken for the site. No results were found for the site or land within 200m of the site.

### 5.5 Protection of the Environment Operation Act (POEO) Public Register

A search on the POEO public register of licensed and delicensed premises (DECC) was undertaken for the site. No results were found for the site or land within 200m of the site.

### 5.6 SafeWork NSW Dangerous Goods

Based on site observation and aerial images, a search was not undertaken with SafeWork NSW for historical dangerous goods.

### 5.7 Product Spill and Loss History

The visual site inspection did not identify evidence of contamination within the site (e.g. chemical staining, unhealthy vegetation).

### 5.8 NSW EPA PFAS Investigation Program

A search on the NSW EPA PFAS Investigation Program map was undertaken for the site. No results were found for the site or land within 200m of the site.

## 6. Environmental Setting

### 6.1 Hydrogeology and Groundwater

A groundwater bore search was undertaken with WaterNSW and no groundwater monitoring bores were found within 500m of this location. It was beyond the scope of works to study the groundwater flow direction. However, based on the regional topography, groundwater is expected to flow south east towards Wollondilly River.

### 6.2 Geology

The Geological Map of Newcastle (Geological Map Goulburn S1 55-1, Scale 1:250,000, Second Edition), published by the Geological Survey of NSW indicates the site is underlain by Boxers Creek Formation (Late Silurian), regionally characterised by very thin to very thick-bedded (up to 3m) fine- to very coarse-grained feldspar-lithic-quartz sandstone, siltstone, shale. Crystal-rich in places. Metasedimentary, tuffaceous chert and meta-vein quartz lithic fragments commonly comprise 20-40 percent.

### 6.3 Acid Sulphate Soil

Acid Sulphate Soils (ASS) naturally occur under waterlogged condition and contain iron sulphide minerals. If these soils remain undisturbed, they are considered harmless. However, if disturbed and subsequently oxidised, this reaction can cause damage to the environment and built structures that overlie the ASS. A search of the DPIE eSpade map viewer was undertaken and indicate that site is located within an area with no data.

### 6.4 Site Drainage

Site drainage is likely to be consistent with the local topography. Stormwater is likely collected by pit and pipe drainage flowing into the municipal stormwater system, which likely flows towards Wollondilly River. Additionally, large portions of the site consist of accessible soils, which allow for direct infiltration into the sub-soil.

### 6.5 Soil Landscape

A review of the regional maps by the NSW Department of Planning, Industry and Environment indicates the site is generally located within the Monastery Hill soil landscape. The landscape has formed on teschenite

(dolerite) intrusions. On crests and sideslopes are duplex orange coloured soils with acid to alkaline reaction, no development of A2 horizons and massive to moderately structured upper B horizons. These are similar to yellowish Chocolate Soils (Db3.11, Dy4.12, Dy5.53). Below about 1 m an alkaline mottled grey clay occurs. Prairie Soils (Gn4.42), Grey Clays (Ug6.2) and Alluvial Soils (Um1) occur on footslopes and in drainage lines. More information on this landscape can be found in Scown, Murphy and Johnston (1988).

- Dominance: Dominant;
- Landform element: Crests, sideslopes;
- Surface condition: Friable;
- Drainage: Impeded;
- Soil permeability: Moderate;
- Watertable depth: 100cm;
- Available water-holding capacity: High;
- Depth to bedrock >120cm;
- Flood hazard: Not present;
- pH (topsoil): 6.5;
- Fertility (chemical): Moderate;
- Known nutrient deficiencies: N, P, K, S;
- Soil salinity: Not evident;
- Erodibility (topsoil): Moderate;
- Erodibility (subsoil): Low;
- Erosion hazard: Low;
- Structural degradation hazard: Low;
- Land capability classification: III, IV;
- USCS (subsoil): CL, CH;
- Shrink-swell potential: Moderate;
- Mass movement hazard: Not evident.

## 7. Areas of Environmental Concern

Based on the above information, the potential Areas of Environmental Concern (AEC) and their associated Contaminants of Potential Concern (CoPC) for the site were identified.

**Table 4.** Potential Areas and Contaminants of Concern

| AEC | Potentially Contaminating / Hazardous Activity | CoPC | Likelihood of Site Impact | Comments |
|---|---|---|---|---|
| Entire site | Importation of fill material.<br>Historical site operations and use | Metals, TRH, BTEX, PAH, OCP, OPP, ACM | Moderate | The presence of imported fill is possible.<br>Historical on site operations may have given rise to contamination events. The site may have been used for industrial use. |

ABBREVIATIONS: ASBESTOS CONTAINING MATERIALS (ACM), BENZENE, TOLUENE, ETHYLBENZENE AND XYLENE (BTEX), POLYCYCLIC AROMATIC HYDROCARBON (PAH), ORGANOPHOSPHATE PESTICIDES (OPP), ORGANOCHLORINE PESTICIDES (OCP), TOTAL RECOVERABLE HYDROCARBONS (TRH).

## 8. Conceptual Site Model

A Conceptual Site Model (CSM) was developed to provide an indication of potential risks associated with contamination source and contamination migration pathways, receptors and exposure mechanisms. The CSM provides a framework for the review of the reliability and useability of the data collected and to identify data gaps in the existing site characterisation. Here, we consider the connections between the following elements:

- Potential contamination sources and their associated CoPC;
- Potential human receptors that may be impacted by the site contamination are current and future site users including occupants to the dwelling/infrastructures onsite, site workers and the general public within the immediate vicinity of the site;
- Potential environmental receptors to the site including but not limited to: groundwater and surface water bodies, residual soils at and/or nearby the site;
- Potential exposure pathways; and
- Whether source-pathway-receptor connections are complete based on current and future site conditions.

**Table 5.** Conceptual Site Model

| **Potential Sources** | | | | | |
|---|---|---|---|---|---|
| Contaminated soil from importation of uncontrolled fill across the site;<br>Contaminated soil from historical on-site operations and site use; | | | | | |
| **Potential Receptor** | **Potential Contaminated Media** | **Potential Exposure Pathway** | **Complete Connection** | **Risk** | **Justification/ Control Measures** |
| Site users, general public, | Soil | Dermal contact, inhalation of fibres/particles | Complete (current) | M | Exposure to potentially contaminated soils is possible. Top-down contamination possible. Indications of imported material were encountered in unsealed areas. |
| | | | Complete (Future) | M | |
| Residential occupants of nearby homes, site users and general public | Soil vapour | Vapour intrusion | Complete (current) | M | |
| | | | Complete (Future) | M | |
| Root uptake, microbial community, soil dwelling invertebrates | Soils (FILL/topsoil and natural) | Migration of contamination from top-down spills/leaks/ deposition | Complete (current) | L | |
| | | | Complete (Future) | L | |
| Wollondilly River >100m south east, estuarine habitat | NAPL, dissolved phase groundwater | Transportation of via surface waters. Leaching and migration through groundwater infiltration. | Incomplete (current) | L | If contamination of surface waters occurs, they may reach these receptors. Ground water flow direction is inferred to flow towards the north. |
| | | | Incomplete (Future) | L | |

## 9. Assessment Criteria

The following assessment criteria were adopted for the investigation.

### 9.1 NEPM Health Investigation Level A (HIL-A) – Residential

HILs are scientific, risk-based guidance levels to be used as in the primary stage of assessing soil contamination to evaluate the potential risks to human health from chronic exposure to contaminants. HILs are applicable to a broad range of metals and organic substances, and generally apply to depths up to 3m below the surface for residential use. Tier 1 HILs are divided into sub-criteria. The sub-criteria appropriate to the site is HIL A – residential with garden/accessible soils.

**Table 6.** HIL-A

| Assessment Criteria | HIL-A, mg/kg |
|---|---|
| Heptachlor | 6 |
| Chlordane | 50 |
| Aldrin & Dieldrin | 6 |
| Endrin | 10 |
| DDD+DDE+DDT | 240 |
| Endosulfan | 270 |
| Methoxychlor | 300 |
| Mirex | 10 |
| Chlorpyrifos | 160 |
| Arsenic, As | 100 |
| Cadmium, Cd | 20 |
| Chromium, Cr | 100 |
| Copper, Cu | 6,000 |
| Lead, Pb | 300 |
| Nickel, Ni | 400 |
| Zinc, Zn | 7,400 |
| Mercury, Hg | 40 |
| Carcinogenic PAHs (as BaP TEQ) | 3 |
| Total PAH (18) | 300 |
| PCBs (Total) | 1 |

### 9.2 NEPM Health Screening Level A (HSL-A) – Residential

HSLs have been developed for selected petroleum compounds and fractions and are used for the assessment of potential risks to human health from chronic inhalation and direct contact pathways of petroleum vapour emanating off petroleum contaminated soils (Vapour Risk). HSLs are guided by land-use scenarios, specific soil physicochemical properties and generally apply to depths below surface to >4m. Tier 1 HSLs are divided into sub-criteria. The sub-criteria appropriate to the site is HSL A – residential with garden/accessible soils.

**Table 7**. HSL-A

| Assessment Criteria | HSL-A for Vapour Intrusion, 0-<1m depth, Clay, mg/kg | HSL-A for Vapour Intrusion, 1-<2m depth, Clay, mg/kg |
|---|---|---|
| Benzene | 0.7 | 1 |
| Toluene | 480 | NL |
| Ethylbenzene | NL | NL |
| Xylenes | 110 | 310 |
| Naphthalene | 5 | NL |
| TRH $C_6$-$C_{10}$ - BTEX (F1) | 50 | 90 |
| TRH >$C_{10}$-$C_{16}$ - N (F2) | 280 | NL |

### 9.3 NEPM Ecological Investigation Level (EIL) – Urban Residential and Public Open Space

Ecological investigation levels (EILs) have been developed to assess the risk for the presence of metals and organic substance in a terrestrial ecosystem. EILs are guided by land-use scenarios, specific soil physicochemical properties and generally apply to the top 2m of soil. The NEPM Soil Quality Guidelines (SQG) for EILs are calculated using the Added Contamination Limit (ACL) to determine the amount of contamination that had to be added to the soil to cause toxicity, including ambient background concentration (ABC).

**Table 8.** Generic EIL

| Assessment Criteria | Generic EIL for Urban Residential and Public Open Space, mg/kg |
|---|---|
| Arsenic, As | 100 |
| DDT | 180 |
| Naphthalene | 170 |

### 9.4 NEPM Ecological Screening Level (ESL) – Urban Residential and Public Open Space

ESLs have been developed for selected petroleum hydrocarbons (BTEX, benzo(a)pyrene, TRH F1 and F2) in soil, based on fresh contamination. These parameters are applicable to coarse and fine-grained soil and apply from the surface of the soil to 2m below ground level, which corresponds with the root and habitat zone for many species.

**Table 9.** ESL

| Assessment Criteria | Soil ESL for Urban Residential and Public Open Space, fine-grained soil, mg/kg |
|---|---|
| Benzene | 65 |
| Toluene | 105 |
| Ethylbenzene | 125 |
| Xylenes | 45 |
| BaPyr (BaP) | 0.7 |
| TRH $C_6$-$C_{10}$ | 180 |
| TRH >$C_{10}$-$C_{16}$ | 120 |
| TRH >$C_{16}$-$C_{34}$ (F3) | 1,300 |
| TRH >$C_{34}$-$C_{40}$ (F4) | 5,600 |

### 9.5 NEPM Management Limits – Residential, Parkland and Public Open Space

Management Limits for petroleum have been developed for prevention of explosive vapour accumulation, prevention of the formation of observable Light Non-Aqueous Phase Liquids (LNAPL) and protection against effects on buried infrastructure. Residential, Parkland and Public Open Space limits have been adopted based on the proposed land use.

**Table 10.** Management Limits

| Assessment Criteria | Management Limits for Residential, Parkland and Public Open Space, fine-grained soil, mg/kg |
|---|---|
| TRH $C_6$-$C_{10}$ | 800 |
| TRH >$C_{10}$-$C_{16}$ | 1000 |
| TRH >$C_{16}$-$C_{34}$ (F3) | 3500 |
| TRH >$C_{34}$-$C_{40}$ (F4) | 10000 |

### 9.6 NEPM Health Screening Level A (HSL-A) – Residential for Asbestos

The assessed soil must not contain Asbestos Containing Materials (ACM) in the excess of 0.01%w/w and surface soil within the site must be free of visible ACM, Asbestos Fines (AF) and Fibrous Asbestos (FA).

**Table 11.** Management Limits

| Assessment Criteria | Health Screening Level (%w/w) Residential (A) |
|---|---|
| ACM | 0.01% |
| FA and AF (friable asbestos) | 0.001% |
| All forms of asbestos | No visible asbestos for surface soils |

## 10. Sampling and Analysis Plan

### 10.1 Sampling Rationale

**Table 12.** Sampling Rationale

| Sampling Decision | Chosen Approach | Justification |
|---|---|---|
| Sampling pattern | Judgemental sampling | This pattern was selected due to the area of the site, access to underlying soil, the AEC and CoPC as well as the potential heterogeneity of any contamination. |
| Sampling density | Nine (9) primary soil samples were obtained from nine (9) test pits | This sampling density was selected based on the extent of the potential contaminated area to be detected, feasibility, the site history, distribution of current and historical uses on site, location and condition of structures. |
| Sampling depths | Topsoil (0.15m) | The depths weas selected in compliment with sampling density and to target depths of potential contaminants. |

### 10.2 Field Sampling Methodology

A shovel was used for test pit excavation to a depth of 0.3mbgl. Soil samples were collected from shallow topsoil (0.15m bgl) below the surface by clean nitrile gloves and placed in laboratory supplied containers.

All equipment was decontaminated with Decon90 and deionised water between samplings. Samples were stored on ice in an esky while on-site and in transit to a NATA-accredited laboratory for the analysis of the CoPC under Chain of Custody (COC) documentation.

One (1) duplicate sample was obtained at S5 location.

**Table 13.** Soil Sampling Information and Laboratory Testing Program

| Sample ID | Depth (m) | Texture | Matrix | Laboratory Analytical Suite |
|---|---|---|---|---|
| S1 | 0.15 | Silty to sandy CLAY CL: firm, low plasticity, brown, fine grained sand, poorly sorted rocks, organic, moist, no PACM, no staining. | Topsoil | TRH, BTEXN, PAH, OCP, OPP, PCBs, Metals, Asbestos ID |

| | | | | |
|---|---|---|---|---|
| S2 | 0.15 | Silty to sandy CLAY CL: firm, low plasticity, brown, fine grained sand, organic, moist, no PACM, no staining. | Topsoil | TRH, BTEXN, PAH, OCP, OPP, PCBs, Metals, Asbestos ID |
| S3 | 0.15 | Silty to sandy CLAY CL: firm, low plasticity, brown, fine grained sand, organic, moist, no PACM, no staining. | Topsoil | TRH, BTEXN, PAH, OCP, OPP, PCBs, Metals, Asbestos ID |
| S4 | 0.15 | Silty to sandy CLAY CL: firm, low plasticity, brown, fine grained sand, organic, moist, no PACM, no staining. | Topsoil | TRH, BTEXN, PAH, OCP, OPP, PCBs, Metals, Asbestos ID |
| S5 | 0.15 | Silty to sandy CLAY CL: firm, low plasticity, brown, fine grained sand, poorly sorted rocks, organic, moist, no PACM, no staining. | Topsoil | TRH, BTEXN, PAH, OCP, OPP, PCBs, Metals, Asbestos ID |
| S6 | 0.15 | Silty to sandy CLAY CL: firm, low plasticity, brown, fine grained sand, poorly sorted rocks, organic, moist, no PACM, no staining. | Topsoil | TRH, BTEXN, PAH, OCP, OPP, PCBs, Metals, Asbestos ID |
| S7 | 0.15 | Silty to sandy CLAY CL: firm, low plasticity, brown, fine grained sand, organic, moist, no PACM, no staining. | Topsoil | TRH, BTEXN, PAH, OCP, OPP, PCBs, Metals, Asbestos ID |
| S8 | 0.15 | Silty to sandy CLAY CL: firm, low plasticity, brown, fine grained sand, organic, moist, no PACM, no staining. | Topsoil | TRH, BTEXN, PAH, OCP, OPP, PCBs, Metals, Asbestos ID |
| S9 | 0.15 | Silty to sandy CLAY CL: firm, low plasticity, brown, fine grained sand, organic, moist, no PACM, no staining. | Topsoil | TRH, BTEXN, PAH, OCP, OPP, PCBs, Metals, Asbestos ID |

### 10.3 Field Quality Assurance & Quality Control Procedures

The following procedures were undertaken to ensure the data quality:

- Selection of appropriate sampling methods;
- Decontamination procedures;
- Appropriate containers selected for planned analyses;
- Appropriate preservation and storage measures to minimise contamination or analyte loss;
- Statement of duplicate frequency;
- Sampling devices and equipment; and
- Field instrument calibrations.

### 10.4 Laboratory Quality Assurance & Quality Control Procedures

The following procedures were undertaken to ensure the data quality:

- A copy of signed chain-of-custody forms acknowledging receipt date, time and temperature and identity of samples included in shipments;
- Record of holding times;
- Analytical methods used, including any deviations or method detection limit;
- Laboratory accreditation for analytical methods used;
- Laboratory performance for the analytical method using duplicates calculated as Relative Percentage Differences (RPD);
- Surrogates used during extraction process;
- Practical quantification limits (PQL);
- Reference laboratory control sample (LCS) used throughout the full method process from extraction to injection;

- Matrix spikes (MS) indicate percentage of recovery of an expected result, via a known concentration if an analyte spiked in a field sub-sample;
- Laboratory blank results (tabulate);
- Results are within control chart limits; and
- Instrument detection limit.

## 11. Data Quality Objectives

The Data Quality Objectives (DQO) have been developed in accordance with the NEPM Appendix B of Schedule B2 and provide the type, quantity, and quality of data to support decisions regarding the environmental conditions of this site.

**Table 13.** Data Quality Objectives Steps 1 to 7

| | |
|---|---|
| Step 1: *State the problem* | The proposed development includes the construction of a childcare facility. Ground disturbance is considered likely and therefore contamination condition of the underlying soil is required to be understood. Additionally, the intended future use of the site is considered a sensitive human health risk setting due to proposed site users and potential for access to soils through landscaping/outdoor play area. |
| Step 2: *Identify the decision* | Site characterisation is required for the site to be considered suitable for its intended land use. The decisions required to meet these goals are as follows:<br>• Is the sample design appropriate to achieve the aim of the PSI?<br>• Is on-site contamination capable of migrating off-site?<br>• Are there any unacceptable risks to the future on site or off-site receptors in the soil or groundwater following remediation?<br>• Is the site suitable for its intended land use? |
| Step 3: *Identify inputs into the decision* | Identification of issues of potential environmental concern;<br>• Judgemental soil sampling undertaken in targeted areas of the site;<br>• Soil sample analytical results compared with NEPM Site Assessment Criteria for the intended land use. |
| Step 4: *Define the boundaries of the study* | The project boundaries are:<br>• Lateral boundary: The legally defined area of the site;<br>• Vertical boundary: The soil interface to the maximum depth reached during sampling; and<br>• Temporal boundary: Constrained to a single visit to the site. |
| Step 5: *Develop the analytical approach* | The integration of the information from steps 1 – 4 support and justify the proposed analytical approach. The aim is to confirm if the site is suitable for the proposed development. If the SAQP identifies;<br>• Any exceedance of the adopted NEPM Site Assessment Criteria for soil;<br>• Professional opinion that further assessment is required;<br>• Adopted RPD (30% difference for all analytes) for QC data not met;<br>• Further assessment may be required to confirm suitability of the site if:<br>  ○ Analytes are in exceedance of the LOR method blanks; or<br>  ○ RPDs of matrix spikes, surrogates and laboratory control samples are outside acceptable limits. |
| Step 6: *Specify performance or acceptance criteria* | To determine if the soils are within acceptable ranges, the following NEPM criteria is applied:<br>• Acceptable recovery on all surrogate spikes used in laboratory analyses;<br>• Acceptable analytical method to ensure detection limit appropriate for all analytes; |

| | |
|---|---|
| | • If these conditions are not met, then chemical analysis will require re-testing for all samples with fresh aliquot. |
| Step 7: *Develop the plan for obtaining data* | Judgemental sampling pattern will provide suitable coverage of the site to produce reliable data in alignment with the Data Quality Indicators (DQIs) to cover precision, accuracy, representativeness, completeness and comparability (PARCC). |

## 12. Analytical Results

### 12.1 Soil Analytical Results

The preliminary analytical results indicate no exceedances above the NEPM Health and Ecological Assessment Criteria for Residential (A) sites.

The duplicate sample was within acceptable RPD% (<30% inorganics, <50% organics).

Refer to **Appendix B** for analytical results.

## 13. Data Quality Indicators

The reliability of field procedures and analytical results were assessed against the following data quality indicators (DQIs):

- Completeness – a measure of the amount of usable data from a data collection activity;
- Comparability – the confidence (qualitative) that data may be considered to be equivalent for each sampling and analytical event;
- Representativeness – the confidence (qualitative) of data representativeness of media present on site;
- Precision – a measure of variability or reproducibility of data; and
- Accuracy – a measure of closeness of the data to the 'true' value.

**Table 15.** Data Quality Indicators (DQIs)

| DQI | Considerations | Action |
|---|---|---|
| | Completeness | |
| Field | Critical locations sampled | Samples were collection was judgmental based on the PSI Objectives and CSM. Collection during a single visit to the site. |
| | Samples collected (depth) | Sampling plan was followed as outlined in Section 10. Samples were obtained to a depth of 0.15m bgl as per the NEPM 2013 Schedule B2 and targeted at characterising soil underneath previous onsite structure. |
| | Experienced sampler | Experienced environmental scientists/consultants led the field team. |
| | Documentation correct | The NEO environmental scientist/consultants completed a Chain of Custody (CoC), site data collection and bore logs. |
| Laboratory | CoPC analysed according to the CoC | Analysis of appropriate analytes. Implementation of appropriate sample preparation, chemical extraction and analytical instrument methods. |
| | Appropriate methods and LOR | NATA approved methods were adopted by the selected analytical laboratory. LORs and practical quantitation limits in accordance with NATA. |

| | | |
|---|---|---|
| | Sample documentation complete | CoC procedures maintained. Certificates of Analysis complete and appended to the report. |
| | Compliant sample holding times | Samples were received, extracted and injected/analysed within specified holding times. |
| | | Comparability |
| Field | Sample collection and volume | Uniform methods for sample collection including collection equipment and decontamination procedures. Correct volume of soil per sample.<br>At all sample locations, soil samples were collected from 0.15mbgl within the testpit. Samples were placed in laboratory supplied jars using nitrile gloves replaced between samples. |
| Laboratory | Sample analytical methods used | The laboratory used is accredited by NATA for the analyses undertaken. Laboratory analytical methods were the same for each sample, for the same analyte, in the same laboratory, and are as stated on the Certificates of Analysis.<br>Appropriate extraction methods and analytical methods, including instrument calibration and Practical Quantification Limits (PQL).<br>These considerations provide qualitative confidence that the data reflects the site conditions. All considerations were undertaken. RPDs were within acceptable ranges. |
| | Analytical LOR | LOR set by the laboratory are below the adopted Site Assessment Criteria. |
| | Same laboratories | SGS was used for all sample analysis. |
| | Analytical units | Laboratory results are expressed in consistent units for each media / analyte and compared with adopted Site Assessment Criteria units. |
| | | Representativeness |
| Field | Appropriate media sampled | Appropriate media were sampled considered to be potentially impacted by the CoPC. These considerations provide qualitative confidence that the data reflects the site conditions. |
| Laboratory | Appropriate laboratory procedures in accordance with NATA accreditation | Correct documentation and COC procedures undertaken. Implementation of appropriate analytical and instrument methods. Internal methods ensure detection of laboratory artefacts including contaminated extraction equipment, cross-contamination events. |
| | | Precision |
| Field | QA/QC Samples | Field QA/QC sampling were not undertaken. |
| Laboratory | Analysis of method blank, matrix and surrogate spikes | Laboratory QA/QC samples provide a quantitative measure of analytical precision. These data measure variability between samples. Recoveries on all surrogates and blanks were within acceptable ranges. |
| | Field duplicates | Field duplicated were not undertaken. |
| | | Accuracy |

| | | |
|---|---|---|
| Field | Appropriate field procedures | Correct documentation and COC procedures undertaken including appropriate transportation. Collection during a single visit to the site. Decontamination procedures undertaken between each sample collection. |
| Laboratory | Analysis of reagent blanks | The reagent blank samples were generally within laboratory acceptance standards. |
| | Analysis of matrix and surrogate spikes, laboratory control samples | The matrix spike samples were generally within laboratory acceptance standards. Spikes chosen based on appropriateness to avoid coelution with contaminants indigenous to the samples and across varying retention times to map response factor. Control samples analysed at a rate of 1:20. |

## 14. Data Gaps

- Condition of underlying natural soils.

## 15. Conclusion

Based on the site investigation and analytical results, NEO Consulting considers that the potential for significant contamination of soil to be low. We find that the site is suitable for the proposed development and NEPM 2013 Residential (A) land use, provided the Recommendations within **Section 16** are undertaken.

## 16. Recommendations

Based on the information collected and available during this investigation, the following recommendations have been made:

- Any soils requiring excavation, onsite reuse and/or removal must be classified in accordance with "Waste Classification Guidelines Part 1: Classifying Waste" NSW EPA (2014); and
- A site specific 'Unexpected Finds Protocol' is to be made available for reference for all occupants and/or site workers in the event unanticipated contamination is discovered.

## Limitations

The findings of this report are based on the Scope of Work outlined in Section 2. NEO Consulting performed the services in a manner consistent with the normal level of care and expertise exercised by members of the environmental consulting profession. No warranties, express or implied are made.

The results of this assessment are based upon the information documented and presented in this report. All conclusions and recommendations regarding the site are the professional opinions of NEO Consulting personnel involved with the project, subject to the qualifications made above. While normal assessments of data reliability have been made, NEO Consulting assumes no responsibility or liability for errors in any data obtained from regulatory agencies, statements from sources outside of NEO Consulting, or developments resulting from situations outside the scope of this project.

The results of this assessment are based on the site conditions identified at the time of the site inspection and validation sampling. NEO Consulting will not be liable to revise the report to account for any changes in site characteristics, regulatory requirements, assessment criteria or the availability of additional information, subsequent to the issue date of this report.

NEO Consulting is not engaged in environmental consulting and reporting for the purpose of advertising sales promoting, or endorsement of any client interests, including raising investment capital, recommending investment decisions, or other publicity purposes.

**NEO CONSULTING**

Prepared by:

Sarah Houlahan

Environmental Consultant

Reviewed by:

Nick Caltabiano

Project Manager

# APPENDIX A

## Figures and Photographic Log

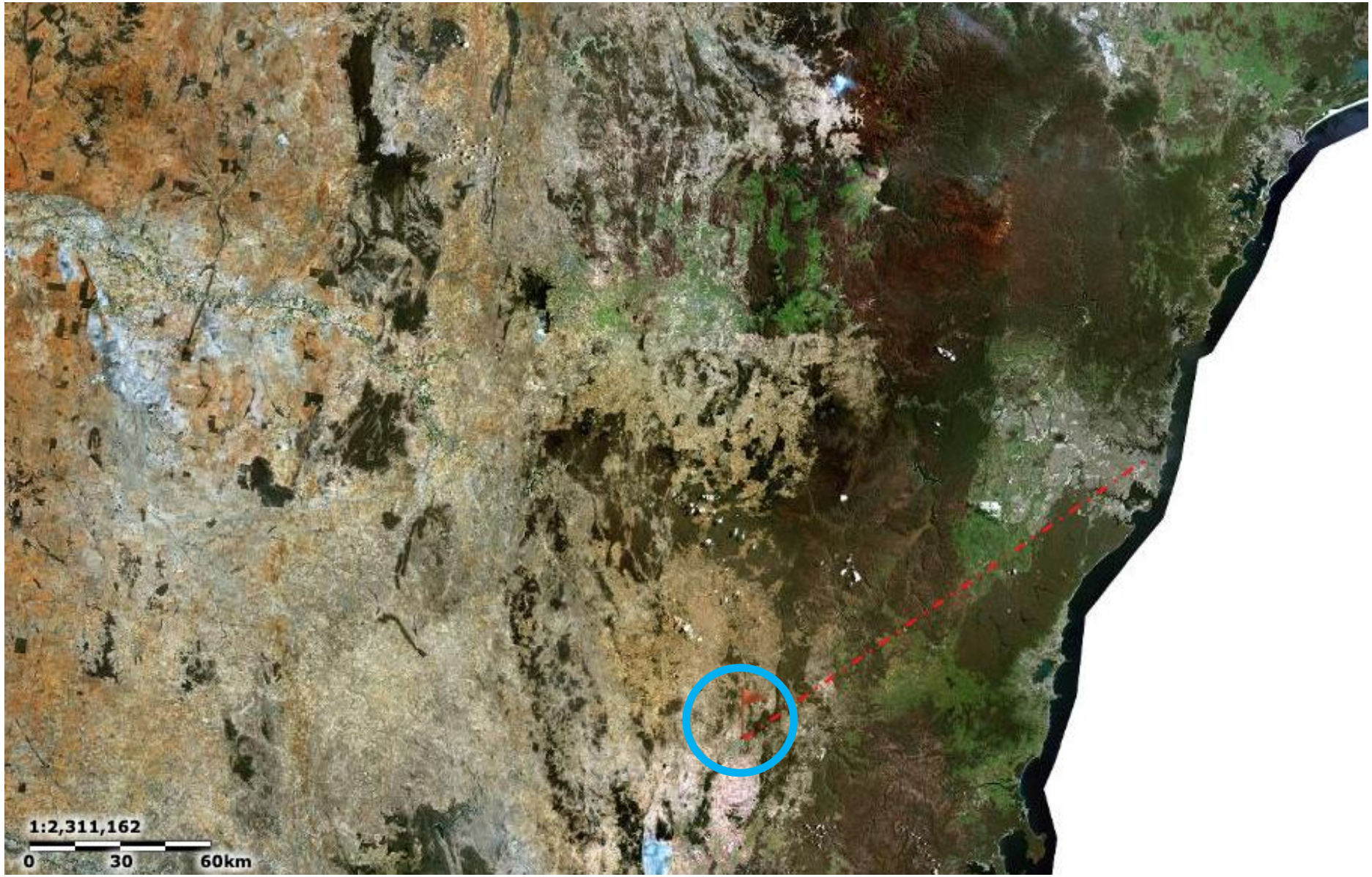


Figure 1: The site is located south of Sydney CBD.

Site location

Source: Six Maps

| Figure 1 | Locality Map |
|---|---|
| Project | 10 Ben Bullen Place, Goulburn NSW 2580 |

Figure 2: Site plan and sampling locations.


Test pit location

Source: Near Maps

| | |
|---|---|
| Figure 2 | Site Plan and Sample location |
| Project | 10 Ben Bullen Place, Goulburn NSW 2580 |

Figure 3. Aerial view of the site and surrounding area, 1978. The site was a semi-rural vegetated lot free from structures. The surrounding area contained low density residential and rural lots.

| | |
|---|---|
| Figure 3 | Historical Photograph: 1978 |
| Project | 10 Ben Bullen Place, Goulburn NSW 2580 |

Source: Historical Aerial Imagery

Figure 4. Aerial view of the site and surrounding area, 1997. The site was unchanged. The surrounding area increased in developments.

| Figure 4 | Historical Photograph: 1997 |
|---|---|
| Project | 10 Ben Bullen Place, Goulburn NSW 2580 |

Source: Historical Aerial Imagery

Figure 5. Aerial view of the site and surrounding area, 2014. The site was largely unchanged, trailers were stored on site. The surrounding area was largely unchanged.


| | |
|---|---|
| Figure 5 | Historical Photograph: 2014 |
| Project | 10 Ben Bullen Place, Goulburn NSW 2580 |

Source: Historical Aerial Imagery

Figure 6-7. The site was a vegetated lot free from structures.



Figure 8-9. Soil sample collection using a shovel. The soil was silty to sandy clay.

NEO CONSULTING

# APPENDIX B

## Analytical Results and Laboratory Reports

**Table 15**. Total Recoverable Hydrocarbon (TRH) analytical results. Values are presented as mg/kg. NL = Not Limiting. F1 = subtract the sum of BTEX concentrations from the $C_6$-$C_{10}$ aliphatic hydrocarbon fraction. F2 = subtract Naphthalene from the> $C_{10}$-$C_{16}$ aliphatic hydrocarbon fraction.

| Assessment Criteria | | TRH $C_6$-$C_{10}$ | TRH $C_6$-$C_{10}$ - BTEX (F1) | TRH >$C_{10}$-$C_{16}$ | TRH >$C_{10}$-$C_{16}$ - N (F2) | TRH >$C_{16}$-$C_{34}$ (F3) | TRH >$C_{34}$-$C_{40}$ (F4) |
|---|---|---|---|---|---|---|---|
| NEPM 2013 Residential Soil HSL-A for Vapour Intrusion, 0-<1m depth, Clay, mg/kg | | | 50 | | 280 | | |
| NEPM 2013 Soil Generic ESL for Urban, Residential and Public Open Spaces, fine-grained soil, mg/kg | | 180 | | 120 | | 1300 | 5600 |
| NEPM 2013 Management Limits for Residential, Parkland and Public Open Space, fine-grained soil, mg/kg | | 800 | | 1000 | | 3500 | 10 000 |
| Sample | Depth (m) | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| S1 | 0.15 | <10 | <10 | <10 | <10 | **35** | <20 |
| S2 | 0.15 | <10 | <10 | <10 | <10 | **120** | **21** |
| S3 | 0.15 | <10 | <10 | <10 | <10 | **98** | <20 |
| S4 | 0.15 | <10 | <10 | <10 | <10 | **60** | <20 |
| S5 | 0.15 | <10 | <10 | <10 | <10 | **38** | <20 |
| S6 | 0.15 | <10 | <10 | **22** | **22** | **67** | <20 |
| S7 | 0.15 | <10 | <10 | <10 | <10 | **81** | <20 |
| S8 | 0.15 | <10 | <10 | <10 | <10 | **78** | **22** |
| S9 | 0.15 | <10 | <10 | <10 | <10 | **94** | <20 |
| Duplicate | | <10 | <10 | <10 | <10 | **43** | <20 |

**Table 16**. Benzene, Toluene, Ethylbenzene and Xylene (BTEX) analytical results. Values are presented as mg/kg. NL = Not Limiting.

| Assessment Criteria | | Benzene | Toluene | Ethylbenzene | Xylenes |
|---|---|---|---|---|---|
| NEPM 2013 Residential Soil HSL-A for Vapour Intrusion, 0-<1m depth, Clay, mg/kg | | 0.7 | 480 | NL | 110 |
| NEPM 2013 Soil ESL for Urban, Residential and Public Open Spaces, fine-grained soil, mg/kg | | 65 | 105 | 125 | 45 |
| Sample | Depth (m) | mg/kg | mg/kg | mg/kg | mg/kg |
| S1 | 0.15 | <0.1 | <0.1 | <0.1 | <0.3 |
| S2 | 0.15 | <0.1 | <0.1 | <0.1 | <0.3 |
| S3 | 0.15 | <0.1 | <0.1 | <0.1 | <0.3 |
| S4 | 0.15 | <0.1 | <0.1 | <0.1 | <0.3 |
| S5 | 0.15 | <0.1 | <0.1 | <0.1 | <0.3 |
| S6 | 0.15 | <0.1 | <0.1 | <0.1 | <0.3 |
| S7 | 0.15 | <0.1 | <0.1 | <0.1 | <0.3 |
| S8 | 0.15 | <0.1 | <0.1 | <0.1 | <0.3 |
| S9 | 0.15 | <0.1 | <0.1 | <0.1 | <0.3 |
| Duplicate | | <0.1 | <0.1 | <0.1 | <0.3 |

**Table 17.** Polycyclic Aromatic Hydrocarbon (PAH) analytical results. The carcinogenic PAH (Benzo(a)anthracene (BaAnt); Benzo(a)pyrene (BaPyr or BaP); Benzo(b+j) fluoranthene (BbjFl); Benzo(k)fluoranthene (BkFl); Benzo(g,h,i)perylene (BghiPer); Chrysene (Chr); and Dibenz(a,h)anthracene (DBahAnt)) potency is calculated relative to Benzo(a)pyrene to produce a Toxicity Equivalent Factor (TEF). The Toxicity Equivalent Quotient (TEQ) is calculated by multiplying the concentration of each carcinogenic PAH in the sample by its Benzo(a)pyrene (B(a)P) TEF. Total PAH includes Naphthalene (N), 2-methylnaphthalene (2-MN), 1-methylnaphthalene (1-MN), Acenaphthylene (Acy), Acenaphthene (Ace), Fluorene (F), Phenanthrene (P), Anthracene (Ant), Fluoranthene (Fl), Pyrene (Pyr) and the carcinogenic PAHs. Values are presented as mg/kg. NL = Not Limiting.

| Assessment Criteria | | Naphthalene | Benzo(a)pyrene | Carcinogenic PAH (as BaP TEQ) | Total PAH (18) |
|---|---|---|---|---|---|
| NEPM 2013 Residential Soil HSL-A for Vapour Intrusion, 0-<1m depth, Clay, mg/kg | | 5 | | | |
| NEPM 2013 Soil Generic EIL for Urban Residential and Public Open Space, mg/kg | | 170 | | | |
| Soil ESL for Urban, Residential and Public Open Spaces, fine-grained soil, mg/kg | | | 0.7 | | |
| NEPM 2013 Residential Soil HIL-A, mg/kg | | | 1.00 TEF | 3 | 300 |
| Sample | Depth (m) | mg/kg | mg/kg | TEQ (mg/kg) | mg/kg |
| S1 | 0.15 | <0.1 | <0.1 | <1.7 | <1.7 |
| S2 | 0.15 | <0.1 | <0.1 | <1.7 | <1.7 |
| S3 | 0.15 | <0.1 | <0.1 | <1.7 | <1.7 |
| S4 | 0.15 | <0.1 | <0.1 | <1.7 | <1.7 |
| S5 | 0.15 | <0.1 | <0.1 | <1.7 | <1.7 |
| S6 | 0.15 | <0.1 | <0.1 | <1.7 | <1.7 |
| S7 | 0.15 | <0.1 | <0.1 | <1.7 | <1.7 |
| S8 | 0.15 | <0.1 | <0.1 | <1.7 | <1.7 |
| S9 | 0.15 | <0.1 | <0.1 | <1.7 | <1.7 |
| Duplicate | | <0.1 | <0.1 | <1.7 | <1.7 |

**Table 18.** Heavy Metal analytical results. Values are presented as mg/kg.

| Assessment Criteria | | Arsenic, As | Cadmium, Cd | Chromium, Cr | Copper, Cu | Lead, Pb | Nickel, Ni | Zinc, Zn | Mercury, Hg |
|---|---|---|---|---|---|---|---|---|---|
| NEPM 2013 Residential Soil HIL-A, mg/kg | | 100 | 20 | 100 | 6000 | 300 | 400 | 7400 | 40 |
| NEPM 2013 Soil Generic EIL for Urban Residential and Public Open Space, mg/kg | | 100 | | | | 1100 | | | |
| Sample | Depth (m) | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| S1 | 0.15 | **10** | <0.2 | **13** | **9** | **6** | **97** | **64** | <0.05 |
| S2 | 0.15 | **9** | <0.2 | **14** | **12** | **7** | **120** | **49** | **0.05** |
| S3 | 0.15 | **4** | <0.2 | **9** | **8** | **4** | **11** | **26** | <0.05 |
| S4 | 0.15 | **8** | <0.2 | **14** | **21** | **9** | **15** | **62** | <0.05 |
| S5 | 0.15 | **3** | <0.2 | **17** | **9** | **18** | **10** | **28** | <0.05 |
| S6 | 0.15 | **5** | <0.2 | **16** | **31** | **4** | **25** | **45** | **0.06** |
| S7 | 0.15 | **7** | <0.2 | **9** | **8** | **4** | **15** | **30** | **0.06** |
| S8 | 0.15 | **7** | <0.2 | **22** | **14** | **7** | **18** | **40** | <0.05 |
| S9 | 0.15 | **15** | <0.2 | **20** | **33** | **7** | **24** | **30** | **0.09** |
| Duplicate | | **5** | <0.2 | **14** | **7** | **8** | **15** | **17** | <0.05 |

**Table 19.** PCBs analytical results. Values are presented as mg/kg.

| Assessment Criteria | | PCB |
|---|---|---|
| NEPM 2013 Residential Soil HIL-A, mg/kg | | 1 |
| Sample | Depth (m) | mg/kg |
| S1 | 0.15 | <1 |
| S2 | 0.15 | <1 |
| S3 | 0.15 | <1 |
| S4 | 0.15 | <1 |
| S5 | 0.15 | <1 |
| S6 | 0.15 | <1 |
| S7 | 0.15 | <1 |
| S8 | 0.15 | <1 |
| S9 | 0.15 | <1 |
| Duplicate | | <1 |

**Table 20.** Asbestos analytical results. Values are presented as %w/w.

| Assessment Criteria | | Asbestos | | |
|---|---|---|---|---|
| NEPM 2013 Residential Soil HSL-A, mg/kg | | Detected | Bonded ACM | FA and AF |
| | | | 0.01%w/w | 0.001%w/w |
| Sample | Depth (m) | Y/N | %w/w | %w/w |
| S1 | 0.15 | N | <0.01 | NA |
| S2 | 0.15 | N | <0.01 | NA |
| S3 | 0.15 | N | <0.01 | NA |
| S4 | 0.15 | N | <0.01 | NA |
| S5 | 0.15 | N | <0.01 | NA |
| S6 | 0.15 | N | <0.01 | NA |
| S7 | 0.15 | N | <0.01 | NA |
| S8 | 0.15 | N | <0.01 | NA |
| S9 | 0.15 | N | <0.01 | NA |
| Duplicate | | N | <0.01 | NA |

**Table 21.** Pesticide analytical results. Values are presented as mg/kg.

| Assessment Criteria | | Heptachlor | Chlordane | Aldrin & Dieldrin | Endrin | DDT | DDD+DDE+DDT | Endosulfan | Methoxychlor | Chlorpyrifos |
|---|---|---|---|---|---|---|---|---|---|---|
| NEPM 2013 Residential Soil HIL-A, mg/kg | | 6 | 50 | 6 | 10 | | 240 | 270 | 300 | 160 |
| NEPM 2013 Soil Generic EIL for Urban Residential and Public Open Space, mg/kg | | | | | | 180 | | | | |
| Sample | Depth (m) | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| S1 | 0.15 | <1 | <1 | <1 | <0.5 | <0.5 | <1.5 | <1 | <0.5 | <0.5 |
| S2 | 0.15 | <1 | <1 | <1 | <0.5 | <0.5 | <1.5 | <1 | <0.5 | <0.5 |
| S3 | 0.15 | <1 | <1 | <1 | <0.5 | <0.5 | <1.5 | <1 | <0.5 | <0.5 |
| S4 | 0.15 | <1 | <1 | <1 | <0.5 | <0.5 | <1.5 | <1 | <0.5 | <0.5 |
| S5 | 0.15 | <1 | <1 | <1 | <0.5 | <0.5 | <1.5 | <1 | <0.5 | <0.5 |
| S6 | 0.15 | <1 | <1 | <1 | <0.5 | <0.5 | <1.5 | <1 | <0.5 | <0.5 |
| S7 | 0.15 | <1 | <1 | <1 | <0.5 | <0.5 | <1.5 | <1 | <0.5 | <0.5 |
| S8 | 0.15 | <1 | <1 | <1 | <0.5 | <0.5 | <1.5 | <1 | <0.5 | <0.5 |
| S9 | 0.15 | <1 | <1 | <1 | <0.5 | <0.5 | <1.5 | <1 | <0.5 | <0.5 |
| Duplicate | | <1 | <1 | <1 | <0.5 | <0.5 | <1.5 | <1 | <0.5 | <0.5 |

# CHAIN OF CUSTODY & ANALYSIS REQUEST

Page __1__ of __1_

**SGS Environmental Services Sydney**
**Unit 16, 33 Maddox Street**
**Alexandria NSW 2015**
**Telephone No: (02) 85940400**
**Facsimile No: (02) 85940499**
**Email: au.samplereceipt.sydney@sgs.com**

Lab ID Number: *(please quote on correspondence)*

| | | | |
|---|---|---|---|
| Company Name: | Neo Consulting Pty Ltd | Project Name/No: | N10167 |
| Address: | 186 Riverstone Parade | Purchase Order No: | **QUOTE NUMER: 1655473** |
| | Riverstone NSW 2765 | Results Required Date: | 3 Day T/A |
| | | Telephone: | 0416680375 Fax: |
| Contact Name: | Nick Caltabiano | Email Results and invoices to : | nick@neoconsulting, admin@neoconsulting, oskar@neoconsulting, sarah@neoconsulting, ehsan@neoconsulting |
| Quotation No: | | | |

| SGS ID | Client Sample ID | Sampling Date/ Time | Matrix (Tick as appropriate): Soil Sample | Water Sample | Other | NO. OF CONTAINERS | ANALYSIS REQUESTED: REST | Asbestos ID |
|---|---|---|---|---|---|---|---|---|
| 1 | S1 | | X | | | | X | X |
| 2 | S2 | | X | | | | X | X |
| 3 | S3 | | X | | | | X | X |
| 4 | S4 | | X | | | | X | X |
| 5 | S5 | | X | | | | X | X |
| 6 | S6 | | X | | | | X | X |
| 7 | S7 | | X | | | | X | X |
| 8 | S8 | | X | | | | X | X |
| 9 | S9 | | X | | | | X | X |
| 10 | Duplicate | | X | | | | X | X |
| | | | | | | | | |
| | | | | | | | | |

**Additional Report Formats**

- ☐ NEPM
- ☐ CSV
- ☐ ESDAT
- ☐ DQO
- ☐ GO, Guidelines ---------
- ☐ Others _____

**Notes/Guidelines/LOR/ Special instructions**

SGS Melbourne EHS
ME368667 COC
Received: 20 – Nov – 2024

| | | | |
|---|---|---|---|
| Relinquished By: Chris C | Date/Time: 20.11.24 (Melbourne) | Received By: Shirly Shen | Date/Time: 20/11 1.39pm - when we received COC. |
| Relinquished By: | Date/Time: | Received By: | Date/Time: |
| Samples Intact: *Yes / No* | Temperature: °C | Sample Security Sealed: *Yes / No* | Hazards: *e.g. may contain Asbestos* |
| Comments / Subcontracting details: | | | |

Outlook

**FW: [EXTERNAL] Re: Chain of custody request for soli samples dropped off**

**From** Prasad, Sandhya (Brisbane) <Sandhya.Prasad@sgs.com>
**Date** Wed 11/20/2024 11:09 AM
**To** AU.SampleReceipt.Melbourne, AU (Melbourne) <Au.samplereceipt.melbourne@sgs.com>
**Cc** AU.SampleReceipt.GBS, AU (Alexandria) <AU.SampleReceipt.GBS@sgs.com>; Douglas, Karen (Notting Hill) <Karen.Douglas@sgs.com>

2 attachments (2 MB)
N10167.pdf; NEO C-IE-MAR 24 -1655473 SGS Sydney PL2024.pdf;

Hi Shirly

The asbestos analysis will have to be subcontracted to Sydney.

**Table 1: Neo Consulting customised packages (v6)**

| MEDIA | CODE | ANALYTICAL PACKAGE | UNIT RATE AUD |
|---|---|---|---|
| S | NEO4 | ENM - TRH/BTEXN/PAH/8 HM/pH/EC/Foreign Materials (Rubber, Plastic, Bitumen, Paper, Cloth, Paint, Wood) | $ 135.08 |
| S | ESAS | TRH/BTEXN/PAH/Pb | $ 74.87 |
| W | ESAW | TRH/BTEXN/PAH/ 8 HM (D) | $ 88.47 |
| S | RESF | TRH/BTEXN/PAH /8 HM (T) /OCP | $ 120.75 |
| S | REST | TRH/BTEXN/PAH /8 HM (T) /OCP/OPP/PCB | $ 145.35 |
| S | RESN | TRH/BTEXN/PAH/8 HM (T)/Asbestos ID 100g | $ 112.73 |
| W | RESW | VCH/8HM (D)/ PAH/OC/PCB | $ 158.55 |
| S | CIDF | TRH/BTEXN/PAH/8 HM (T)/OC/OP/VCH | $ 188.08 |
| S | CIDN | TRH/BTEXN/PAH/8HM (T) | $ 88.47 |
| W | CIDW | VCH/TRH/BTEXN/PAH/8 HM (D) | $ 144.80 |
| S | RESB | 8 HM (T)/ PCB/Asbestos NEPM 500ml | $ 123.03 |
| S | NEPM EIL SP | pH(CaCl2)/CEC/Clay content/ TOC(S) Organic %/ Fe% | $ 142.57 |
| W | WP | pH/EC/Turbidity/DO | $ 15.79 |

Kind Regards

**Sandhya Prasad**

**Industries and Environment**
Client Services Manager - SGS Melbourne

Mobile:+61 408 234 866
E-mail: sandhya.prasad@sgs.com
SGS Australia | EHS Customer Feedback

**From:** nick caltabiano <nick@neoconsulting.com.au>
**Sent:** Wednesday, November 20, 2024 9:59 AM
**To:** Prasad, Sandhya (Brisbane) <Sandhya.Prasad@sgs.com>
**Cc:** AU.SampleReceipt.Melbourne, AU (Melbourne) <Au.samplereceipt.melbourne@sgs.com>; Douglas, Karen (Notting Hill) <Karen.Douglas@sgs.com>
**Subject:** [EXTERNAL] Re: Chain of custody request for soli samples dropped off



Please find attached Chain of Custody,

Kind regards,

Nick

On Wed, Nov 20, 2024 at 10:14 AM Prasad, Sandhya (Brisbane) <Sandhya.Prasad@sgs.com> wrote:

> Hi Nick
>
> Please provide the CoC for the soil samples dropped off so job can be registered
>
> Do you need the sample IDs and sampling dates for these?

Ice cubes

# SGS Notting Hill Bottle Map for Water & Soil Samples

| Temperature | 3.8° | Ice Brick | 0 | Ice | ✓ | Ice Pack | 0 | Esky | 0 | Bag | 1 | Box | 0 | Bucket | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Name + Date | Shirly Shen 20/11 10-15PM | | | | | | | | | | | | | | |

## Bottle Type And Preservation Type

| | Sample ID | Tray # | Soil | Water | Oil | 1L Unpreserved Plastic | 1L HNO3 Preserved Plastic | 1L Unpreserved Glass | 500mL Unpreserved Plastic | 500mL Unpreserved Glass | 250mL Unpreserved Plastic Bottle | 250mL Unpreserved Plastic Jar | 250mL H2SO4 Plastic | 250mL Zn acetate & NaOH Plastic | 250mL Unpreserved Glass Jar | 200mL Unpreserved Glass | 150mL Unpreserved Plastic Jar | 125mL Unpreserved Plastic Bottle | 125mL HNO3 (Filtered) Plastic (Dissolved meta | 125mL HNO3 (Unfiltered) Plastic (Total Metals) | 125mL NaOH Preserved Plastic Bottle | 125mL H2SO4 Plastic | 125mL Unpreserved Glass Jar | 100mL Unpreserved Glass | 70mL Unpreserved Plastic Container | 50mL Unpreserved Plastic | 40mL Unpreserved Glass vial | 40mL Na2S2O3 Glass vial | 40mL H2SO4 Glass vial | 40mL NH4Cl Glass vial | 40mL Diluted HCl Glass vial | 10mL Unpreserved Glass | Plastic bag | Number of labels to be printed per sample ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Sample ID per COC | R7 | X | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | 1 |
| 2 | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | 1 |
| 3 | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | 1 |
| 4 | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | 1 |
| 5 | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | 1 |
| 6 | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | 1 |
| 7 | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | 1 |
| 8 | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | 1 |
| 9 | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | 1 |
| 10 | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | 1 |

**Comments:** no COC was provided by client. asked sandhya for help.

# ANALYTICAL REPORT

Accreditation No. 2562

| CLIENT DETAILS | | LABORATORY DETAILS | |
|---|---|---|---|
| Contact | Nick Caltabiano | Manager | Adam Atkinson |
| Client | NEO CONSULTING PTY LTD | Laboratory | SGS Melbourne EH&S |
| Address | PO BOX 279<br>RIVERSTONE NSW 2765 | Address | 10/585 Blackburn Road<br>Notting Hill Victoria 3168 |
| Telephone | 0416 680 375 \| 0455 485 502 | Telephone | +61395743200 |
| Facsimile | (Not specified) | Facsimile | +61395743399 |
| Email | nick@neoconsulting.com.au | Email | Au.SampleReceipt.Melbourne@sgs.com |
| Project | **N10167** | SGS Reference | **ME368667 R0** |
| Order Number | **N10167** | Date Received | 20 Nov 2024 |
| Samples | 10 | Date Reported | 28 Nov 2024 |

## COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562 (14420).

Asbestos analysis subcontracted to SGS Sydney, Unit 16 33 Maddox St Alexandria NSW 2015, NATA Accreditation Number: 2562, Site Number: 4354, SE274553.
No respirable fibres detected in all soil samples using trace analysis technique.
Asbestos analysed by Approved Identifier Ravee Sivasubramaniam
8270:Majority of spike recoveries are within acceptance criteria.
MA30: RPD failed acceptance criteria due to sample heterogeneity.
MA30: Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).

## SIGNATORIES

Andrew WRIGHT
LC/VOC Team Leader

Christopher BENNETT
Team Leader (Inorganics/Metals)

Susan WAN
Senior Chemist

| Parameter | Units | LOR | Sample Number: ME368667.001<br>Sample Matrix: Soil<br>Sample Date: 20 Nov 2024<br>Sample Name: S1 | ME368667.002<br>Soil<br>20 Nov 2024<br>S2 | ME368667.003<br>Soil<br>20 Nov 2024<br>S3 | ME368667.004<br>Soil<br>20 Nov 2024<br>S4 |
|---|---|---|---|---|---|---|
| **Moisture Content Method: AN002 Tested: 21/11/2024** | | | | | | |
| % Moisture | %w/w | 1 | **13.6** | **21.0** | **13.4** | **14.2** |
| **USEPA 8260B Volatile Organic Compounds in Solids/Soils Method: USEPA 8260 B Tested: 21/11/2024** | | | | | | |
| m&p-Xylenes | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Total BTEX | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Monocyclic Aromatic Hydrocarbons | | | | | | |
| Benzene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Toluene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Ethylbenzene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| o-Xylenes | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Polycyclic Aromatic Hydrocarbons | | | | | | |
| Naphthalene (VOC) | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Surrogates | | | | | | |
| Toluene-d8 (surrogate) | % | - | **87** | **74** | **85** | **73** |
| **Volatile Petroleum Hydrocarbons in soil Method: MA30-VPH Tested: 21/11/2024** | | | | | | |
| TRH C6-C9 (P&T) | mg/kg | 10 | <10 | <10 | <10 | <10 |
| TRH C6-C10 (P&T) | mg/kg | 10 | <10 | <10 | <10 | <10 |
| TRH C6-C10 (P&T) less BTEX (F1) | mg/kg | 10 | <10 | <10 | <10 | <10 |

| Parameter | Units | LOR | Sample Number: ME368667.001<br>Sample Matrix: Soil<br>Sample Date: 20 Nov 2024<br>Sample Name: S1 | ME368667.002<br>Soil<br>20 Nov 2024<br>S2 | ME368667.003<br>Soil<br>20 Nov 2024<br>S3 | ME368667.004<br>Soil<br>20 Nov 2024<br>S4 |
|---|---|---|---|---|---|---|
| **TRH in soil MA-30.SL.01 Method: MA30 Tested: 21/11/2024** | | | | | | |
| TRH C6-C9 (P&T) | mg/kg | 10 | <10 | <10 | <10 | <10 |
| TRH C10-C14 | mg/kg | 10 | <10 | <10 | <10 | <10 |
| TRH >C10-C16 | mg/kg | 10 | <10 | <10 | <10 | <10 |
| TRH>C10-C16 less naphthalene (F2) | mg/kg | 10 | <10 | <10 | <10 | <10 |
| TRH >C16-C34 (F3) | mg/kg | 20 | **35** | **120** | **98** | **60** |
| TRH C15-C28 | mg/kg | 20 | **21** | **53** | **52** | **39** |
| TRH C29-C36 | mg/kg | 20 | <20 | **73** | **54** | **29** |
| C6-C10 (P&T) less BTEX (F1) | mg/kg | 10 | <10 | <10 | <10 | <10 |
| Total TRH C10-C36 | mg/kg | 20 | **21** | **130** | **110** | **68** |
| TRH >C34-C40 (F4) | mg/kg | 20 | <20 | **21** | <20 | <20 |
| TRH C6-C10 (P&T) | mg/kg | 10 | <10 | <10 | <10 | <10 |
| Total TRH C6-C36 | mg/kg | 20 | **21** | **130** | **110** | **68** |
| Total TRH C6-C40 (F) | mg/kg | 20 | **35** | **140** | **98** | **60** |
| TRH >C10-C40 (F) | mg/kg | 20 | **35** | **140** | **98** | **60** |
| **8270D.SL.01 SVOCs All in Solids/Soils Method: MA 8270 Tested: 21/11/2024** | | | | | | |
| 1-Methylnaphthalene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| 2-Methylnaphthalene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| 4,4-DDD | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 4,4-DDE | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 4,4-DDT | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Acenaphthylene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Aldrin | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| alpha-BHC | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| alpha-Chlordane | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| gamma-Chlordane | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Anthracene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Arochlor 1016 | mg/kg | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Arochlor 1221 | mg/kg | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Arochlor 1232 | mg/kg | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Arochlor 1242 | mg/kg | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Arochlor 1248 | mg/kg | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Arochlor 1254 | mg/kg | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Arochlor 1260 | mg/kg | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Arochlor 1262 | mg/kg | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Arochlor 1268 | mg/kg | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Benzo(a)anthracene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Benzo (a) pyrene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Benzo (b+j) fluoranthene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Benzo (ghi) perylene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Benzo (k) fluoranthene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| beta-BHC | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Chlorpyrifos | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| delta-BHC | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Dibenz (ah) anthracene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Dieldrin | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Dimethoate | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Endosulfan 1 | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Endosulfan 2 | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Endosulfan Sulphate | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Endrin | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Endrin Aldehyde | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Famphur | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluoranthene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Fluorene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| gamma-BHC | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Heptachlor | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |

| Parameter | Units | LOR | Sample Number: ME368667.001 Sample Matrix: Soil Sample Date: 20 Nov 2024 Sample Name: S1 | ME368667.002 Soil 20 Nov 2024 S2 | ME368667.003 Soil 20 Nov 2024 S3 | ME368667.004 Soil 20 Nov 2024 S4 |
|---|---|---|---|---|---|---|
| **8270D.SL.01 SVOCs All in Solids/Soils Method: MA 8270 Tested: 25/11/2024 (continued)** | | | | | | |
| Heptachlor Epoxide | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Indeno (1,2,3-cd) pyrene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Isodrin | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Methoxychlor | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Methyl parathion | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Naphthalene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| O,O,O-Triethylphosphorothioate | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Phenanthrene | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Phorate | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Pyrene | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Stirofos | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Sulfotepp | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Thionazin | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Total OC Pesticides | mg/kg | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Total PCBs | mg/kg | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| 2,4,6-Tribromophenol (surrogate) | % | - | **58** | **56** | **59** | **52** |
| Fluorobiphenyl (surrogate) | % | - | **86** | **84** | **84** | **82** |
| Fluorophenol (surrogate) | % | - | **134** | **128** | **138** | **147** |
| Nitrobenzene-D5 (surrogate) | % | - | **94** | **90** | **94** | **90** |
| p-Terphenyl-D14 (surrogate) | % | - | **80** | **78** | **78** | **80** |
| Phenol-D6 (surrogate) | % | - | **91** | **88** | **89** | **89** |
| **Metals/Elements in Solids Method: MA1400_1 Tested: 25/11/2024** | | | | | | |
| Arsenic | mg/kg | 2 | **10** | **9** | **4** | **8** |
| Cadmium | mg/kg | 0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Chromium | mg/kg | 2 | **13** | **14** | **9** | **14** |
| Copper | mg/kg | 2 | **9** | **12** | **8** | **21** |
| Lead | mg/kg | 2 | **97** | **120** | **11** | **15** |
| Mercury | mg/kg | 0.05 | <0.05 | **0.05** | <0.05 | <0.05 |
| Nickel | mg/kg | 2 | **6** | **7** | **4** | **9** |
| Zinc | mg/kg | 2 | **64** | **49** | **26** | **62** |
| **Fibre Identification in soil Method: AS4964/AN602 Tested: 26/11/2024** | | | | | | |
| Date Analysed* | No unit | - | 25/11/2024 00:00 | 25/11/2024 00:00 | 25/11/2024 00:00 | 25/11/2024 00:00 |
| FibreID | | | | | | |
| Asbestos Detected | No unit | - | No | No | No | No |
| SemiQuant | | | | | | |
| Estimated Fibres* | %w/w | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 |

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name | ME368667.001<br>Soil<br>20 Nov 2024<br>S1 | ME368667.002<br>Soil<br>20 Nov 2024<br>S2 | ME368667.003<br>Soil<br>20 Nov 2024<br>S3 | ME368667.004<br>Soil<br>20 Nov 2024<br>S4 |
|---|---|---|---|---|---|---|---|
| **Combined SVOC Pesticides in Solids/Soils** | **Method: MA 8270** | **Tested: 27/11/2024** | | | | | |
| Dichlorvos | mg/kg | 0.5 | | <0.5 | <0.5 | <0.5 | <0.5 |
| Diazinon* | mg/kg | 0.5 | | <0.5 | <0.5 | <0.5 | <0.5 |
| Fenitrothion | mg/kg | 0.5 | | <0.5 | <0.5 | <0.5 | <0.5 |
| Malathion | mg/kg | 0.5 | | <0.5 | <0.5 | <0.5 | <0.5 |
| Parathion | mg/kg | 0.5 | | <0.5 | <0.5 | <0.5 | <0.5 |
| Bromophos ethyl* | mg/kg | 0.5 | | <0.5 | <0.5 | <0.5 | <0.5 |
| Methidathion | mg/kg | 0.5 | | <0.5 | <0.5 | <0.5 | <0.5 |
| Ethion | mg/kg | 0.5 | | <0.5 | <0.5 | <0.5 | <0.5 |
| Azinphos-methyl | mg/kg | 0.5 | | <0.5 | <0.5 | <0.5 | <0.5 |
| Surrogates | | | | | | | |
| d14-p-terphenyl (Surrogate) | % | - | | **102** | **103** | **101** | **101** |

| Parameter | Units | LOR | Sample Number: ME368667.005<br>Sample Matrix: Soil<br>Sample Date: 20 Nov 2024<br>Sample Name: S5 | Sample Number: ME368667.006<br>Sample Matrix: Soil<br>Sample Date: 20 Nov 2024<br>Sample Name: S6 | Sample Number: ME368667.007<br>Sample Matrix: Soil<br>Sample Date: 20 Nov 2024<br>Sample Name: S7 | Sample Number: ME368667.008<br>Sample Matrix: Soil<br>Sample Date: 20 Nov 2024<br>Sample Name: S8 |
|---|---|---|---|---|---|---|
| **Moisture Content Method: AN002 Tested: 21/11/2024** | | | | | | |
| % Moisture | %w/w | 1 | **8.3** | **16.9** | **7.3** | **11.2** |
| **USEPA 8260B Volatile Organic Compounds in Solids/Soils Method: USEPA 8260 B Tested: 21/11/2024** | | | | | | |
| m&p-Xylenes | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Total BTEX | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Monocyclic Aromatic Hydrocarbons | | | | | | |
| Benzene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Toluene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Ethylbenzene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| o-Xylenes | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Polycyclic Aromatic Hydrocarbons | | | | | | |
| Naphthalene (VOC) | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Surrogates | | | | | | |
| Toluene-d8 (surrogate) | % | - | **74** | **85** | **74** | **77** |
| **Volatile Petroleum Hydrocarbons in soil Method: MA30-VPH Tested: 21/11/2024** | | | | | | |
| TRH C6-C9 (P&T) | mg/kg | 10 | <10 | <10 | <10 | <10 |
| TRH C6-C10 (P&T) | mg/kg | 10 | <10 | <10 | <10 | <10 |
| TRH C6-C10 (P&T) less BTEX (F1) | mg/kg | 10 | <10 | <10 | <10 | <10 |

| Parameter | Units | LOR | Sample Number: ME368667.005 Sample Matrix: Soil Sample Date: 20 Nov 2024 Sample Name: S5 | ME368667.006 Soil 20 Nov 2024 S6 | ME368667.007 Soil 20 Nov 2024 S7 | ME368667.008 Soil 20 Nov 2024 S8 |
|---|---|---|---|---|---|---|
| **TRH in soil MA-30.SL.01 Method: MA30 Tested: 21/11/2024** | | | | | | |
| TRH C6-C9 (P&T) | mg/kg | 10 | <10 | <10 | <10 | <10 |
| TRH C10-C14 | mg/kg | 10 | <10 | **14** | <10 | <10 |
| TRH >C10-C16 | mg/kg | 10 | <10 | **22** | <10 | <10 |
| TRH>C10-C16 less naphthalene (F2) | mg/kg | 10 | <10 | **22** | <10 | <10 |
| TRH >C16-C34 (F3) | mg/kg | 20 | **38** | **67** | **81** | **78** |
| TRH C15-C28 | mg/kg | 20 | **23** | **44** | **41** | **43** |
| TRH C29-C36 | mg/kg | 20 | **21** | **37** | **47** | **42** |
| C6-C10 (P&T) less BTEX (F1) | mg/kg | 10 | <10 | <10 | <10 | <10 |
| Total TRH C10-C36 | mg/kg | 20 | **44** | **95** | **88** | **86** |
| TRH >C34-C40 (F4) | mg/kg | 20 | <20 | <20 | <20 | **22** |
| TRH C6-C10 (P&T) | mg/kg | 10 | <10 | <10 | <10 | <10 |
| Total TRH C6-C36 | mg/kg | 20 | **44** | **95** | **88** | **86** |
| Total TRH C6-C40 (F) | mg/kg | 20 | **38** | **89** | **81** | **99** |
| TRH >C10-C40 (F) | mg/kg | 20 | **38** | **89** | **81** | **99** |
| **8270D.SL.01 SVOCs All in Solids/Soils Method: MA 8270 Tested: 21/11/2024** | | | | | | |
| 1-Methylnaphthalene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| 2-Methylnaphthalene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| 4,4-DDD | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 4,4-DDE | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 4,4-DDT | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Acenaphthylene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Aldrin | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| alpha-BHC | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| alpha-Chlordane | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| gamma-Chlordane | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Anthracene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Arochlor 1016 | mg/kg | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Arochlor 1221 | mg/kg | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Arochlor 1232 | mg/kg | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Arochlor 1242 | mg/kg | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Arochlor 1248 | mg/kg | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Arochlor 1254 | mg/kg | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Arochlor 1260 | mg/kg | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Arochlor 1262 | mg/kg | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Arochlor 1268 | mg/kg | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Benzo(a)anthracene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Benzo (a) pyrene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Benzo (b+j) fluoranthene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Benzo (ghi) perylene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Benzo (k) fluoranthene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| beta-BHC | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Chlorpyrifos | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| delta-BHC | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Dibenz (ah) anthracene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Dieldrin | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Dimethoate | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Endosulfan 1 | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Endosulfan 2 | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Endosulfan Sulphate | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Endrin | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Endrin Aldehyde | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Famphur | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluoranthene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Fluorene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| gamma-BHC | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Heptachlor | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |

| Parameter | Units | LOR | Sample Number ME368667.005 Sample Matrix Soil Sample Date 20 Nov 2024 Sample Name S5 | ME368667.006 Soil 20 Nov 2024 S6 | ME368667.007 Soil 20 Nov 2024 S7 | ME368667.008 Soil 20 Nov 2024 S8 |
|---|---|---|---|---|---|---|
| **8270D.SL.01 SVOCs All in Solids/Soils Method: MA 8270 Tested: 25/11/2024 (continued)** | | | | | | |
| Heptachlor Epoxide | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Indeno (1,2,3-cd) pyrene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Isodrin | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Methoxychlor | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Methyl parathion | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Naphthalene | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| O,O,O-Triethylphosphorothioate | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Phenanthrene | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Phorate | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Pyrene | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Stirofos | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Sulfotepp | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Thionazin | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Total OC Pesticides | mg/kg | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Total PCBs | mg/kg | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| 2,4,6-Tribromophenol (surrogate) | % | - | **51** | **57** | **53** | **55** |
| Fluorobiphenyl (surrogate) | % | - | **85** | **84** | **83** | **82** |
| Fluorophenol (surrogate) | % | - | **156** | **136** | **143** | **131** |
| Nitrobenzene-D5 (surrogate) | % | - | **92** | **88** | **91** | **91** |
| p-Terphenyl-D14 (surrogate) | % | - | **77** | **80** | **77** | **77** |
| Phenol-D6 (surrogate) | % | - | **94** | **90** | **92** | **90** |
| **Metals/Elements in Solids Method: MA1400_1 Tested: 25/11/2024** | | | | | | |
| Arsenic | mg/kg | 2 | **3** | **5** | **7** | **7** |
| Cadmium | mg/kg | 0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Chromium | mg/kg | 2 | **17** | **16** | **9** | **22** |
| Copper | mg/kg | 2 | **9** | **31** | **8** | **14** |
| Lead | mg/kg | 2 | **10** | **25** | **15** | **18** |
| Mercury | mg/kg | 0.05 | <0.05 | **0.06** | **0.06** | <0.05 |
| Nickel | mg/kg | 2 | **18** | **4** | **4** | **7** |
| Zinc | mg/kg | 2 | **28** | **45** | **30** | **40** |
| **Fibre Identification in soil Method: AS4964/AN602 Tested: 26/11/2024** | | | | | | |
| Date Analysed* | No unit | - | 25/11/2024 00:00 | 25/11/2024 00:00 | 25/11/2024 00:00 | 25/11/2024 00:00 |
| FibreID | | | | | | |
| Asbestos Detected | No unit | - | No | No | No | No |
| SemiQuant | | | | | | |
| Estimated Fibres* | %w/w | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 |

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name | ME368667.005<br>Soil<br>20 Nov 2024<br>S5 | ME368667.006<br>Soil<br>20 Nov 2024<br>S6 | ME368667.007<br>Soil<br>20 Nov 2024<br>S7 | ME368667.008<br>Soil<br>20 Nov 2024<br>S8 |
|---|---|---|---|---|---|---|---|
| **Combined SVOC Pesticides in Solids/Soils** | **Method: MA 8270** | **Tested: 27/11/2024** | | | | | |
| Dichlorvos | mg/kg | 0.5 | | <0.5 | <0.5 | <0.5 | <0.5 |
| Diazinon* | mg/kg | 0.5 | | <0.5 | <0.5 | <0.5 | <0.5 |
| Fenitrothion | mg/kg | 0.5 | | <0.5 | <0.5 | <0.5 | <0.5 |
| Malathion | mg/kg | 0.5 | | <0.5 | <0.5 | <0.5 | <0.5 |
| Parathion | mg/kg | 0.5 | | <0.5 | <0.5 | <0.5 | <0.5 |
| Bromophos ethyl* | mg/kg | 0.5 | | <0.5 | <0.5 | <0.5 | <0.5 |
| Methidathion | mg/kg | 0.5 | | <0.5 | <0.5 | <0.5 | <0.5 |
| Ethion | mg/kg | 0.5 | | <0.5 | <0.5 | <0.5 | <0.5 |
| Azinphos-methyl | mg/kg | 0.5 | | <0.5 | <0.5 | <0.5 | <0.5 |
| Surrogates | | | | | | | |
| d14-p-terphenyl (Surrogate) | % | - | | **104** | **98** | **99** | **99** |

| Parameter | Units | LOR | Sample Number: ME368667.009<br>Sample Matrix: Soil<br>Sample Date: 20 Nov 2024<br>Sample Name: S9 | Sample Number: ME368667.010<br>Sample Matrix: Soil<br>Sample Date: 20 Nov 2024<br>Sample Name: Duplicate |
|---|---|---|---|---|
| **Moisture Content Method: AN002 Tested: 21/11/2024** | | | | |
| % Moisture | %w/w | 1 | **16.5** | **9.6** |
| **USEPA 8260B Volatile Organic Compounds in Solids/Soils Method: USEPA 8260 B Tested: 21/11/2024** | | | | |
| m&p-Xylenes | mg/kg | 0.1 | <0.1 | <0.1 |
| Total BTEX | mg/kg | 0.5 | <0.5 | <0.5 |
| Monocyclic Aromatic Hydrocarbons | | | | |
| Benzene | mg/kg | 0.1 | <0.1 | <0.1 |
| Toluene | mg/kg | 0.1 | <0.1 | <0.1 |
| Ethylbenzene | mg/kg | 0.1 | <0.1 | <0.1 |
| o-Xylenes | mg/kg | 0.1 | <0.1 | <0.1 |
| Polycyclic Aromatic Hydrocarbons | | | | |
| Naphthalene (VOC) | mg/kg | 0.1 | <0.1 | <0.1 |
| Surrogates | | | | |
| Toluene-d8 (surrogate) | % | - | **76** | **76** |
| **Volatile Petroleum Hydrocarbons in soil Method: MA30-VPH Tested: 21/11/2024** | | | | |
| TRH C6-C9 (P&T) | mg/kg | 10 | <10 | <10 |
| TRH C6-C10 (P&T) | mg/kg | 10 | <10 | <10 |
| TRH C6-C10 (P&T) less BTEX (F1) | mg/kg | 10 | <10 | <10 |

| Parameter | Units | LOR | Sample Number: ME368667.009<br>Sample Matrix: Soil<br>Sample Date: 20 Nov 2024<br>Sample Name: S9 | Sample Number: ME368667.010<br>Sample Matrix: Soil<br>Sample Date: 20 Nov 2024<br>Sample Name: Duplicate |
|---|---|---|---|---|
| **TRH in soil MA-30.SL.01 Method: MA30 Tested: 21/11/2024** | | | | |
| TRH C6-C9 (P&T) | mg/kg | 10 | <10 | <10 |
| TRH C10-C14 | mg/kg | 10 | <10 | <10 |
| TRH >C10-C16 | mg/kg | 10 | <10 | <10 |
| TRH>C10-C16 less naphthalene (F2) | mg/kg | 10 | <10 | <10 |
| TRH >C16-C34 (F3) | mg/kg | 20 | **94** | **43** |
| TRH C15-C28 | mg/kg | 20 | **51** | **25** |
| TRH C29-C36 | mg/kg | 20 | **50** | **26** |
| C6-C10 (P&T) less BTEX (F1) | mg/kg | 10 | <10 | <10 |
| Total TRH C10-C36 | mg/kg | 20 | **100** | **50** |
| TRH >C34-C40 (F4) | mg/kg | 20 | <20 | <20 |
| TRH C6-C10 (P&T) | mg/kg | 10 | <10 | <10 |
| Total TRH C6-C36 | mg/kg | 20 | **100** | **50** |
| Total TRH C6-C40 (F) | mg/kg | 20 | **94** | **43** |
| TRH >C10-C40 (F) | mg/kg | 20 | **94** | **43** |
| **8270D.SL.01 SVOCs All in Solids/Soils Method: MA 8270 Tested: 21/11/2024** | | | | |
| 1-Methylnaphthalene | mg/kg | 0.1 | <0.1 | <0.1 |
| 2-Methylnaphthalene | mg/kg | 0.1 | <0.1 | <0.1 |
| 4,4-DDD | mg/kg | 0.5 | <0.5 | <0.5 |
| 4,4-DDE | mg/kg | 0.5 | <0.5 | <0.5 |
| 4,4-DDT | mg/kg | 0.5 | <0.5 | <0.5 |
| Acenaphthene | mg/kg | 0.1 | <0.1 | <0.1 |
| Acenaphthylene | mg/kg | 0.1 | <0.1 | <0.1 |
| Aldrin | mg/kg | 0.5 | <0.5 | <0.5 |
| alpha-BHC | mg/kg | 0.5 | <0.5 | <0.5 |
| alpha-Chlordane | mg/kg | 0.5 | <0.5 | <0.5 |
| gamma-Chlordane | mg/kg | 0.5 | <0.5 | <0.5 |
| Anthracene | mg/kg | 0.1 | <0.1 | <0.1 |
| Arochlor 1016 | mg/kg | 1 | <1.0 | <1.0 |
| Arochlor 1221 | mg/kg | 1 | <1.0 | <1.0 |
| Arochlor 1232 | mg/kg | 1 | <1.0 | <1.0 |
| Arochlor 1242 | mg/kg | 1 | <1.0 | <1.0 |
| Arochlor 1248 | mg/kg | 1 | <1.0 | <1.0 |
| Arochlor 1254 | mg/kg | 1 | <1.0 | <1.0 |
| Arochlor 1260 | mg/kg | 1 | <1.0 | <1.0 |
| Arochlor 1262 | mg/kg | 1 | <1.0 | <1.0 |
| Arochlor 1268 | mg/kg | 1 | <1.0 | <1.0 |
| Benzo(a)anthracene | mg/kg | 0.1 | <0.1 | <0.1 |
| Benzo (a) pyrene | mg/kg | 0.1 | <0.1 | <0.1 |
| Benzo (b+j) fluoranthene | mg/kg | 0.1 | <0.1 | <0.1 |
| Benzo (ghi) perylene | mg/kg | 0.1 | <0.1 | <0.1 |
| Benzo (k) fluoranthene | mg/kg | 0.1 | <0.1 | <0.1 |
| beta-BHC | mg/kg | 0.5 | <0.5 | <0.5 |
| Chlorpyrifos | mg/kg | 0.5 | <0.5 | <0.5 |
| delta-BHC | mg/kg | 0.5 | <0.5 | <0.5 |
| Dibenz (ah) anthracene | mg/kg | 0.1 | <0.1 | <0.1 |
| Dieldrin | mg/kg | 0.5 | <0.5 | <0.5 |
| Dimethoate | mg/kg | 0.5 | <0.5 | <0.5 |
| Endosulfan 1 | mg/kg | 0.5 | <0.5 | <0.5 |
| Endosulfan 2 | mg/kg | 0.5 | <0.5 | <0.5 |
| Endosulfan Sulphate | mg/kg | 0.5 | <0.5 | <0.5 |
| Endrin | mg/kg | 0.5 | <0.5 | <0.5 |
| Endrin Aldehyde | mg/kg | 0.5 | <0.5 | <0.5 |
| Famphur | mg/kg | 0.5 | <0.5 | <0.5 |
| Fluoranthene | mg/kg | 0.1 | <0.1 | <0.1 |
| Fluorene | mg/kg | 0.1 | <0.1 | <0.1 |
| gamma-BHC | mg/kg | 0.5 | <0.5 | <0.5 |
| Heptachlor | mg/kg | 0.5 | <0.5 | <0.5 |

| Parameter | Units | LOR | Sample Number: ME368667.009<br>Sample Matrix: Soil<br>Sample Date: 20 Nov 2024<br>Sample Name: S9 | Sample Number: ME368667.010<br>Sample Matrix: Soil<br>Sample Date: 20 Nov 2024<br>Sample Name: Duplicate |
|---|---|---|---|---|
| **8270D.SL.01 SVOCs All in Solids/Soils Method: MA 8270 Tested: 25/11/2024 (continued)** | | | | |
| Heptachlor Epoxide | mg/kg | 0.5 | <0.5 | <0.5 |
| Indeno (1,2,3-cd) pyrene | mg/kg | 0.1 | <0.1 | <0.1 |
| Isodrin | mg/kg | 0.5 | <0.5 | <0.5 |
| Methoxychlor | mg/kg | 0.5 | <0.5 | <0.5 |
| Methyl parathion | mg/kg | 0.5 | <0.5 | <0.5 |
| Naphthalene | mg/kg | 0.1 | <0.1 | <0.1 |
| O,O,O-Triethylphosphorothioate | mg/kg | 0.5 | <0.5 | <0.5 |
| Phenanthrene | mg/kg | 0.5 | <0.5 | <0.5 |
| Phorate | mg/kg | 0.5 | <0.5 | <0.5 |
| Pyrene | mg/kg | 0.5 | <0.5 | <0.5 |
| Stirofos | mg/kg | 0.5 | <0.5 | <0.5 |
| Sulfotepp | mg/kg | 0.5 | <0.5 | <0.5 |
| Thionazin | mg/kg | 0.5 | <0.5 | <0.5 |
| Total OC Pesticides | mg/kg | 1 | <1.0 | <1.0 |
| Total PCBs | mg/kg | 1 | <1.0 | <1.0 |
| 2,4,6-Tribromophenol (surrogate) | % | - | **55** | **53** |
| Fluorobiphenyl (surrogate) | % | - | **82** | **83** |
| Fluorophenol (surrogate) | % | - | **139** | **141** |
| Nitrobenzene-D5 (surrogate) | % | - | **86** | **91** |
| p-Terphenyl-D14 (surrogate) | % | - | **77** | **78** |
| Phenol-D6 (surrogate) | % | - | **89** | **95** |
| **Metals/Elements in Solids Method: MA1400_1 Tested: 25/11/2024** | | | | |
| Arsenic | mg/kg | 2 | **15** | **5** |
| Cadmium | mg/kg | 0.2 | <0.2 | <0.2 |
| Chromium | mg/kg | 2 | **20** | **14** |
| Copper | mg/kg | 2 | **33** | **7** |
| Lead | mg/kg | 2 | **24** | **15** |
| Mercury | mg/kg | 0.05 | **0.09** | <0.05 |
| Nickel | mg/kg | 2 | **7** | **8** |
| Zinc | mg/kg | 2 | **30** | **17** |

| Parameter | Units | LOR | Sample Number: ME368667.009<br>Sample Matrix: Soil<br>Sample Date: 20 Nov 2024<br>Sample Name: S9 | Sample Number: ME368667.010<br>Sample Matrix: Soil<br>Sample Date: 20 Nov 2024<br>Sample Name: Duplicate |
|---|---|---|---|---|
| **Fibre Identification in soil Method: AS4964/AN602 Tested: 26/11/2024** | | | | |
| Date Analysed* | No unit | - | 25/11/2024 00:00 | 25/11/2024 00:00 |
| FibreID | | | | |
| Asbestos Detected | No unit | - | No | No |
| SemiQuant | | | | |
| Estimated Fibres* | %w/w | 0.01 | <0.01 | <0.01 |
| **Combined SVOC Pesticides in Solids/Soils Method: MA 8270 Tested: 27/11/2024** | | | | |
| Dichlorvos | mg/kg | 0.5 | <0.5 | <0.5 |
| Diazinon* | mg/kg | 0.5 | <0.5 | <0.5 |
| Fenitrothion | mg/kg | 0.5 | <0.5 | <0.5 |
| Malathion | mg/kg | 0.5 | <0.5 | <0.5 |
| Parathion | mg/kg | 0.5 | <0.5 | <0.5 |
| Bromophos ethyl* | mg/kg | 0.5 | <0.5 | <0.5 |
| Methidathion | mg/kg | 0.5 | <0.5 | <0.5 |
| Ethion | mg/kg | 0.5 | <0.5 | <0.5 |
| Azinphos-methyl | mg/kg | 0.5 | <0.5 | <0.5 |
| Surrogates | | | | |
| d14-p-terphenyl (Surrogate) | % | - | **96** | **101** |

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage.* Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

**8270D.SL.01 SVOCs All in Solids/Soils** **Method: MA 8270**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery | MSD %RPD |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | LB082866 | mg/kg | 0.1 | <0.1 | 0% | NA | NA | NA |
| 2-Methylnaphthalene | LB082866 | mg/kg | 0.1 | <0.1 | 0% | NA | NA | NA |
| 4,4-DDD | LB082866 | mg/kg | 0.5 | <0.5 | 0% | NA | | |
| 4,4-DDE | LB082866 | mg/kg | 0.5 | <0.5 | 0% | NA | | |
| 4,4-DDT | LB082866 | mg/kg | 0.5 | <0.5 | 0% | 105% | | |
| Acenaphthene | LB082866 | mg/kg | 0.1 | <0.1 | 0% | 98% | 132% | 3% |
| Acenaphthylene | LB082866 | mg/kg | 0.1 | <0.1 | 0% | NA | NA | NA |
| Aldrin | LB082866 | mg/kg | 0.5 | <0.5 | 0% | 91% | | |
| alpha-BHC | LB082866 | mg/kg | 0.5 | <0.5 | 0% | NA | | |
| alpha-Chlordane | LB082866 | mg/kg | 0.5 | <0.5 | 0% | NA | | |
| gamma-Chlordane | LB082866 | mg/kg | 0.5 | <0.5 | 0% | NA | | |
| Anthracene | LB082866 | mg/kg | 0.1 | <0.1 | 0% | NA | NA | NA |
| Arochlor 1016 | LB082866 | mg/kg | 1 | <1.0 | 0% | NA | | |
| Arochlor 1221 | LB082866 | mg/kg | 1 | <1.0 | 0% | NA | | |
| Arochlor 1232 | LB082866 | mg/kg | 1 | <1.0 | 0% | NA | | |
| Arochlor 1242 | LB082866 | mg/kg | 1 | <1.0 | 0% | NA | | |
| Arochlor 1248 | LB082866 | mg/kg | 1 | <1.0 | 0% | NA | | |
| Arochlor 1254 | LB082866 | mg/kg | 1 | <1.0 | 0% | NA | | |
| Arochlor 1260 | LB082866 | mg/kg | 1 | <1.0 | 0% | NA | | |
| Arochlor 1262 | LB082866 | mg/kg | 1 | <1.0 | 0% | NA | | |
| Arochlor 1268 | LB082866 | mg/kg | 1 | <1.0 | 0% | NA | | |
| Benzo(a)anthracene | LB082866 | mg/kg | 0.1 | <0.1 | 0% | NA | NA | NA |
| Benzo (a) pyrene | LB082866 | mg/kg | 0.1 | <0.1 | 0% | NA | NA | NA |
| Benzo (b+j) fluoranthene | LB082866 | mg/kg | 0.1 | <0.1 | 0% | NA | NA | NA |
| Benzo (ghi) perylene | LB082866 | mg/kg | 0.1 | <0.1 | 0% | NA | NA | NA |
| Benzo (k) fluoranthene | LB082866 | mg/kg | 0.1 | <0.1 | 0% | NA | NA | NA |
| beta-BHC | LB082866 | mg/kg | 0.5 | <0.5 | 0% | NA | | |
| delta-BHC | LB082866 | mg/kg | 0.5 | <0.5 | 0% | NA | | |
| Dibenz (ah) anthracene | LB082866 | mg/kg | 0.1 | <0.1 | 0% | NA | NA | NA |
| Dieldrin | LB082866 | mg/kg | 0.5 | <0.5 | 0% | 109% | | |
| Endosulfan 1 | LB082866 | mg/kg | 0.5 | <0.5 | 0% | NA | | |
| Endosulfan 2 | LB082866 | mg/kg | 0.5 | <0.5 | 0% | NA | | |
| Endosulfan Sulphate | LB082866 | mg/kg | 0.5 | <0.5 | 0% | NA | | |
| Endrin | LB082866 | mg/kg | 0.5 | <0.5 | 0% | 28% | | |
| Endrin Aldehyde | LB082866 | mg/kg | 0.5 | <0.5 | 0% | NA | | |
| Fluoranthene | LB082866 | mg/kg | 0.1 | <0.1 | 0% | NA | NA | NA |
| Fluorene | LB082866 | mg/kg | 0.1 | <0.1 | 0% | NA | NA | NA |
| gamma-BHC | LB082866 | mg/kg | 0.5 | <0.5 | 0% | 79% | | |
| Heptachlor | LB082866 | mg/kg | 0.5 | <0.5 | 0% | 96% | | |
| Heptachlor Epoxide | LB082866 | mg/kg | 0.5 | <0.5 | 0% | NA | | |
| Indeno (1,2,3-cd) pyrene | LB082866 | mg/kg | 0.1 | <0.1 | 0% | NA | NA | NA |
| Isodrin | LB082866 | mg/kg | 0.5 | <0.5 | 0% | NA | | |
| Methoxychlor | LB082866 | mg/kg | 0.5 | <0.5 | 0% | NA | | |
| Naphthalene | LB082866 | mg/kg | 0.1 | <0.1 | 0% | NA | NA | NA |
| Phenanthrene | LB082866 | mg/kg | 0.5 | <0.5 | 0% | NA | NA | NA |
| Pyrene | LB082866 | mg/kg | 0.5 | <0.5 | 0% | 81% | 111% | 2% |
| Total OC Pesticides | LB082866 | mg/kg | 1 | <1.0 | 0% | NA | | |
| Total PCBs | LB082866 | mg/kg | 1 | <1.0 | 0% | NA | | |
| 2,4,6-Tribromophenol (surrogate) | LB082866 | % | - | 72% | 4 - 15% | 72% | 125% | 3% |
| Fluorobiphenyl (surrogate) | LB082866 | % | - | 97% | 2% | 79% | 79% | 1% |
| Fluorophenol (surrogate) | LB082866 | % | - | 143% | 1% | 138% | 158% | 27% |
| Nitrobenzene-D5 (surrogate) | LB082866 | % | - | 109% | 4% | 84% | 64% | 3% |
| p-Terphenyl-D14 (surrogate) | LB082866 | % | - | 92% | 1 - 7% | 74% | 107% | 3% |
| Phenol-D6 (surrogate) | LB082866 | % | - | 107% | 1 - 3% | 93% | 35% | 6% |

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage.* Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

**Metals/Elements in Solids** **Method: MA1400_1**

| Parameter | QC Reference | Units | LOR | DUP %RPD | LCS %Recovery | MS %Recovery | MSD %RPD |
|---|---|---|---|---|---|---|---|
| Arsenic | LB082951 | mg/kg | 2 | 10 - 23% | 93% | 80% | 0% |
| Cadmium | LB082951 | mg/kg | 0.2 | 0% | 105% | 80% | 3% |
| Chromium | LB082951 | mg/kg | 2 | 3 - 17% | 108% | 78% | 1% |
| Copper | LB082951 | mg/kg | 2 | 4 - 10% | 109% | 80% | 1% |
| Lead | LB082951 | mg/kg | 2 | 11 - 14% | 117% | 113% | 1% |
| Mercury | LB082951 | mg/kg | 0.05 | 0% | 105% | 75% | 1% |
| Nickel | LB082951 | mg/kg | 2 | 1 - 16% | 100% | 72% | 0% |
| Zinc | LB082951 | mg/kg | 2 | 2 - 15% | 99% | 101% | 2% |

**Moisture Content** **Method: ME-(AU)-[ENV]AN002**

| Parameter | QC Reference | Units | LOR | DUP %RPD |
|---|---|---|---|---|
| % Moisture | LB082872 | %w/w | 1 | 15% |

**TRH in soil MA-30.SL.01** **Method: MA30**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery | MSD %RPD |
|---|---|---|---|---|---|---|---|---|
| TRH C6-C9 (P&T) | LB082867 | mg/kg | 10 | <10 | 0% | NA | NA | NA |
| TRH C10-C14 | LB082867 | mg/kg | 10 | <10 | 0 - 23% | NA | NA | NA |
| TRH >C10-C16 | LB082867 | mg/kg | 10 | <10 | 0 - 27% | NA | NA | NA |
| TRH>C10-C16 less naphthalene (F2) | LB082867 | mg/kg | 10 | <10 | 0 - 27% | NA | NA | NA |
| TRH >C16-C34 (F3) | LB082867 | mg/kg | 20 | <20 | 31% | NA | NA | NA |
| TRH C15-C28 | LB082867 | mg/kg | 20 | <20 | 12 - 30% | NA | NA | NA |
| TRH C29-C36 | LB082867 | mg/kg | 20 | <20 | 17 - 19% | NA | NA | NA |
| C6-C10 (P&T) less BTEX (F1) | LB082867 | mg/kg | 10 | <10 | 0% | NA | NA | NA |
| Total TRH C10-C36 | LB082867 | mg/kg | 20 | <20 | 14 - 28% | 86% | 63% | NA |
| TRH >C34-C40 (F4) | LB082867 | mg/kg | 20 | <20 | 5 - 6% | NA | NA | NA |
| TRH C6-C10 (P&T) | LB082867 | mg/kg | 10 | <10 | 0% | NA | NA | NA |
| Total TRH C6-C36 | LB082867 | mg/kg | 20 | <20 | 14 - 28% | NA | NA | NA |
| Total TRH C6-C40 (F) | LB082867 | mg/kg | 20 | <20 | 28 - 31% | NA | NA | NA |
| TRH >C10-C40 (F) | LB082867 | mg/kg | 20 | <20 | 28 - 31% | NA | NA | NA |

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage.* Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

**USEPA 8260B Volatile Organic Compounds in Solids/Soils** **Method: USEPA 8260 B**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery | MSD %RPD |
|---|---|---|---|---|---|---|---|---|
| m&p-Xylenes | LB082871 | mg/kg | 0.1 | <0.1 | 0% | NA | NA | NA |
| Total BTEX | LB082871 | mg/kg | 0.5 | <0.5 | 0% | NA | NA | NA |

Monocyclic Aromatic Hydrocarbons

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery | MSD %RPD |
|---|---|---|---|---|---|---|---|---|
| Benzene | LB082871 | mg/kg | 0.1 | <0.1 | 0% | 107% | 105% | 1% |
| Toluene | LB082871 | mg/kg | 0.1 | <0.1 | 0% | 99% | 97% | 0% |
| Ethylbenzene | LB082871 | mg/kg | 0.1 | <0.1 | 0% | 100% | 98% | 1% |
| o-Xylenes | LB082871 | mg/kg | 0.1 | <0.1 | 0% | NA | NA | NA |

Polycyclic Aromatic Hydrocarbons

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery | MSD %RPD |
|---|---|---|---|---|---|---|---|---|
| Naphthalene (VOC) | LB082871 | mg/kg | 0.1 | <0.1 | 0% | NA | NA | NA |

Surrogates

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery | MSD %RPD |
|---|---|---|---|---|---|---|---|---|
| Toluene-d8 (surrogate) | LB082871 | % | - | 76% | 14% | 93% | 89% | 0% |

**Volatile Petroleum Hydrocarbons in soil** **Method: MA30-VPH**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery | MSD %RPD |
|---|---|---|---|---|---|---|---|---|
| TRH C6-C9 (P&T) | LB082871 | mg/kg | 10 | <10 | 0% | 101% | 109% | NA |
| TRH C6-C10 (P&T) | LB082871 | mg/kg | 10 | <10 | 0% | 92% | 104% | NA |
| TRH C6-C10 (P&T) less BTEX (F1) | LB082871 | mg/kg | 10 | <10 | 0% | NA | NA | NA |

| METHOD | METHODOLOGY SUMMARY |
|---|---|
| AN002 | The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water. |
| AN602/AS4964 | Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned. |
| AN602/AS4964 | Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres. |
| AN602/AS4964 | AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples , Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg." |
| AN602/AS4964 | The sample can be reported “no asbestos found at the reporting limit (RL) of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if-<br><br>(a) no trace asbestos fibres have been detected (i.e. no ‘respirable ’ fibres):<br>(b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and<br>(c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions. |
| MA 8270 | This method covers analytical procedures for the analysis of semi-volatile organic compounds (SVOC) including most neutral, acidic, and basic organic compounds based on the USEPA method 8270D. Samples are extracted into a solvent appropriate to the matrix and analysed using a gas chromatograph – mass spectrometer (GC–MS) Total PAH calculated from individual analyte detections at or above the limit of reporting .<br>. |
| MA1400_1 | A weighed portion of as received sample is extracted in concentrated acid using microwave heating by the Microwave Digestion system. The sample and acid are placed in a microwave vessel (TFM), which is then capped and heated in the microwave unit. After cooling,the vessel contents are diluted with DI water, then filtered, centrifuged, or allowed to settle and analysed by ICP-MS. |
| MA-30 | This method is used for the analysis of Total Recoverable Hydrocarbons (TRH). TRH is a generic term for all extractable organic compounds and includes all hydrocarbons and hydrocarbon derivatives that have between six and forty carbons per molecule i.e. compounds in the range >C5 to C40.<br>The reporting of Total Recoverable Hydrocarbons is done by grouping compounds of similar nature and behaviour into “fractions”.<br>Samples are extracted into a solvent appropriate to the matrix. The extract is then analysed using a gas chromatograph with either a flame ionisation detector (GC-FID) or a mass spectrometer (GC-MS) |
| MA30 -VPH | This method is used to quantify Volatile Petroleum Hydrocarbon (VPH) fractions using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5035 (Closed system purge and trap and extraction for volatile organics in soil and solid waste samples.). |

| METHOD | METHODOLOGY SUMMARY |
|---|---|
| MA30-VPH | A sample is weighed out, and has surrogates added and is extracted in methanol. This methanol extract is then diluted in water. A stream of helium is passed through a portion of the extracted sample ; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound. |
| MA8270 | Carcinogenic PAHs may be expressed as Benzo(a)pyrene equivalents by applying the BaP toxicity equivalence factor (NEPM 1999, June 2013, B7). These can be reported as the individual PAHs and as a sum of carcinogenic PAHs. The sum is reported three ways, the first assuming all <LOR results are zero, the second assuming all < LOR results are half the LOR and the third assuming all <LOR results are the LOR. |
| MA8270 Pes | This method covers analytical procedures for the analysis of semi-volatile organic compounds (SVOC pesticides) including most neutral, acidic, and basic organic compounds based on the USEPA method 8270D. Samples are extracted into a solvent appropriate to the matrix and analysed using a gas chromatograph – triple quadrapole (GC–QQQ). |
| USEPA 8260B | This method is used to quantify Volatile Organic Compounds using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5035 (Closed system purge and trap and extraction for volatile organics in soil and solid waste samples.). |
| USEPA 8260B | A sample is weighed out, and has surrogates added and is extracted in methanol. This methanol extract is then diluted in water. A stream of helium is passed through a portion of the extracted sample ; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound. |

FOOTNOTES

| | | | |
|---|---|---|---|
| IS | Insufficient sample for analysis. | LOR | Limit of Reporting |
| LNR | Sample listed, but not received. | ↑↓ | Raised or Lowered Limit of Reporting |
| * | NATA accreditation does not cover the performance of this service. | QFH | QC result is above the upper tolerance |
| | | QFL | QC result is below the lower tolerance |
| ** | Indicative data, theoretical holding time exceeded. | - | The sample was not analysed for this analyte |
| *** | Indicates that both * and ** apply. | NVL | Not Validated |

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calcuated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

# STATEMENT OF QA/QC PERFORMANCE

**ME368667 R0**

## CLIENT DETAILS

| | |
|---|---|
| Contact | Nick Caltabiano |
| Client | NEO CONSULTING PTY LTD |
| Address | PO BOX 279<br>RIVERSTONE NSW 2765 |
| Telephone | 0416 680 375 \| 0455 485 502 |
| Facsimile | (Not specified) |
| Email | nick@neoconsulting.com.au |
| Project | **N10167** |
| Order Number | **N10167** |
| Samples | 10 |

## LABORATORY DETAILS

| | |
|---|---|
| Manager | Adam Atkinson |
| Laboratory | SGS Melbourne EH&S |
| Address | 10/585 Blackburn Road<br>Notting Hill Victoria 3168 |
| Telephone | +61395743200 |
| Facsimile | +61395743399 |
| Email | Au.SampleReceipt.Melbourne@sgs.com |
| SGS Reference | **ME368667 R0** |
| Date Received | 20 Nov 2024 |
| Date Reported | 28 Nov 2024 |

## COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

| | | |
|---|---|---|
| Surrogate | 8270D.SL.01 SVOCs All in Solids/Soils | 14 items |
| Duplicate | TRH in soil MA-30.SL.01 | 2 items |
| LCS | 8270D.SL.01 SVOCs All in Solids/Soils | 1 item |
| Matrix Spike | TRH in soil MA-30.SL.01 | 1 item |

## SAMPLE SUMMARY

| | | | |
|---|---|---|---|
| Sample counts by matrix | 10 Soil | Type of documentation received | COC |
| Date documentation received | 20/11/2024 | Samples received in good order | Yes |
| Sample temperature upon receipt | 3.8 | Sample container provider | SGS |
| Turnaround time requested | 3 days | Samples received in correct containers | Yes |
| Sufficient sample for analysis | Yes | Sample cooling method | Ice cubs |
| Samples clearly labelled | Yes | Complete documentation received | Yes |
| Number of eskies/boxes received | 1 | | |

# HOLDING TIME SUMMARY

ME368667 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

## 8270D.SL.01 SVOCs All in Solids/Soils

Method: MA 8270

| Sample Name | Sample No. | QC Ref | Sampled | Received | Extraction Due | Extracted | Analysis Due | Analysed |
|---|---|---|---|---|---|---|---|---|
| S1 | ME368667.001 | LB082866 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 31 Dec 2024 | 25 Nov 2024 |
| S2 | ME368667.002 | LB082866 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 31 Dec 2024 | 25 Nov 2024 |
| S3 | ME368667.003 | LB082866 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 31 Dec 2024 | 25 Nov 2024 |
| S4 | ME368667.004 | LB082866 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 31 Dec 2024 | 25 Nov 2024 |
| S5 | ME368667.005 | LB082866 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 31 Dec 2024 | 25 Nov 2024 |
| S6 | ME368667.006 | LB082866 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 31 Dec 2024 | 25 Nov 2024 |
| S7 | ME368667.007 | LB082866 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 31 Dec 2024 | 25 Nov 2024 |
| S8 | ME368667.008 | LB082866 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 31 Dec 2024 | 25 Nov 2024 |
| S9 | ME368667.009 | LB082866 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 31 Dec 2024 | 25 Nov 2024 |
| Duplicate | ME368667.010 | LB082866 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 31 Dec 2024 | 25 Nov 2024 |

## Combined SVOC Pesticides in Solids/Soils

Method: MA 8270

| Sample Name | Sample No. | QC Ref | Sampled | Received | Extraction Due | Extracted | Analysis Due | Analysed |
|---|---|---|---|---|---|---|---|---|
| S1 | ME368667.001 | LB083097 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 27 Nov 2024 | 06 Jan 2025 | 28 Nov 2024 |
| S2 | ME368667.002 | LB083097 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 27 Nov 2024 | 06 Jan 2025 | 28 Nov 2024 |
| S3 | ME368667.003 | LB083097 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 27 Nov 2024 | 06 Jan 2025 | 28 Nov 2024 |
| S4 | ME368667.004 | LB083097 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 27 Nov 2024 | 06 Jan 2025 | 28 Nov 2024 |
| S5 | ME368667.005 | LB083097 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 27 Nov 2024 | 06 Jan 2025 | 28 Nov 2024 |
| S6 | ME368667.006 | LB083097 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 27 Nov 2024 | 06 Jan 2025 | 28 Nov 2024 |
| S7 | ME368667.007 | LB083097 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 27 Nov 2024 | 06 Jan 2025 | 28 Nov 2024 |
| S8 | ME368667.008 | LB083097 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 27 Nov 2024 | 06 Jan 2025 | 28 Nov 2024 |
| S9 | ME368667.009 | LB083097 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 27 Nov 2024 | 06 Jan 2025 | 28 Nov 2024 |
| Duplicate | ME368667.010 | LB083097 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 27 Nov 2024 | 06 Jan 2025 | 28 Nov 2024 |

## Metals/Elements in Solids

Method: MA1400_1

| Sample Name | Sample No. | QC Ref | Sampled | Received | Extraction Due | Extracted | Analysis Due | Analysed |
|---|---|---|---|---|---|---|---|---|
| S1 | ME368667.001 | LB082951 | 20 Nov 2024 | 20 Nov 2024 | 19 May 2025 | 25 Nov 2024 | 19 May 2025 | 26 Nov 2024 |
| S2 | ME368667.002 | LB082951 | 20 Nov 2024 | 20 Nov 2024 | 19 May 2025 | 25 Nov 2024 | 19 May 2025 | 26 Nov 2024 |
| S3 | ME368667.003 | LB082951 | 20 Nov 2024 | 20 Nov 2024 | 19 May 2025 | 25 Nov 2024 | 19 May 2025 | 26 Nov 2024 |
| S4 | ME368667.004 | LB082951 | 20 Nov 2024 | 20 Nov 2024 | 19 May 2025 | 25 Nov 2024 | 19 May 2025 | 26 Nov 2024 |
| S5 | ME368667.005 | LB082951 | 20 Nov 2024 | 20 Nov 2024 | 19 May 2025 | 25 Nov 2024 | 19 May 2025 | 26 Nov 2024 |
| S6 | ME368667.006 | LB082951 | 20 Nov 2024 | 20 Nov 2024 | 19 May 2025 | 25 Nov 2024 | 19 May 2025 | 26 Nov 2024 |
| S7 | ME368667.007 | LB082951 | 20 Nov 2024 | 20 Nov 2024 | 19 May 2025 | 25 Nov 2024 | 19 May 2025 | 26 Nov 2024 |
| S8 | ME368667.008 | LB082951 | 20 Nov 2024 | 20 Nov 2024 | 19 May 2025 | 25 Nov 2024 | 19 May 2025 | 26 Nov 2024 |
| S9 | ME368667.009 | LB082951 | 20 Nov 2024 | 20 Nov 2024 | 19 May 2025 | 25 Nov 2024 | 19 May 2025 | 26 Nov 2024 |
| Duplicate | ME368667.010 | LB082951 | 20 Nov 2024 | 20 Nov 2024 | 19 May 2025 | 25 Nov 2024 | 19 May 2025 | 26 Nov 2024 |

## Moisture Content

Method: ME-(AU)-[ENV]AN002

| Sample Name | Sample No. | QC Ref | Sampled | Received | Extraction Due | Extracted | Analysis Due | Analysed |
|---|---|---|---|---|---|---|---|---|
| S1 | ME368667.001 | LB082872 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 26 Nov 2024 | 22 Nov 2024 |
| S2 | ME368667.002 | LB082872 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 26 Nov 2024 | 22 Nov 2024 |
| S3 | ME368667.003 | LB082872 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 26 Nov 2024 | 22 Nov 2024 |
| S4 | ME368667.004 | LB082872 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 26 Nov 2024 | 22 Nov 2024 |
| S5 | ME368667.005 | LB082872 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 26 Nov 2024 | 22 Nov 2024 |
| S6 | ME368667.006 | LB082872 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 26 Nov 2024 | 22 Nov 2024 |
| S7 | ME368667.007 | LB082872 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 26 Nov 2024 | 22 Nov 2024 |
| S8 | ME368667.008 | LB082872 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 26 Nov 2024 | 22 Nov 2024 |
| S9 | ME368667.009 | LB082872 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 26 Nov 2024 | 22 Nov 2024 |
| Duplicate | ME368667.010 | LB082872 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 26 Nov 2024 | 22 Nov 2024 |

## TRH in soil MA-30.SL.01

Method: MA30

| Sample Name | Sample No. | QC Ref | Sampled | Received | Extraction Due | Extracted | Analysis Due | Analysed |
|---|---|---|---|---|---|---|---|---|
| S1 | ME368667.001 | LB082867 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 31 Dec 2024 | 26 Nov 2024 |
| S2 | ME368667.002 | LB082867 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 31 Dec 2024 | 26 Nov 2024 |
| S3 | ME368667.003 | LB082867 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 31 Dec 2024 | 26 Nov 2024 |
| S4 | ME368667.004 | LB082867 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 31 Dec 2024 | 26 Nov 2024 |
| S5 | ME368667.005 | LB082867 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 31 Dec 2024 | 26 Nov 2024 |
| S6 | ME368667.006 | LB082867 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 31 Dec 2024 | 26 Nov 2024 |
| S7 | ME368667.007 | LB082867 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 31 Dec 2024 | 26 Nov 2024 |
| S8 | ME368667.008 | LB082867 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 31 Dec 2024 | 26 Nov 2024 |
| S9 | ME368667.009 | LB082867 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 31 Dec 2024 | 26 Nov 2024 |
| Duplicate | ME368667.010 | LB082867 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 31 Dec 2024 | 26 Nov 2024 |

# HOLDING TIME SUMMARY

ME368667 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

## USEPA 8260B Volatile Organic Compounds in Solids/Soils

Method: USEPA 8260 B

| Sample Name | Sample No. | QC Ref | Sampled | Received | Extraction Due | Extracted | Analysis Due | Analysed |
|---|---|---|---|---|---|---|---|---|
| S1 | ME368667.001 | LB082871 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 04 Dec 2024 | 26 Nov 2024 |
| S2 | ME368667.002 | LB082871 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 04 Dec 2024 | 26 Nov 2024 |
| S3 | ME368667.003 | LB082871 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 04 Dec 2024 | 26 Nov 2024 |
| S4 | ME368667.004 | LB082871 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 04 Dec 2024 | 26 Nov 2024 |
| S5 | ME368667.005 | LB082871 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 04 Dec 2024 | 26 Nov 2024 |
| S6 | ME368667.006 | LB082871 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 04 Dec 2024 | 26 Nov 2024 |
| S7 | ME368667.007 | LB082871 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 04 Dec 2024 | 26 Nov 2024 |
| S8 | ME368667.008 | LB082871 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 04 Dec 2024 | 26 Nov 2024 |
| S9 | ME368667.009 | LB082871 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 04 Dec 2024 | 26 Nov 2024 |
| Duplicate | ME368667.010 | LB082871 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 04 Dec 2024 | 26 Nov 2024 |

## Volatile Petroleum Hydrocarbons in soil

Method: MA30-VPH

| Sample Name | Sample No. | QC Ref | Sampled | Received | Extraction Due | Extracted | Analysis Due | Analysed |
|---|---|---|---|---|---|---|---|---|
| S1 | ME368667.001 | LB082871 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 04 Dec 2024 | 26 Nov 2024 |
| S2 | ME368667.002 | LB082871 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 04 Dec 2024 | 26 Nov 2024 |
| S3 | ME368667.003 | LB082871 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 04 Dec 2024 | 26 Nov 2024 |
| S4 | ME368667.004 | LB082871 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 04 Dec 2024 | 26 Nov 2024 |
| S5 | ME368667.005 | LB082871 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 04 Dec 2024 | 26 Nov 2024 |
| S6 | ME368667.006 | LB082871 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 04 Dec 2024 | 26 Nov 2024 |
| S7 | ME368667.007 | LB082871 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 04 Dec 2024 | 26 Nov 2024 |
| S8 | ME368667.008 | LB082871 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 04 Dec 2024 | 26 Nov 2024 |
| S9 | ME368667.009 | LB082871 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 04 Dec 2024 | 26 Nov 2024 |
| Duplicate | ME368667.010 | LB082871 | 20 Nov 2024 | 20 Nov 2024 | 04 Dec 2024 | 21 Nov 2024 | 04 Dec 2024 | 26 Nov 2024 |

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

**8270D.SL.01 SVOCs All in Solids/Soils** — **Method: MA 8270**

| Parameter | Sample Name | Sample Number | Units | Criteria | Recovery % |
|---|---|---|---|---|---|
| 2,4,6-Tribromophenol (surrogate) | S1 | ME368667.001 | % | 60 - 140% | 58 † |
| | S2 | ME368667.002 | % | 60 - 140% | 56 † |
| | S3 | ME368667.003 | % | 60 - 140% | 59 † |
| | S4 | ME368667.004 | % | 60 - 140% | 52 † |
| | S5 | ME368667.005 | % | 60 - 140% | 51 † |
| | S6 | ME368667.006 | % | 60 - 140% | 57 † |
| | S7 | ME368667.007 | % | 60 - 140% | 53 † |
| | S8 | ME368667.008 | % | 60 - 140% | 55 † |
| | S9 | ME368667.009 | % | 60 - 140% | 55 † |
| | Duplicate | ME368667.010 | % | 60 - 140% | 53 † |
| Fluorobiphenyl (surrogate) | S1 | ME368667.001 | % | 60 - 140% | 86 |
| | S2 | ME368667.002 | % | 60 - 140% | 84 |
| | S3 | ME368667.003 | % | 60 - 140% | 84 |
| | S4 | ME368667.004 | % | 60 - 140% | 82 |
| | S5 | ME368667.005 | % | 60 - 140% | 85 |
| | S6 | ME368667.006 | % | 60 - 140% | 84 |
| | S7 | ME368667.007 | % | 60 - 140% | 83 |
| | S8 | ME368667.008 | % | 60 - 140% | 82 |
| | S9 | ME368667.009 | % | 60 - 140% | 82 |
| | Duplicate | ME368667.010 | % | 60 - 140% | 83 |
| Fluorophenol (surrogate) | S1 | ME368667.001 | % | 60 - 140% | 134 |
| | S2 | ME368667.002 | % | 60 - 140% | 128 |
| | S3 | ME368667.003 | % | 60 - 140% | 138 |
| | S4 | ME368667.004 | % | 60 - 140% | 147 † |
| | S5 | ME368667.005 | % | 60 - 140% | 156 † |
| | S6 | ME368667.006 | % | 60 - 140% | 136 |
| | S7 | ME368667.007 | % | 60 - 140% | 143 † |
| | S8 | ME368667.008 | % | 60 - 140% | 131 |
| | S9 | ME368667.009 | % | 60 - 140% | 139 |
| | Duplicate | ME368667.010 | % | 60 - 140% | 141 † |
| Nitrobenzene-D5 (surrogate) | S1 | ME368667.001 | % | 60 - 140% | 94 |
| | S2 | ME368667.002 | % | 60 - 140% | 90 |
| | S3 | ME368667.003 | % | 60 - 140% | 94 |
| | S4 | ME368667.004 | % | 60 - 140% | 90 |
| | S5 | ME368667.005 | % | 60 - 140% | 92 |
| | S6 | ME368667.006 | % | 60 - 140% | 88 |
| | S7 | ME368667.007 | % | 60 - 140% | 91 |
| | S8 | ME368667.008 | % | 60 - 140% | 91 |
| | S9 | ME368667.009 | % | 60 - 140% | 86 |
| | Duplicate | ME368667.010 | % | 60 - 140% | 91 |
| Phenol-D6 (surrogate) | S1 | ME368667.001 | % | 60 - 140% | 91 |
| | S2 | ME368667.002 | % | 60 - 140% | 88 |
| | S3 | ME368667.003 | % | 60 - 140% | 89 |
| | S4 | ME368667.004 | % | 60 - 140% | 89 |
| | S5 | ME368667.005 | % | 60 - 140% | 94 |
| | S6 | ME368667.006 | % | 60 - 140% | 90 |
| | S7 | ME368667.007 | % | 60 - 140% | 92 |
| | S8 | ME368667.008 | % | 60 - 140% | 90 |
| | S9 | ME368667.009 | % | 60 - 140% | 89 |
| | Duplicate | ME368667.010 | % | 60 - 140% | 95 |
| p-Terphenyl-D14 (surrogate) | S1 | ME368667.001 | % | 60 - 140% | 80 |
| | S2 | ME368667.002 | % | 60 - 140% | 78 |
| | S3 | ME368667.003 | % | 60 - 140% | 78 |
| | S4 | ME368667.004 | % | 60 - 140% | 80 |
| | S5 | ME368667.005 | % | 60 - 140% | 77 |
| | S6 | ME368667.006 | % | 60 - 140% | 80 |
| | S7 | ME368667.007 | % | 60 - 140% | 77 |
| | S8 | ME368667.008 | % | 60 - 140% | 77 |
| | S9 | ME368667.009 | % | 60 - 140% | 77 |
| | Duplicate | ME368667.010 | % | 60 - 140% | 78 |

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

**Combined SVOC Pesticides in Solids/Soils** — **Method: MA 8270**

| Parameter | Sample Name | Sample Number | Units | Criteria | Recovery % |
|---|---|---|---|---|---|
| d14-p-terphenyl (Surrogate) | S1 | ME368667.001 | % | 40 - 130% | 102 |
| | S2 | ME368667.002 | % | 40 - 130% | 103 |
| | S3 | ME368667.003 | % | 40 - 130% | 101 |
| | S4 | ME368667.004 | % | 40 - 130% | 101 |
| | S5 | ME368667.005 | % | 40 - 130% | 104 |
| | S6 | ME368667.006 | % | 40 - 130% | 98 |
| | S7 | ME368667.007 | % | 40 - 130% | 99 |
| | S8 | ME368667.008 | % | 40 - 130% | 99 |
| | S9 | ME368667.009 | % | 40 - 130% | 96 |
| | Duplicate | ME368667.010 | % | 40 - 130% | 101 |

**USEPA 8260B Volatile Organic Compounds in Solids/Soils** — **Method: USEPA 8260 B**

| Parameter | Sample Name | Sample Number | Units | Criteria | Recovery % |
|---|---|---|---|---|---|
| Toluene-d8 (surrogate) | S1 | ME368667.001 | % | 60 - 130% | 87 |
| | S2 | ME368667.002 | % | 60 - 130% | 74 |
| | S3 | ME368667.003 | % | 60 - 130% | 85 |
| | S4 | ME368667.004 | % | 60 - 130% | 73 |
| | S5 | ME368667.005 | % | 60 - 130% | 74 |
| | S6 | ME368667.006 | % | 60 - 130% | 85 |
| | S7 | ME368667.007 | % | 60 - 130% | 74 |
| | S8 | ME368667.008 | % | 60 - 130% | 77 |
| | S9 | ME368667.009 | % | 60 - 130% | 76 |
| | Duplicate | ME368667.010 | % | 60 - 130% | 76 |

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

**8270D.SL.01 SVOCs All in Solids/Soils** — **Method: MA 8270**

| Sample Number | Parameter | Units | LOR | Result |
|---|---|---|---|---|
| LB082866.001 | 1-Methylnaphthalene | mg/kg | 0.1 | <0.1 |
| | 2-Methylnaphthalene | mg/kg | 0.1 | <0.1 |
| | 4,4-DDD | mg/kg | 0.5 | <0.5 |
| | 4,4-DDE | mg/kg | 0.5 | <0.5 |
| | 4,4-DDT | mg/kg | 0.5 | <0.5 |
| | Acenaphthene | mg/kg | 0.1 | <0.1 |
| | Acenaphthylene | mg/kg | 0.1 | <0.1 |
| | Aldrin | mg/kg | 0.5 | <0.5 |
| | alpha-BHC | mg/kg | 0.5 | <0.5 |
| | alpha-Chlordane | mg/kg | 0.5 | <0.5 |
| | gamma-Chlordane | mg/kg | 0.5 | <0.5 |
| | Anthracene | mg/kg | 0.1 | <0.1 |
| | Arochlor 1016 | mg/kg | 1 | <1.0 |
| | Arochlor 1221 | mg/kg | 1 | <1.0 |
| | Arochlor 1232 | mg/kg | 1 | <1.0 |
| | Arochlor 1242 | mg/kg | 1 | <1.0 |
| | Arochlor 1248 | mg/kg | 1 | <1.0 |
| | Arochlor 1254 | mg/kg | 1 | <1.0 |
| | Arochlor 1260 | mg/kg | 1 | <1.0 |
| | Arochlor 1262 | mg/kg | 1 | <1.0 |
| | Arochlor 1268 | mg/kg | 1 | <1.0 |
| | Benzo(a)anthracene | mg/kg | 0.1 | <0.1 |
| | Benzo (a) pyrene | mg/kg | 0.1 | <0.1 |
| | Benzo (b+j) fluoranthene | mg/kg | 0.1 | <0.1 |
| | Benzo (ghi) perylene | mg/kg | 0.1 | <0.1 |
| | Benzo (k) fluoranthene | mg/kg | 0.1 | <0.1 |
| | beta-BHC | mg/kg | 0.5 | <0.5 |
| | delta-BHC | mg/kg | 0.5 | <0.5 |
| | Dibenz (ah) anthracene | mg/kg | 0.1 | <0.1 |
| | Dieldrin | mg/kg | 0.5 | <0.5 |
| | Endosulfan 1 | mg/kg | 0.5 | <0.5 |
| | Endosulfan 2 | mg/kg | 0.5 | <0.5 |
| | Endosulfan Sulphate | mg/kg | 0.5 | <0.5 |
| | Endrin | mg/kg | 0.5 | <0.5 |
| | Endrin Aldehyde | mg/kg | 0.5 | <0.5 |
| | Fluoranthene | mg/kg | 0.1 | <0.1 |
| | Fluorene | mg/kg | 0.1 | <0.1 |
| | gamma-BHC | mg/kg | 0.5 | <0.5 |
| | Heptachlor | mg/kg | 0.5 | <0.5 |
| | Heptachlor Epoxide | mg/kg | 0.5 | <0.5 |
| | Indeno (1,2,3-cd) pyrene | mg/kg | 0.1 | <0.1 |
| | Isodrin | mg/kg | 0.5 | <0.5 |
| | Methoxychlor | mg/kg | 0.5 | <0.5 |
| | Naphthalene | mg/kg | 0.1 | <0.1 |
| | Phenanthrene | mg/kg | 0.5 | <0.5 |
| | Pyrene | mg/kg | 0.5 | <0.5 |
| | Total OC Pesticides | mg/kg | 1 | <1.0 |
| | Total PCBs | mg/kg | 1 | <1.0 |

**TRH in soil MA-30.SL.01** — **Method: MA30**

| Sample Number | Parameter | Units | LOR | Result |
|---|---|---|---|---|
| LB082867.001 | TRH C6-C9 (P&T) | mg/kg | 10 | <10 |
| | TRH C10-C14 | mg/kg | 10 | <10 |
| | TRH >C10-C16 | mg/kg | 10 | <10 |
| | TRH>C10-C16 less naphthalene (F2) | mg/kg | 10 | <10 |
| | TRH >C16-C34 (F3) | mg/kg | 20 | <20 |
| | TRH C15-C28 | mg/kg | 20 | <20 |
| | TRH C29-C36 | mg/kg | 20 | <20 |
| | C6-C10 (P&T) less BTEX (F1) | mg/kg | 10 | <10 |
| | Total TRH C10-C36 | mg/kg | 20 | <20 |
| | TRH >C34-C40 (F4) | mg/kg | 20 | <20 |

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

### TRH in soil MA-30.SL.01 (continued)

Method: MA30

| Sample Number | Parameter | Units | LOR | Result |
|---|---|---|---|---|
| LB082867.001 | TRH C6-C10 (P&T) | mg/kg | 10 | <10 |
| | Total TRH C6-C36 | mg/kg | 20 | <20 |
| | Total TRH C6-C40 (F) | mg/kg | 20 | <20 |
| | TRH >C10-C40 (F) | mg/kg | 20 | <20 |

### USEPA 8260B Volatile Organic Compounds in Solids/Soils

Method: USEPA 8260 B

| Sample Number | | Parameter | Units | LOR | Result |
|---|---|---|---|---|---|
| LB082871.001 | | m&p-Xylenes | mg/kg | 0.1 | <0.1 |
| | Monocyclic Aromatic Hydrocarbons | Benzene | mg/kg | 0.1 | <0.1 |
| | | Toluene | mg/kg | 0.1 | <0.1 |
| | | Ethylbenzene | mg/kg | 0.1 | <0.1 |
| | | o-Xylenes | mg/kg | 0.1 | <0.1 |
| | Polycyclic Aromatic | Naphthalene (VOC) | mg/kg | 0.1 | <0.1 |
| | Surrogates | Toluene-d8 (surrogate) | % | - | 76 |

### Volatile Petroleum Hydrocarbons in soil

Method: MA30-VPH

| Sample Number | Parameter | Units | LOR | Result |
|---|---|---|---|---|
| LB082871.001 | TRH C6-C9 (P&T) | mg/kg | 10 | <10 |
| | TRH C6-C10 (P&T) | mg/kg | 10 | <10 |
| | TRH C6-C10 (P&T) less BTEX (F1) | mg/kg | 10 | <10 |

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR
Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may give a different calculated RPD.

**8270D.SL.01 SVOCs All in Solids/Soils** — **Method: MA 8270**

| Original | Duplicate | Parameter | Units | LOR | Original | Duplicate | Criteria % | RPD % |
|---|---|---|---|---|---|---|---|---|
| ME368667.003 | LB082866.017 | 1-Methylnaphthalene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| | | 2-Methylnaphthalene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| | | 4,4-DDD | mg/kg | 0.5 | <0.5 | <0.5 | 200 | 0 |
| | | 4,4-DDE | mg/kg | 0.5 | <0.5 | <0.5 | 200 | 0 |
| | | 4,4-DDT | mg/kg | 0.5 | <0.5 | <0.5 | 200 | 0 |
| | | Acenaphthene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| | | Acenaphthylene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| | | Aldrin | mg/kg | 0.5 | <0.5 | <0.5 | 200 | 0 |
| | | alpha-BHC | mg/kg | 0.5 | <0.5 | <0.5 | 200 | 0 |
| | | alpha-Chlordane | mg/kg | 0.5 | <0.5 | <0.5 | 200 | 0 |
| | | gamma-Chlordane | mg/kg | 0.5 | <0.5 | <0.5 | 200 | 0 |
| | | Anthracene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| | | Arochlor 1016 | mg/kg | 1 | <1.0 | <1.0 | 200 | 0 |
| | | Arochlor 1221 | mg/kg | 1 | <1.0 | <1.0 | 200 | 0 |
| | | Arochlor 1232 | mg/kg | 1 | <1.0 | <1.0 | 200 | 0 |
| | | Arochlor 1242 | mg/kg | 1 | <1.0 | <1.0 | 200 | 0 |
| | | Arochlor 1248 | mg/kg | 1 | <1.0 | <1.0 | 200 | 0 |
| | | Arochlor 1254 | mg/kg | 1 | <1.0 | <1.0 | 200 | 0 |
| | | Arochlor 1260 | mg/kg | 1 | <1.0 | <1.0 | 200 | 0 |
| | | Arochlor 1262 | mg/kg | 1 | <1.0 | <1.0 | 200 | 0 |
| | | Arochlor 1268 | mg/kg | 1 | <1.0 | <1.0 | 200 | 0 |
| | | Benzo(a)anthracene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| | | Benzo (a) pyrene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| | | Benzo (b+j) fluoranthene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| | | Benzo (ghi) perylene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| | | Benzo (k) fluoranthene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| | | beta-BHC | mg/kg | 0.5 | <0.5 | <0.5 | 200 | 0 |
| | | delta-BHC | mg/kg | 0.5 | <0.5 | <0.5 | 200 | 0 |
| | | Dibenz (ah) anthracene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| | | Dieldrin | mg/kg | 0.5 | <0.5 | <0.5 | 200 | 0 |
| | | Endosulfan 1 | mg/kg | 0.5 | <0.5 | <0.5 | 200 | 0 |
| | | Endosulfan 2 | mg/kg | 0.5 | <0.5 | <0.5 | 200 | 0 |
| | | Endosulfan Sulphate | mg/kg | 0.5 | <0.5 | <0.5 | 200 | 0 |
| | | Endrin | mg/kg | 0.5 | <0.5 | <0.5 | 200 | 0 |
| | | Endrin Aldehyde | mg/kg | 0.5 | <0.5 | <0.5 | 200 | 0 |
| | | Fluoranthene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| | | Fluorene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| | | gamma-BHC | mg/kg | 0.5 | <0.5 | <0.5 | 200 | 0 |
| | | Heptachlor | mg/kg | 0.5 | <0.5 | <0.5 | 200 | 0 |
| | | Heptachlor Epoxide | mg/kg | 0.5 | <0.5 | <0.5 | 200 | 0 |
| | | Indeno (1,2,3-cd) pyrene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| | | Isodrin | mg/kg | 0.5 | <0.5 | <0.5 | 200 | 0 |
| | | Methoxychlor | mg/kg | 0.5 | <0.5 | <0.5 | 200 | 0 |
| | | Naphthalene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| | | Phenanthrene | mg/kg | 0.5 | <0.5 | <0.5 | 200 | 0 |
| | | Pyrene | mg/kg | 0.5 | <0.5 | <0.5 | 200 | 0 |
| | | Total OC Pesticides | mg/kg | 1 | <1.0 | <1.0 | 200 | 0 |
| | | Total PCBs | mg/kg | 1 | <1.0 | <1.0 | 200 | 0 |
| | | 2,4,6-Tribromophenol (surrogate) | mg/kg | - | 1 | 1 | 30 | 4 |
| | | Fluorobiphenyl (surrogate) | mg/kg | - | 1 | 1 | 30 | 2 |
| | | Fluorophenol (surrogate) | mg/kg | - | 1 | 1 | 30 | 1 |
| | | Nitrobenzene-D5 (surrogate) | mg/kg | - | 1 | 1 | 30 | 4 |
| | | p-Terphenyl-D14 (surrogate) | mg/kg | - | 1 | 1 | 30 | 1 |
| | | Phenol-D6 (surrogate) | mg/kg | - | 1 | 1 | 30 | 1 |
| ME368691.001 | LB082866.004 | 1-Methylnaphthalene | mg/kg | 0.1 | <1 | <1 | 200 | 0 |
| | | 2-Methylnaphthalene | mg/kg | 0.1 | <1 | <1 | 42 | 0 |
| | | Acenaphthene | mg/kg | 0.1 | <1 | <1 | 200 | 0 |
| | | Acenaphthylene | mg/kg | 0.1 | <1 | <1 | 200 | 0 |
| | | Anthracene | mg/kg | 0.1 | <1 | <1 | 200 | 0 |
| | | Benzo(a)anthracene | mg/kg | 0.1 | <1 | <1 | 200 | 0 |
| | | Benzo (a) pyrene | mg/kg | 0.1 | <1 | <1 | 200 | 0 |

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR
Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may give a different calculated RPD.

## 8270D.SL.01 SVOCs All in Solids/Soils (continued)

Method: MA 8270

| Original | Duplicate | Parameter | Units | LOR | Original | Duplicate | Criteria % | RPD % |
|---|---|---|---|---|---|---|---|---|
| ME368691.001 | LB082866.004 | Benzo (b+j) fluoranthene | mg/kg | 0.1 | <1 | <1 | 200 | 0 |
| | | Benzo (ghi) perylene | mg/kg | 0.1 | <1 | <1 | 200 | 0 |
| | | Benzo (k) fluoranthene | mg/kg | 0.1 | <1 | <1 | 200 | 0 |
| | | Dibenz (ah) anthracene | mg/kg | 0.1 | <1 | <1 | 200 | 0 |
| | | Fluoranthene | mg/kg | 0.1 | <1 | <1 | 200 | 0 |
| | | Fluorene | mg/kg | 0.1 | <1 | <1 | 200 | 0 |
| | | Indeno (1,2,3-cd) pyrene | mg/kg | 0.1 | <1 | <1 | 200 | 0 |
| | | Naphthalene | mg/kg | 0.1 | <1 | <1 | 200 | 0 |
| | | Phenanthrene | mg/kg | 0.5 | <5 | <5 | 200 | 0 |
| | | Pyrene | mg/kg | 0.5 | <5 | <5 | 200 | 0 |
| | | 2,4,6-Tribromophenol (surrogate) | mg/kg | - | 1 | 1 | 30 | 15 |
| | | Fluorobiphenyl (surrogate) | mg/kg | - | <5 | <5 | 30 | 0 |
| | | Fluorophenol (surrogate) | mg/kg | - | 2 | 2 | 30 | 1 |
| | | Nitrobenzene-D5 (surrogate) | mg/kg | - | <5 | <5 | 30 | 0 |
| | | p-Terphenyl-D14 (surrogate) | mg/kg | - | 1 | 1 | 30 | 7 |
| | | Phenol-D6 (surrogate) | mg/kg | - | 0 | 0 | 30 | 3 |

## Metals/Elements in Solids

Method: MA1400_1

| Original | Duplicate | Parameter | Units | LOR | Original | Duplicate | Criteria % | RPD % |
|---|---|---|---|---|---|---|---|---|
| ME368667.001 | LB082951.004 | Arsenic | mg/kg | 2 | 10 | 8 | 51 | 23 |
| | | Cadmium | mg/kg | 0.2 | <0.2 | <0.2 | 200 | 0 |
| | | Chromium | mg/kg | 2 | 13 | 11 | 46 | 17 |
| | | Copper | mg/kg | 2 | 9 | 9 | 52 | 4 |
| | | Lead | mg/kg | 2 | 97 | 87 | 32 | 11 |
| | | Mercury | mg/kg | 0.05 | <0.05 | <0.05 | 148 | 0 |
| | | Nickel | mg/kg | 2 | 6 | 5 | 65 | 16 |
| | | Zinc | mg/kg | 2 | 64 | 65 | 33 | 2 |
| ME368736.002 | LB082951.017 | Arsenic | mg/kg | 2 | 4.02879328214 | 4.4551727816 | 77 | 10 |
| | | Cadmium | mg/kg | 0.2 | 0.0372961983 | 0.0413064524 | 200 | 0 |
| | | Chromium | mg/kg | 2 | 11.3774986307 | 11.0506374449 | 48 | 3 |
| | | Copper | mg/kg | 2 | 5.06584107865 | 5.6005269582 | 68 | 10 |
| | | Lead | mg/kg | 2 | 17.9767423559 | 20.6390236152 | 40 | 14 |
| | | Mercury | mg/kg | 0.05 | 0.0311039699 | 0.0297092436 | 194 | 0 |
| | | Nickel | mg/kg | 2 | 3.5238496524 | 3.4776987812 | 87 | 1 |
| | | Zinc | mg/kg | 2 | 23.7376948277 | 20.4450333190 | 39 | 15 |

## Moisture Content

Method: ME-(AU)-[ENV]AN002

| Original | Duplicate | Parameter | Units | LOR | Original | Duplicate | Criteria % | RPD % |
|---|---|---|---|---|---|---|---|---|
| ME368667.001 | LB082872.002 | % Moisture | %w/w | 1 | 13.6 | 11.7 | 38 | 15 |

## TRH in soil MA-30.SL.01

Method: MA30

| Original | Duplicate | Parameter | Units | LOR | Original | Duplicate | Criteria % | RPD % |
|---|---|---|---|---|---|---|---|---|
| ME368667.003 | LB082867.017 | TRH C6-C9 (P&T) | mg/kg | 10 | <10 | <10 | 200 | 0 |
| | | TRH C10-C14 | mg/kg | 10 | <10 | <10 | 200 | 0 |
| | | TRH >C10-C16 | mg/kg | 10 | <10 | <10 | 200 | 0 |
| | | TRH>C10-C16 less naphthalene (F2) | mg/kg | 10 | <10 | <10 | 200 | 0 |
| | | TRH >C16-C34 (F3) | mg/kg | 20 | 98 | 110 | 49 | 15 |
| | | TRH C15-C28 | mg/kg | 20 | 52 | 58 | 67 | 12 |
| | | TRH C29-C36 | mg/kg | 20 | 54 | 64 | 64 | 17 |
| | | C6-C10 (P&T) less BTEX (F1) | mg/kg | 10 | <10 | <10 | 200 | 0 |
| | | Total TRH C10-C36 | mg/kg | 20 | 110 | 120 | 48 | 14 |
| | | TRH >C34-C40 (F4) | mg/kg | 20 | <20 | 21 | 131 | 6 |
| | | TRH C6-C10 (P&T) | mg/kg | 10 | <10 | <10 | 200 | 0 |
| | | Total TRH C6-C36 | mg/kg | 20 | 110 | 120 | 48 | 14 |
| | | Total TRH C6-C40 (F) | mg/kg | 20 | 98 | 140 | 47 | 31 |
| | | TRH >C10-C40 (F) | mg/kg | 20 | 98 | 140 | 47 | 31 |
| ME368691.001 | LB082867.004 | TRH C6-C9 (P&T) | mg/kg | 10 | 16 | 16 | 94 | 0 |
| | | TRH C10-C14 | mg/kg | 10 | 3200 | 4000 | 30 | 23 |
| | | TRH >C10-C16 | mg/kg | 10 | 5800 | 7600 | 30 | 27 |
| | | TRH>C10-C16 less naphthalene (F2) | mg/kg | 10 | 5800 | 7600 | 30 | 27 |

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR
Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may give a different calculated RPD.

## TRH in soil MA-30.SL.01 (continued)

Method: MA30

| Original | Duplicate | Parameter | Units | LOR | Original | Duplicate | Criteria % | RPD % |
|---|---|---|---|---|---|---|---|---|
| ME368691.001 | LB082867.004 | TRH >C16-C34 (F3) | mg/kg | 20 | 9300 | 12623.402 | 30 | 31 ② |
| | | TRH C15-C28 | mg/kg | 20 | 10000 | 14000 | 30 | 30 † |
| | | TRH C29-C36 | mg/kg | 20 | 900 | 1100 | 32 | 19 |
| | | C6-C10 (P&T) less BTEX (F1) | mg/kg | 10 | 89 | 89 | 41 | 0 |
| | | Total TRH C10-C36 | mg/kg | 20 | 15000 | 19000 | 30 | 28 |
| | | TRH >C34-C40 (F4) | mg/kg | 20 | 750 | 790 | 33 | 5 |
| | | TRH C6-C10 (P&T) | mg/kg | 10 | 90 | 90 | 41 | 0 |
| | | Total TRH C6-C36 | mg/kg | 20 | 15000 | 19000 | 30 | 28 |
| | | Total TRH C6-C40 (F) | mg/kg | 20 | 16000 | 21000 | 30 | 28 |
| | | TRH >C10-C40 (F) | mg/kg | 20 | 16000 | 21000 | 30 | 28 |

## USEPA 8260B Volatile Organic Compounds in Solids/Soils

Method: USEPA 8260 B

| Original | Duplicate | | Parameter | Units | LOR | Original | Duplicate | Criteria % | RPD % |
|---|---|---|---|---|---|---|---|---|---|
| ME368667.001 | LB082871.004 | | m&p-Xylenes | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| | | | Total BTEX | mg/kg | 0.5 | <0.5 | <0.5 | 200 | 0 |
| | | Monocyclic | Benzene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| | | Aromatic | Toluene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| | | | Ethylbenzene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| | | | o-Xylenes | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| | | Polycyclic | Naphthalene (VOC) | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| | | Surrogates | Toluene-d8 (surrogate) | mg/kg | - | 17 | 15 | 30 | 14 |

## Volatile Petroleum Hydrocarbons in soil

Method: MA30-VPH

| Original | Duplicate | Parameter | Units | LOR | Original | Duplicate | Criteria % | RPD % |
|---|---|---|---|---|---|---|---|---|
| ME368667.001 | LB082871.004 | TRH C6-C9 (P&T) | mg/kg | 10 | <10 | <10 | 200 | 0 |
| | | TRH C6-C10 (P&T) | mg/kg | 10 | <10 | <10 | 200 | 0 |
| | | TRH C6-C10 (P&T) less BTEX (F1) | mg/kg | 10 | <10 | <10 | 200 | 0 |

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

### 8270D.SL.01 SVOCs All in Solids/Soils

Method: MA 8270

| Sample Number | Parameter | Units | LOR | Result | Expected | Criteria % | Recovery % |
|---|---|---|---|---|---|---|---|
| LB082866.002 | 4,4-DDT | mg/kg | 0.5 | 13 | 12.5 | 60 - 140 | 105 |
| | Acenaphthene | mg/kg | 0.1 | 2.5 | 2.5 | 60 - 140 | 98 |
| | Aldrin | mg/kg | 0.5 | 4.5 | 5 | 60 - 140 | 91 |
| | Dieldrin | mg/kg | 0.5 | 14 | 12.5 | 60 - 140 | 109 |
| | Endrin | mg/kg | 0.5 | 3.5 | 12.5 | 60 - 140 | 28† |
| | gamma-BHC | mg/kg | 0.5 | 4.0 | 5 | 60 - 140 | 79 |
| | Heptachlor | mg/kg | 0.5 | 4.8 | 5 | 60 - 140 | 96 |
| | Pyrene | mg/kg | 0.5 | 2.0 | 2.5 | 60 - 140 | 81 |
| | 2,4,6-Tribromophenol (surrogate) | mg/kg | - | 1 | 1 | 60 - 140 | 72 |
| | Fluorobiphenyl (surrogate) | mg/kg | - | 1 | 1 | 60 - 140 | 79 |
| | Fluorophenol (surrogate) | mg/kg | - | 1 | 1 | 60 - 140 | 138 |
| | Nitrobenzene-D5 (surrogate) | mg/kg | - | 1 | 1 | 60 - 140 | 84 |
| | p-Terphenyl-D14 (surrogate) | mg/kg | - | 1 | 1 | 60 - 140 | 74 |
| | Phenol-D6 (surrogate) | mg/kg | - | 1 | 1 | 60 - 140 | 93 |

### Metals/Elements in Solids

Method: MA1400_1

| Sample Number | Parameter | Units | LOR | Result | Expected | Criteria % | Recovery % |
|---|---|---|---|---|---|---|---|
| LB082951.002 | Arsenic | mg/kg | 2 | 9 | 10 | 80 - 120 | 93 |
| | Cadmium | mg/kg | 0.2 | 10 | 10 | 80 - 120 | 105 |
| | Chromium | mg/kg | 2 | 11 | 10 | 80 - 120 | 108 |
| | Copper | mg/kg | 2 | 11 | 10 | 80 - 120 | 109 |
| | Lead | mg/kg | 2 | 12 | 10 | 80 - 120 | 117 |
| | Mercury | mg/kg | 0.05 | 1.0 | 1 | 80 - 120 | 105 |
| | Nickel | mg/kg | 2 | 10 | 10 | 80 - 120 | 100 |
| | Zinc | mg/kg | 2 | 10 | 10 | 80 - 120 | 99 |

### TRH in soil MA-30.SL.01

Method: MA30

| Sample Number | Parameter | Units | LOR | Result | Expected | Criteria % | Recovery % |
|---|---|---|---|---|---|---|---|
| LB082867.002 | Total TRH C10-C36 | mg/kg | 20 | 430 | 500 | 80 - 120 | 86 |

### USEPA 8260B Volatile Organic Compounds in Solids/Soils

Method: USEPA 8260 B

| Sample Number | | Parameter | Units | LOR | Result | Expected | Criteria % | Recovery % |
|---|---|---|---|---|---|---|---|---|
| LB082871.002 | Monocyclic Aromatic | Benzene | mg/kg | 0.1 | 5.3 | 5 | 60 - 140 | 107 |
| | | Toluene | mg/kg | 0.1 | 4.9 | 5 | 60 - 140 | 99 |
| | | Ethylbenzene | mg/kg | 0.1 | 5.0 | 5 | 60 - 140 | 100 |

### Volatile Petroleum Hydrocarbons in soil

Method: MA30-VPH

| Sample Number | Parameter | Units | LOR | Result | Expected | Criteria % | Recovery % |
|---|---|---|---|---|---|---|---|
| LB082871.002 | TRH C6-C9 (P&T) | mg/kg | 10 | 30 | 30 | 60 - 140 | 101 |
| | TRH C6-C10 (P&T) | mg/kg | 10 | 32 | 35 | 60 - 140 | 92 |

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

## 8270D.SL.01 SVOCs All in Solids/Soils

Method: MA 8270

| QC Sample | Sample Number | Parameter | Units | LOR | Result | Original | Spike | Recovery% |
|---|---|---|---|---|---|---|---|---|
| ME368691.001 | LB082866.005 | 1-Methylnaphthalene | mg/kg | 0.1 | <1.0 | <1 | - | - |
| | | 2-Methylnaphthalene | mg/kg | 0.1 | <1.0 | <1 | - | - |
| | | Acenaphthene | mg/kg | 0.1 | 3.3 | <1 | 2.5 | 132 |
| | | Acenaphthylene | mg/kg | 0.1 | <1.0 | <1 | - | - |
| | | Anthracene | mg/kg | 0.1 | <1.0 | <1 | - | - |
| | | Benzo(a)anthracene | mg/kg | 0.1 | <1.0 | <1 | - | - |
| | | Benzo (a) pyrene | mg/kg | 0.1 | <1.0 | <1 | - | - |
| | | Benzo (b+j) fluoranthene | mg/kg | 0.1 | <1.0 | <1 | - | - |
| | | Benzo (ghi) perylene | mg/kg | 0.1 | <1.0 | <1 | - | - |
| | | Benzo (k) fluoranthene | mg/kg | 0.1 | <1.0 | <1 | - | - |
| | | Dibenz (ah) anthracene | mg/kg | 0.1 | <1.0 | <1 | - | - |
| | | Fluoranthene | mg/kg | 0.1 | <1.0 | <1 | - | - |
| | | Fluorene | mg/kg | 0.1 | <1.0 | <1 | - | - |
| | | Indeno (1,2,3-cd) pyrene | mg/kg | 0.1 | <1.0 | <1 | - | - |
| | | Naphthalene | mg/kg | 0.1 | <1.0 | <1 | - | - |
| | | Phenanthrene | mg/kg | 0.5 | <5.0 | <5 | - | - |
| | | Pyrene | mg/kg | 0.5 | <5.0 | <5 | 2.5 | 111 |
| | | 2,4,6-Tribromophenol (surrogate) | mg/kg | - | 1 | 1 | - | 125 |
| | | Fluorobiphenyl (surrogate) | mg/kg | - | <5 | <5 | - | 79 |
| | | Fluorophenol (surrogate) | mg/kg | - | 2 | 2 | - | 158 |
| | | Nitrobenzene-D5 (surrogate) | mg/kg | - | <5 | <5 | - | 64 |
| | | p-Terphenyl-D14 (surrogate) | mg/kg | - | 1 | 1 | - | 107 |
| | | Phenol-D6 (surrogate) | mg/kg | - | 0 | 0 | - | 35 |

## Metals/Elements in Solids

Method: MA1400_1

| QC Sample | Sample Number | Parameter | Units | LOR | Result | Original | Spike | Recovery% |
|---|---|---|---|---|---|---|---|---|
| ME368667.001 | LB082951.005 | Arsenic | mg/kg | 2 | 18 | 10 | 10 | 80 |
| | | Cadmium | mg/kg | 0.2 | 8.0 | <0.2 | 10 | 80 |
| | | Chromium | mg/kg | 2 | 21 | 13 | 10 | 78 |
| | | Copper | mg/kg | 2 | 17 | 9 | 10 | 80 |
| | | Lead | mg/kg | 2 | 110 | 97 | 10 | 113 |
| | | Mercury | mg/kg | 0.05 | 0.79 | <0.05 | 1 | 75 |
| | | Nickel | mg/kg | 2 | 13 | 6 | 10 | 72 |
| | | Zinc | mg/kg | 2 | 74 | 64 | 10 | 101 |

## TRH in soil MA-30.SL.01

Method: MA30

| QC Sample | Sample Number | Parameter | Units | LOR | Result | Original | Spike | Recovery% |
|---|---|---|---|---|---|---|---|---|
| ME368691.001 | LB082867.005 | TRH C6-C9 (P&T) | mg/kg | 10 | 16 | 16 | - | - |
| | | TRH C10-C14 | mg/kg | 10 | 3500 | 3200 | - | - |
| | | TRH >C10-C16 | mg/kg | 10 | 6300 | 5800 | - | - |
| | | TRH>C10-C16 less naphthalene (F2) | mg/kg | 10 | 6300 | 5800 | - | - |
| | | TRH >C16-C34 (F3) | mg/kg | 20 | 9000 | 9300 | - | - |
| | | TRH C15-C28 | mg/kg | 20 | 10000 | 10000 | - | - |
| | | TRH C29-C36 | mg/kg | 20 | 950 | 900 | - | - |
| | | C6-C10 (P&T) less BTEX (F1) | mg/kg | 10 | 89 | 89 | - | - |
| | | Total TRH C10-C36 | mg/kg | 20 | 15000 | 15000 | 500 | 63 ⑤ |
| | | TRH >C34-C40 (F4) | mg/kg | 20 | 810 | 750 | - | - |
| | | TRH C6-C10 (P&T) | mg/kg | 10 | 90 | 90 | - | - |
| | | Total TRH C6-C36 | mg/kg | 20 | 15000 | 15000 | - | - |
| | | Total TRH C6-C40 (F) | mg/kg | 20 | 16000 | 16000 | - | - |
| | | TRH >C10-C40 (F) | mg/kg | 20 | 16000 | 16000 | - | - |

## USEPA 8260B Volatile Organic Compounds in Solids/Soils

Method: USEPA 8260 B

| QC Sample | Sample Number | | Parameter | Units | LOR | Result | Original | Spike | Recovery% |
|---|---|---|---|---|---|---|---|---|---|
| ME368667.001 | LB082871.005 | | m&p-Xylenes | mg/kg | 0.1 | <0.1 | <0.1 | - | - |
| | | | Total BTEX | mg/kg | 0.5 | 15 | <0.5 | - | - |
| | | Monocyclic Aromatic | Benzene | mg/kg | 0.1 | 5.3 | <0.1 | 5 | 105 |
| | | | Toluene | mg/kg | 0.1 | 4.9 | <0.1 | 5 | 97 |
| | | | Ethylbenzene | mg/kg | 0.1 | 4.9 | <0.1 | 5 | 98 |
| | | | o-Xylenes | mg/kg | 0.1 | <0.1 | <0.1 | - | - |
| | | Polycyclic | Naphthalene (VOC) | mg/kg | 0.1 | <0.1 | <0.1 | - | - |
| | | Surrogates | Toluene-d8 (surrogate) | µg/L | - | 18 | 17 | - | 89 |

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

## Volatile Petroleum Hydrocarbons in soil

Method: MA30-VPH

| QC Sample | Sample Number | Parameter | Units | LOR | Result | Original | Spike | Recovery% |
|---|---|---|---|---|---|---|---|---|
| ME368667.001 | LB082871.005 | TRH C6-C9 (P&T) | mg/kg | 10 | 33 | <10 | 30 | 109 |
| | | TRH C6-C10 (P&T) | mg/kg | 10 | 36 | <10 | 35 | 104 |
| | | TRH C6-C10 (P&T) less BTEX (F1) | mg/kg | 10 | 21 | <10 | - | - |

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

## 8270D.SL.01 SVOCs All in Solids/Soils

Method: MA 8270

| QC Sample | Sample Number | Parameter | Units | LOR | Duplicate |
|---|---|---|---|---|---|
| ME368691.001 | LB082866.006 | 1-Methylnaphthalene | mg/kg | 0.1 | <1.0 |
| | | 2-Methylnaphthalene | mg/kg | 0.1 | <1.0 |
| | | Acenaphthene | mg/kg | 0.1 | 3.4 |
| | | Acenaphthylene | mg/kg | 0.1 | <1.0 |
| | | Anthracene | mg/kg | 0.1 | <1.0 |
| | | Benzo(a)anthracene | mg/kg | 0.1 | <1.0 |
| | | Benzo (a) pyrene | mg/kg | 0.1 | <1.0 |
| | | Benzo (b+j) fluoranthene | mg/kg | 0.1 | <1.0 |
| | | Benzo (ghi) perylene | mg/kg | 0.1 | <1.0 |
| | | Benzo (k) fluoranthene | mg/kg | 0.1 | <1.0 |
| | | Dibenz (ah) anthracene | mg/kg | 0.1 | <1.0 |
| | | Fluoranthene | mg/kg | 0.1 | <1.0 |
| | | Fluorene | mg/kg | 0.1 | <1.0 |
| | | Indeno (1,2,3-cd) pyrene | mg/kg | 0.1 | <1.0 |
| | | Naphthalene | mg/kg | 0.1 | <1.0 |
| | | Phenanthrene | mg/kg | 0.5 | <5.0 |
| | | Pyrene | mg/kg | 0.5 | <5.0 |
| | | 2,4,6-Tribromophenol (surrogate) | mg/kg | - | 1 |
| | | Fluorobiphenyl (surrogate) | mg/kg | - | <5 |
| | | Fluorophenol (surrogate) | mg/kg | - | 2 |
| | | Nitrobenzene-D5 (surrogate) | mg/kg | - | <5 |
| | | p-Terphenyl-D14 (surrogate) | mg/kg | - | 1 |
| | | Phenol-D6 (surrogate) | mg/kg | - | 0 |

## Metals/Elements in Solids

Method: MA1400_1

| QC Sample | Sample Number | Parameter | Units | LOR | Duplicate |
|---|---|---|---|---|---|
| ME368667.001 | LB082951.006 | Arsenic | mg/kg | 2 | 18 |
| | | Cadmium | mg/kg | 0.2 | 7.8 |
| | | Chromium | mg/kg | 2 | 21 |
| | | Copper | mg/kg | 2 | 17 |
| | | Lead | mg/kg | 2 | 110 |
| | | Mercury | mg/kg | 0.05 | 0.80 |
| | | Nickel | mg/kg | 2 | 13 |
| | | Zinc | mg/kg | 2 | 74 |

## TRH in soil MA-30.SL.01

Method: MA30

| QC Sample | Sample Number | Parameter | Units | LOR | Duplicate |
|---|---|---|---|---|---|
| ME368691.001 | LB082867.006 | TRH C6-C9 (P&T) | mg/kg | 10 | 16 |
| | | TRH C10-C14 | mg/kg | 10 | 3300 |
| | | TRH >C10-C16 | mg/kg | 10 | 6200 |
| | | TRH>C10-C16 less naphthalene (F2) | mg/kg | 10 | 6200 |
| | | TRH >C16-C34 (F3) | mg/kg | 20 | 9700 |
| | | TRH C15-C28 | mg/kg | 20 | 11000 |
| | | TRH C29-C36 | mg/kg | 20 | 970 |
| | | C6-C10 (P&T) less BTEX (F1) | mg/kg | 10 | 89 |
| | | Total TRH C10-C36 | mg/kg | 20 | 15000 |
| | | TRH >C34-C40 (F4) | mg/kg | 20 | 840 |
| | | TRH C6-C10 (P&T) | mg/kg | 10 | 90 |
| | | Total TRH C6-C36 | mg/kg | 20 | 15000 |
| | | Total TRH C6-C40 (F) | mg/kg | 20 | 17000 |
| | | TRH >C10-C40 (F) | mg/kg | 20 | 17000 |

## USEPA 8260B Volatile Organic Compounds in Solids/Soils

Method: USEPA 8260 B

| QC Sample | Sample Number | Parameter | Units | LOR |
|---|---|---|---|---|

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

## USEPA 8260B Volatile Organic Compounds in Solids/Soils (continued)

Method: USEPA 8260 B

| QC Sample | Sample Number | | Parameter | Units | LOR | Duplicate |
|---|---|---|---|---|---|---|
| ME368667.001 | LB082871.006 | | m&p-Xylenes | mg/kg | 0.1 | <0.1 |
| | | | Total BTEX | mg/kg | 0.5 | 15 |
| | | Monocyclic Aromatic | Benzene | mg/kg | 0.1 | 5.3 |
| | | | Toluene | mg/kg | 0.1 | 4.9 |
| | | | Ethylbenzene | mg/kg | 0.1 | 5.0 |
| | | | o-Xylenes | mg/kg | 0.1 | <0.1 |
| | | Polycyclic | Naphthalene (VOC) | mg/kg | 0.1 | <0.1 |
| | | Surrogates | Toluene-d8 (surrogate) | µg/L | - | 18 |

## Volatile Petroleum Hydrocarbons in soil

Method: MA30-VPH

| QC Sample | Sample Number | Parameter | Units | LOR | Duplicate |
|---|---|---|---|---|---|
| ME368667.001 | LB082871.006 | TRH C6-C9 (P&T) | mg/kg | 10 | 32 |
| | | TRH C6-C10 (P&T) | mg/kg | 10 | 36 |
| | | TRH C6-C10 (P&T) less BTEX (F1) | mg/kg | 10 | 21 |

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here: https://www.sgs.com.au/~/media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf

| | |
|---|---|
| * | NATA accreditation does not cover the performance of this service. |
| ** | Indicative data, theoretical holding time exceeded. |
| *** | Indicates that both * and ** apply. |
| - | Sample not analysed for this analyte. |
| IS | Insufficient sample for analysis. |
| LNR | Sample listed, but not received. |
| LOR | Limit of reporting. |
| QFH | QC result is above the upper tolerance. |
| QFL | QC result is below the lower tolerance. |
| ① | Majority of surrogate recoveries are within acceptance criteria. |
| ② | RPD failed acceptance criteria due to sample heterogeneity. |
| ③ | Results less than 5 times LOR preclude acceptance criteria for RPD. |
| ④ | Recovery failed acceptance criteria due to matrix interference. |
| ⑤ | Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level). |
| ⑥ | LOR was raised due to sample matrix interference. |
| ⑦ | LOR was raised due to dilution of significantly high concentration of analyte in sample. |
| ⑧ | Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results. |
| ⑨ | Recovery failed acceptance criteria due to sample heterogeneity. |
| ⑩ | LOR was raised due to high conductivity of the sample (required dilution). |
| ⑪ | Majority of spike recoveries are within acceptance criteria. |
| † | Refer to relevant report comments for further information. |

# SAMPLE RECEIPT ADVICE

ME368667

## CLIENT DETAILS

| | |
|---|---|
| Contact | Nick Caltabiano |
| Client | NEO CONSULTING PTY LTD |
| Address | PO BOX 279<br>RIVERSTONE NSW 2765 |
| Telephone | 0416 680 375 \| 0455 485 502 |
| Facsimile | (Not specified) |
| Email | nick@neoconsulting.com.au |
| Project | **N10167** |
| Order Number | **N10167** |
| Samples | 10 |

## LABORATORY DETAILS

| | |
|---|---|
| Manager | Adam Atkinson |
| Laboratory | SGS Melbourne EH&S |
| Address | 10/585 Blackburn Road<br>Notting Hill Victoria 3168 |
| Telephone | +61395743200 |
| Facsimile | +61395743399 |
| Email | Au.SampleReceipt.Melbourne@sgs.com |
| Samples Received | Wed 20/11/2024 |
| Report Due | Tue 26/11/2024 |
| SGS Reference | **ME368667** |

## SUBMISSION DETAILS

This is to confirm that 10 samples were received on Wednesday 20/11/2024. Results are expected to be ready by COB Tuesday 26/11/2024. Please quote SGS reference ME368667 when making enquiries. Refer below for details relating to sample integrity upon receipt.

| | | | |
|---|---|---|---|
| Sample counts by matrix | 10 Soil | Type of documentation received | COC |
| Date documentation received | 20/11/2024 | Samples received in good order | Yes |
| Sample temperature upon receipt | 3.8 | Sample container provider | SGS |
| Turnaround time requested | 3 days | Samples received in correct containers | Yes |
| Sufficient sample for analysis | Yes | Sample cooling method | Ice cubs |
| Samples clearly labelled | Yes | Complete documentation received | Yes |
| Number of eskies/boxes received | 1 | | |

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

## COMMENTS

# SAMPLE RECEIPT ADVICE

ME368667

CLIENT DETAILS

Client NEO CONSULTING PTY LTD

Project N10167

SUMMARY OF ANALYSIS

| No. | Sample ID | 8270D.SL.01 SVOCs All in Solids/Soils | Fibre Identification in soil | Metals/Elements in Solids | Moisture Content | TRH in soil MA-30.SL.01 | USEPA 8260B Volatile Organic Compounds in | Volatile Petroleum Hydrocarbons in soil |
|---|---|---|---|---|---|---|---|---|
| 001 | S1 | 54 | 3 | 8 | 1 | 14 | 8 | 3 |
| 002 | S2 | 54 | 3 | 8 | 1 | 14 | 8 | 3 |
| 003 | S3 | 54 | 3 | 8 | 1 | 14 | 8 | 3 |
| 004 | S4 | 54 | 3 | 8 | 1 | 14 | 8 | 3 |
| 005 | S5 | 54 | 3 | 8 | 1 | 14 | 8 | 3 |
| 006 | S6 | 54 | 3 | 8 | 1 | 14 | 8 | 3 |
| 007 | S7 | 54 | 3 | 8 | 1 | 14 | 8 | 3 |
| 008 | S8 | 54 | 3 | 8 | 1 | 14 | 8 | 3 |
| 009 | S9 | 54 | 3 | 8 | 1 | 14 | 8 | 3 |
| 010 | Duplicate | 54 | 3 | 8 | 1 | 14 | 8 | 3 |

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

NEO CONSULTING

# APPENDIX C

## Relevant Site Data

# Property Report

10 BEN BULLEN PLACE GOULBURN 2580

## Property Details

| | |
|---|---|
| Address: | 10 BEN BULLEN PLACE GOULBURN 2580 |
| Lot/Section /Plan No: | 156/-/DP248976 |
| Council: | GOULBURN MULWAREE COUNCIL |

## Summary of planning controls

Planning controls held within the Planning Database are summarised below. The property may be affected by additional planning controls not outlined in this report. Please contact your council for more information.

| | |
|---|---|
| Local Environmental Plans | Goulburn Mulwaree Local Environmental Plan 2009 (pub. 6-8-2021) |
| Land Zoning | R2 - Low Density Residential: (pub. 24-2-2023) |
| Height Of Building | NA |
| Floor Space Ratio | NA |
| Minimum Lot Size | 700 m² |
| Heritage | NA |
| Land Reservation Acquisition | NA |
| Foreshore Building Line | NA |

## Detailed planning information

### State Environmental Planning Policies which apply to this property

State Environmental Planning Policies can specify planning controls for certain areas and/or types of development. They can also identify the development assessment system that applies and the type of environmental assessment that is required.

- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Excluded (pub. 21-10-2022)
- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Exempt and Complying Development Codes) 2008: Land Application (pub. 12-12-2008)
- State Environmental Planning Policy (Housing) 2021: Land Application (pub. 26-11-2021)
- State Environmental Planning Policy (Industry and Employment) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Planning Systems) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Primary Production) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Resilience and Hazards) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Resources and Energy) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Sustainable Buildings) 2022: Land Application (pub. 29-8-2022)
- State Environmental Planning Policy (Transport and Infrastructure) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Transport and Infrastructure) 2021: Subject Land (pub. 16-12-2022)

## Other matters affecting the property

Information held in the Planning Database about other matters affecting the property appears below. The property may also be affected by additional planning controls not outlined in this report. Please speak to your council for more information

| | |
|---|---|
| Land near Electrical Infrastructure | This property may be located near electrical infrastructure and could be subject to requirements listed under ISEPP Clause 45. Please contact Essential Energy for more information. |
| Local Aboriginal Land Council | PEJAR |
| Regional Plan Boundary | South East and Tablelands |
| Sydney Drinking Water Catchment Map | Part 6.2 and 6.5 State Environmental Planning Policy (Biodiversity and Conservation) 2021, Section 171A Environmental Planning and Assessment Regulation 2021 |


# PROPOSED CHILDCARE CENTRE 10 BEN BULLEN PLACE, GOULBURN, 2580, NEW SOUTH WALES

## LOCATION


**ADRESS:** 10 BEN BULLEN PL, GOULBURN NSW 2580
**COUNCIL:** GOULBURN MULWAREE COUNCIL
**LOT:** LOT 156, DP 248976

## SHEET LIST

| SHEET NO. | SHEET NAME | ISSUE DATE | REVISION | REVISION DATE |
|---|---|---|---|---|
| DA000 | COVER PAGE | 14-11-2024 | | |
| DA101 | SITE PLAN | 14-11-2024 | | |
| DA102 | GROUND FLOOR PLAN | 14-11-2024 | | |
| DA103 | ROOF PLAN | 14-11-2024 | | |
| DA104 | ELEVATIONS | 14-11-2024 | | |
| DA105 | SECTIONS | 14-11-2024 | | |
| DA106 | 3D VIEW | 14-11-2024 | | |
| DA107 | MID WINTER SHADOW DIAGRAMS BY HOURS | 14-11-2024 | | |
| DA108 | VIEW FROM SUN 9 -15 | 14-11-2024 | | |
| DA109 | FSR PLAN | 14-11-2024 | | |
| DA110 | UNECUMBERED AREA PLANS | 14-11-2024 | | |
| DA111 | NOTIFICATION PLANS | 14-11-2024 | | |

**PLAN NO: 156/248976 LOT NUMBER: 156**

**LOCAL AUTHORITY: Goulburn Mulwaree C.**
**SITE ADDRESS: 10 Ben Bullen Pl, Goulburn NSW 2580**

**FOR DA**
- ALL BUILDING WORK TO COMPLY WITH BCA AND AS CODES AND RELEVANT AUTHORITIES REQUIREMENTS.
- ALL STEEL, CONCRETE AND TIMBER WORK TO BE IN ACCORDANCE WITH STRUCTURAL ENGINEERS SPECIFICATIONS AND RELEVANT SAA CODES.
- LARGER SCALE DRAWINGS TAKE PRECEDENCE OVER SMALLER.
- **ALL DIMENSIONS TO BE CONFIRMED ON SITE. CONTACT THE ARCHITECT IF ANY DOUBT OR DISCREPANCY ARISES.**
- READ FIGURED DIMENSIONS IN PREFERENCE TO SCALING.

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Nominated Architect David Brett 12657

| FOR | ISSUE | DATE | AMENDMENT | FOR | ISSUE | DATE | AMENDMENT | DRAFTING |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | DRAWN: CG |
| | | | | | | | | CHECKED: DB |
| | | | | | | | | APPROVED: DB |

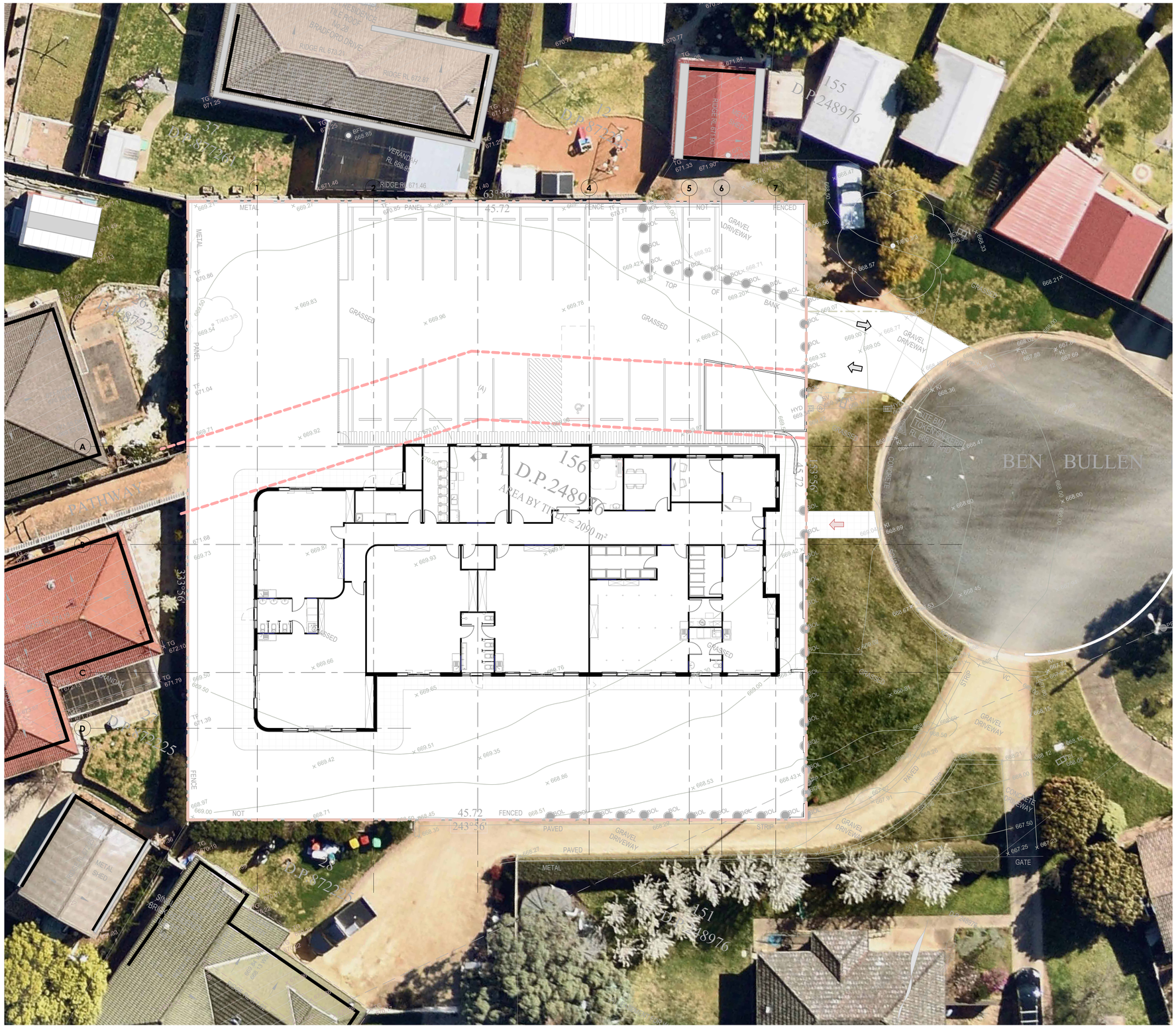
**CHILDCARE CENTRE AT 10 BEN BULLEN PI, GOULBURN NSW 2580**

**COVER PAGE**

Scale: 1 : 100 @A1
Date : 14-11-2024

**GREENSCAPE DESIGN & ASSOCIATES**
SUITE 1/75 JONSON ST, BYRON BAY, NSW 2481 INFO@GREENSCAPEDESIGN.COM.AU

Project Number : 241018
Drawing Number : **DA000**
Rev :




## SITE LEGEND

- BOUNDARY
- PEDESTRIAN ACCESS
- VEHICLE ACCESS
- EXISTING TREE TO REMAIN

## 1 SITE PLAN

1 : 150

**FOR DA**

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|---|---|---|---|

| FOR | ISSUE | DATE | AMENDMENT |
|---|---|---|---|

DRAFTING
DRAWN: CG
CHECKED: DB
APPROVED: DB

TRUE NORTH

**CHILDCARE CENTRE AT 10 BEN BULLEN PI, GOULBURN NSW 2580**

**SITE PLAN**

**GREENSCAPE DESIGN & ASSOCIATES**
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Scale: As indicated @A1
Date : 14-11-2024
Project Number : 241018
Drawing Number : **DA101**
Rev :


## 1 GROUND FLOOR

1 : 100

## CHILD CARE AREA AND OCCUPATION CALCULATIONS

| | Age Group | No. of Kids | Req. Indoor | Prop. Indoor | Req. Outdoor | Prop. Outdoor | Staff | RMS Parking |
|---|---|---|---|---|---|---|---|---|
| GF | 0-2 | 24 | 78,0m² | 83.70m² | 168m² | 170.28m² | 6 | 4 |
| GF | 2-3 | 35 | 113.75m² | 113.97m² | 525m² | 590.25m² | 7 | 6 |
| GF | 3-5 | 40 | 130m² | 130.19m² | | | 4 | 7 |
| | **TOTAL** | **99** | **321.75 m² <327.86m²** | **693m² < 762.33m²** | | | **17** | **19** |

## PARKING

**PARKING:** **REQUIREMENTS**
STAFF MEMBERS: 1 PER MEMBER
VISITORS: 1 PER 6 CHILDREN

**PROPOSED:** **25 PARKING SPOTS**
STAFF MEMBERS: 16
VISITORS: 8 + 1 DISABLED

## CHILD CARE REQ STORAGE CALCULATIONS

| Age Group | No. of Kids | Req. Indoor | Prop. indoor | Req. Outdoor | Prop. Outdoor |
|---|---|---|---|---|---|
| 0-2 | 24 | 4.80m³ | 4.80m³ | 7.20m³ | 7.20m³ |
| 2-3 | 35 | 7.00m³ | 8.40m³ | 10.50m³ | 22.50m³ |
| 3-5 | 40 | 8.00m³ | 8.40m³ | 12.00m³ | |
| **TOTAL** | **99** | 19.80m³ | **21.60m³** | 29.70m³ | **29.70m³** |

## FACILITIES

**JUNIOR SANITARY FACILITIES**

| *TOILETS* | *PROPOSED* | *COMPLIES* |
|---|---|---|
| 0-2 YR OLD: 1 PER CHILDCARE | 1 | YES |
| 2-3 YR OLD: 1 PER 10 CHILDREN | 4 | YES |
| 3-5 YR OLD: 1 PER 10 CHILDREN | 4 | YES |
| *BASINS* | *PROPOSED* | *COMPLIES* |
| 0-2 YR OLD: 1 PER CHILDCARE | 1 | YES |
| 2-3 YR OLD: 1 PER 10 CHILDREN | 4 | YES |
| 3-5 YR OLD: 1 PER 10 CHILDREN | 4 | YES |
| *NAPPY CHANGE* | *PROPOSED* | *COMPLIES* |
| 0-2 YR OLD: REQUIRED | 1 | YES |
| 2-3 YR OLD: REQUIRED | 1 | YES |
| 3-5 YR OLD: NOT REQUIRED | - | YES |
| *BOTTLE PREP* | *PROPOSED* | *COMPLIES* |
| 0-2 YR OLD: REQUIRED | 1 | YES |
| *LAUNDRY* | *PROPOSED* | *COMPLIES* |
| 0-3 YR OLD: REQUIRED | 1 | YES |
| *ADULD SANITARY FACILITIES* | *PROPOSED* | *COMPLIES* |
| REQUIRED FOR >16 STAFF | 1 UNISEX FACILITY | YES |
| | 1 SHOWER | |
| *FOOD PREP/KITCHEN* | *PROPOSED* | *COMPLIES* |
| REQUIRED | 1 | YES |

## AREA

**TOTAL: 2089.45m²**

| Hard Surface + Building | | Landscape Deep Soil | |
|---|---|---|---|
| 1340m² | 64% | 749m² | 36% |

| Building | | | |
|---|---|---|---|
| Built | 31% | Not Built | 69% |
| Gr. Floor | 650m² | Land | 1438m² |
| **TOTAL:** | **650m²** | | |

**FOR DA**

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Nominated Architect David Brett 12657

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| DRAFTING | |
|---|---|
| DRAWN: | CG |
| CHECKED: | DB |
| APPROVED: | DB |

TRUE NORTH

**CHILDCARE CENTRE AT 10 BEN BULLEN PI, GOULBURN NSW 2580**

**GROUND FLOOR PLAN**

**GREENSCAPE DESIGN & ASSOCIATES**
SUITE 1/75 JONSON ST, BYRON BAY, NSW 2481 INFO@GREENSCAPEDESIGN.COM.AU

Scale: 1 : 100 @A1
Date : 14-11-2024
Project Number : 241018
Drawing Number : **DA102**
Rev :

BOUNDARY

BOUNDARY

DA104 4

DA104 2

2 DA105

4697

PARAPET CAPPING
AWNING
BOX GUTTER
EAVES GUTTER
VALLEY GUTTER
ALUMINIUM PERGOLA

TG 672.552
TG 669.400
TG 672.534
TG 672.592

10° FALL

RIDGE RL 673.995
RIDGE RL 673.740

1 DA105

1 DA104

3 DA104

2 DA105

BOUNDARY

BOUNDARY

1 ROOF PLAN
1 : 100

## MATERIALS LEGEND

1 ALUMINIUM CLICK-ON CLADDING
PROFILE: SCULPTFORM 50mm BLOCK
COLOUR: AUSTRALIAN ASH

2 ALUMINIUM SCREENS
PROFILE: SCULPTFORM 25x50mm
COLOUR: NATURAL WHITE (MATCHING WITH FIBRE CEMENT CLADDING)

3 FIBRE CEMENT CLADDING
PROFILE: HARDIE LINEA WEATHERBOARD
COLOUR: DULUX NATURAL WHITE - SW114

4 CONCRETE PLINTH
COLOUR: NATURAL BROOM FINISH

5 METAL FENCING & DOOR AND WINDOW FRAMES
COLOUR: DURATEC ETERNITY COPPER METALLIC - 9177183M MATT

6 STEEL ROOFING, FASCIAS GUTTERS & DOWNPIPES
COLOUR: COLORBOND SHALE GREY

7 NATURAL STONE WALL CLADDING
FREEFORM LOOSE STONES | WHITE SANDSTONE

**FOR DA**
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Nominated Architect David Brett 12657

| FOR | ISSUE | DATE | AMENDMENT | FOR | ISSUE | DATE | AMENDMENT |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

DRAWN: CG
CHECKED: DB
APPROVED: DB

TRUE NORTH

**CHILDCARE CENTRE AT 10 BEN BULLEN PI, GOULBURN NSW 2580**

**ROOF PLAN**

Scale: 1 : 100 @A1
Date : 14-11-2024
Project Number : 241018
Drawing Number : **DA103**
Rev :

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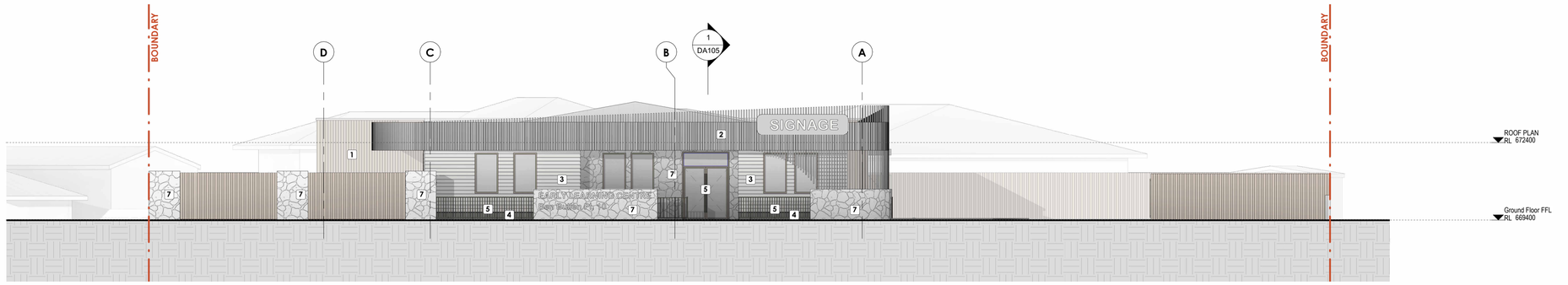
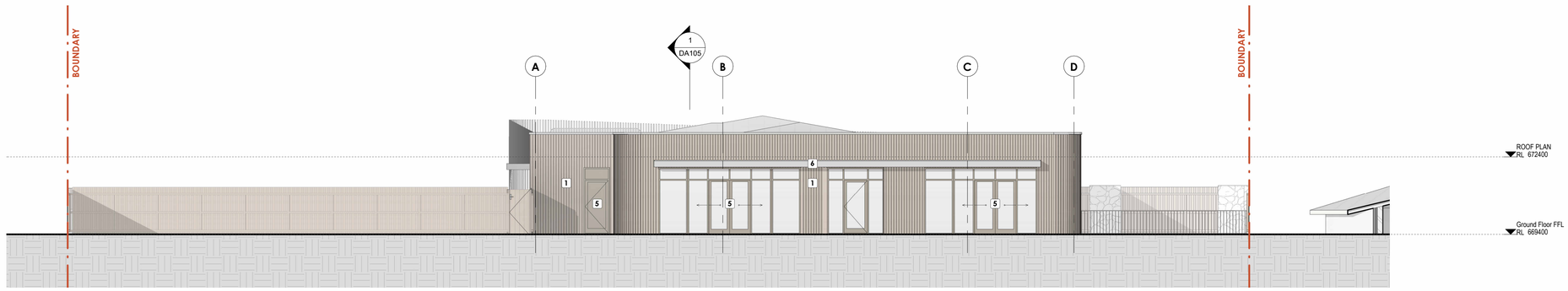
INFO@GREENSCAPEDESIGN.COM.AU



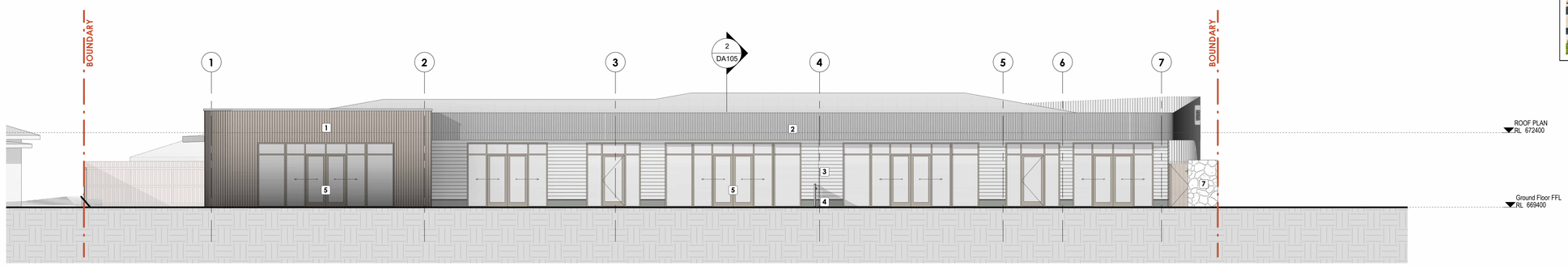

## 1 NORTH Elevation

1 : 100



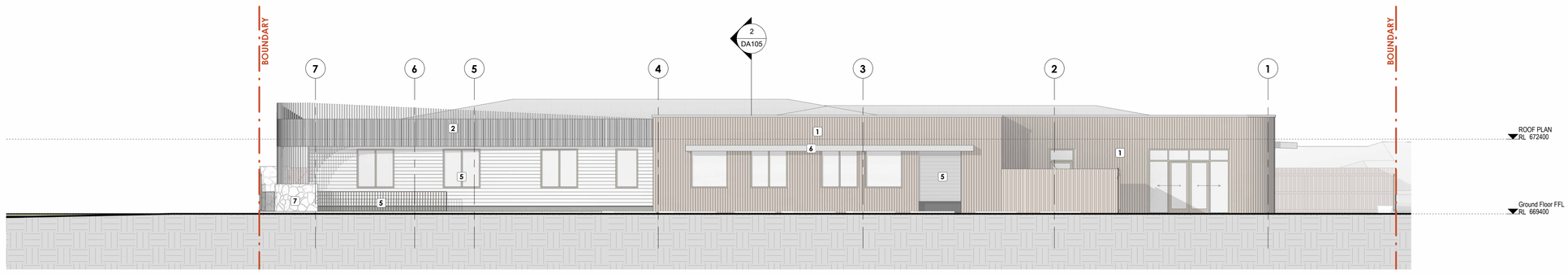

## 2 SOUTH Elevation

1 : 100




## 3 EAST Elevation

1 : 100



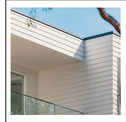

## 4 WEST Elevation

1 : 100

## MATERIALS LEGEND

1
ALUMINIUM CLICK-ON CLADDING
PROFILE: SCULPTFORM 50mm BLOCK
COLOUR: AUSTRALIAN ASH

2
ALUMINIUM SCREENS
PROFILE: SCULPTFORM 25x50mm
COLOUR: NATURAL WHITE (MATCHING WITH FIBRE CEMENT CLADDING)



3
FIBRE CEMENT CLADDING
PROFILE: HARDIE LINEA WEATHERBOARD
COLOUR: DULUX NATURAL WHITE - SW114

4
CONCRETE PLINTH
COLOUR: NATURAL BROOM FINISH

5
METAL FENCING & DOOR AND WINDOW FRAMES
COLOUR: DURATEC ETERNITY COPPER METALLIC - 9117183M MATT

6
STEEL ROOFING, FASCIAS GUTTERS & DOWNPIPES
COLOUR: COLORBOND SHALE GREY

7
NATURAL STONE WALL CLADDING
FREEFORM LOOSE STONES | WHITE SANDSTONE

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David Brett 12657

| FOR | ISSUE | DATE | AMENDMENT | FOR | ISSUE | DATE | AMENDMENT |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

DRAFTING
DRAWN: CG
CHECKED: DB
APPROVED: DB

TRUE NORTH

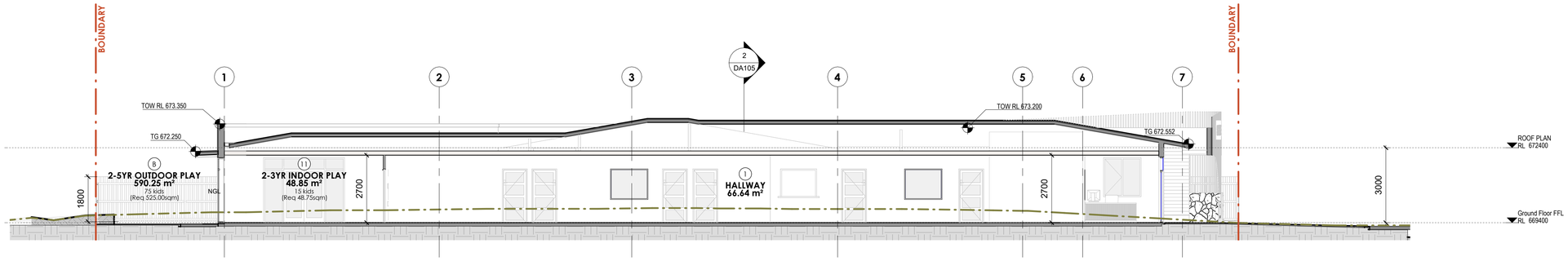
**CHILDCARE CENTRE AT 10 BEN BULLEN PI, GOULBURN NSW 2580**

**ELEVATIONS**

Scale: 1 : 100 @A1
Date : 14-11-2024

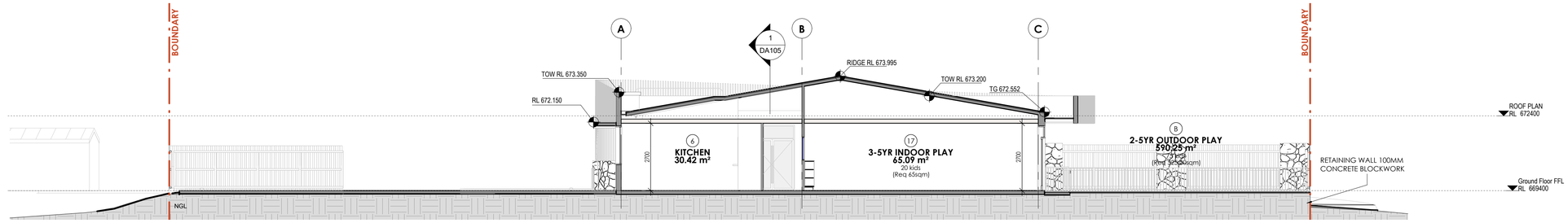
**GREENSCAPE DESIGN & ASSOCIATES**
SUITE 1/75 JONSON ST, BYRON BAY, NSW 2481 INFO@GREENSCAPEDESIGN.COM.AU

Project Number : 241018
Drawing Number : **DA104**
Rev :




## 1 LONG SECTION

1 : 100




## 2 CROSS SECTION1

1 : 100

**FOR DA**

- ALL BUILDING WORK TO COMPLY WITH BCA AND AS CODES AND RELEVANT AUTHORITIES REQUIREMENTS.
- ALL STEEL, CONCRETE AND TIMBER WORK TO BE IN ACCORDANCE WITH STRUCTURAL ENGINEERS SPECIFICATIONS AND RELEVANT SAA CODES.
- LARGER SCALE DRAWINGS TAKE PRECEDENCE OVER SMALLER.
- **ALL DIMENSIONS TO BE CONFIRMED ON SITE. CONTACT THE ARCHITECT IF ANY DOUBT OR DISCREPANCY ARISES.**
- READ FIGURED DIMENSIONS IN PREFERENCE TO SCALING.

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3034

Nominated Architect
David Brett 12657

| FOR | ISSUE | DATE | AMENDMENT | FOR | ISSUE | DATE | AMENDMENT |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

DRAFTING
DRAWN: CG
CHECKED: DB
APPROVED: DB

TRUE NORTH

**CHILDCARE CENTRE AT 10 BEN BULLEN PI, GOULBURN NSW 2580**

**SECTIONS**

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Scale: 1 : 100 @A1
Date : 14-11-2024
Project Number : 241018
Drawing Number : **DA105**
Rev :


FRONT ENTRANCE

0-2YR FACADE

**FOR DA**

- ALL BUILDING WORK TO COMPLY WITH BCA AND AS CODES AND RELEVANT AUTHORITIES REQUIREMENTS.
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|---|---|---|---|---|---|---|---|
| | | | | | | | |

DRAWN: CG
CHECKED: DB
APPROVED: DB

TRUE NORTH

**CHILDCARE CENTRE AT 10 BEN BULLEN PI, GOULBURN NSW 2580**

**3D VIEW**

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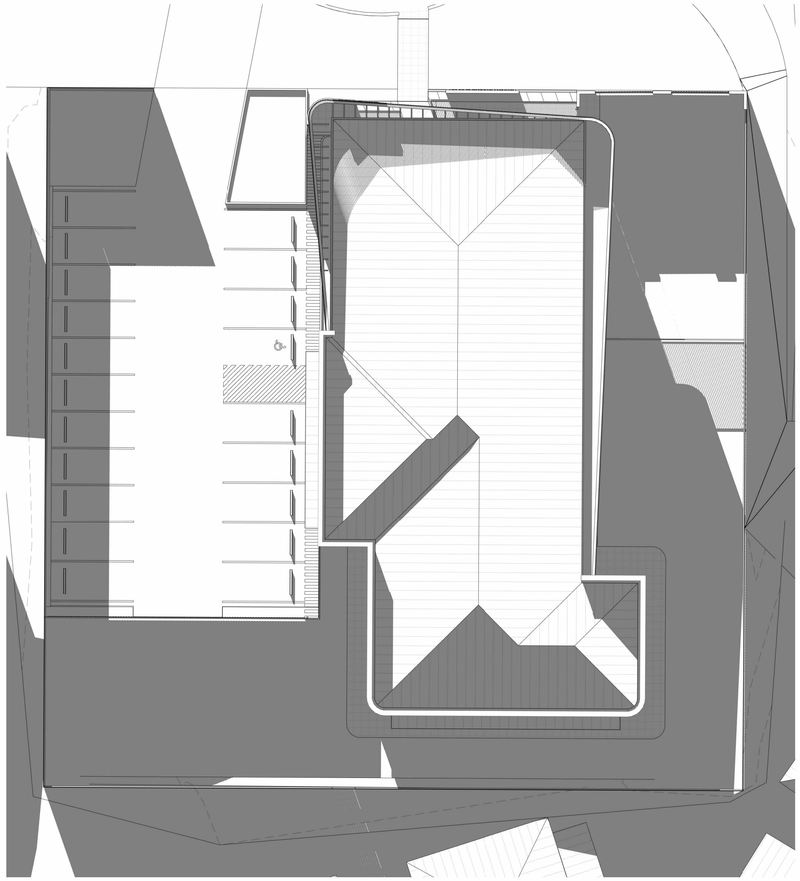
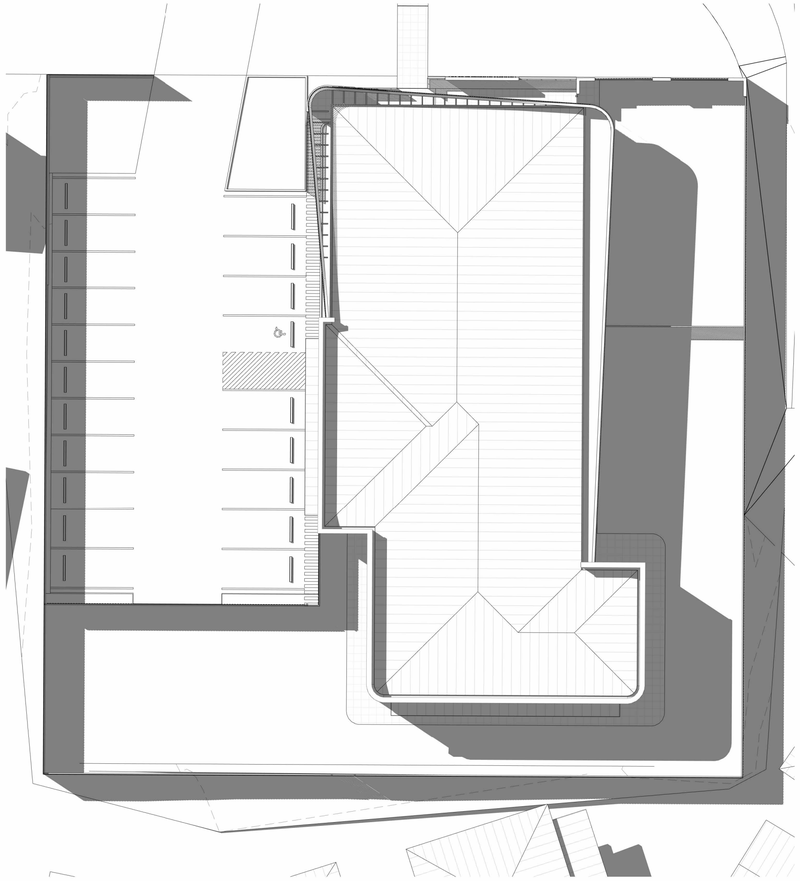
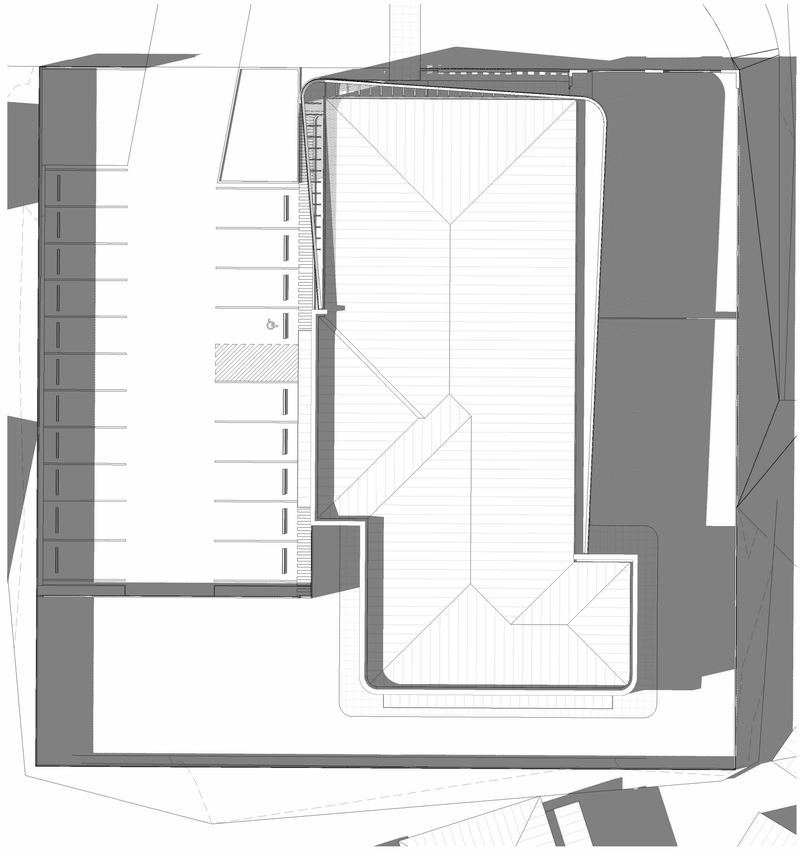
Date : 14-11-2024
Project Number : 241018
Drawing Number : **DA106**
Rev :



1 SHADOW 9AM



2 SHADOW 12PM



3 SHADOW 15PM

**FOR DA**

- ALL BUILDING WORK TO COMPLY WITH BCA AND AS CODES AND RELEVANT AUTHORITIES REQUIREMENTS.
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|---|---|---|---|---|---|---|---|---|
| | | | | | | | | DRAWN: CG |
| | | | | | | | | CHECKED: DB |
| | | | | | | | | APPROVED: DB |

**CHILDCARE CENTRE AT 10 BEN BULLEN PI, GOULBURN NSW 2580**

**MID WINTER SHADOW DIAGRAMS BY HOURS**

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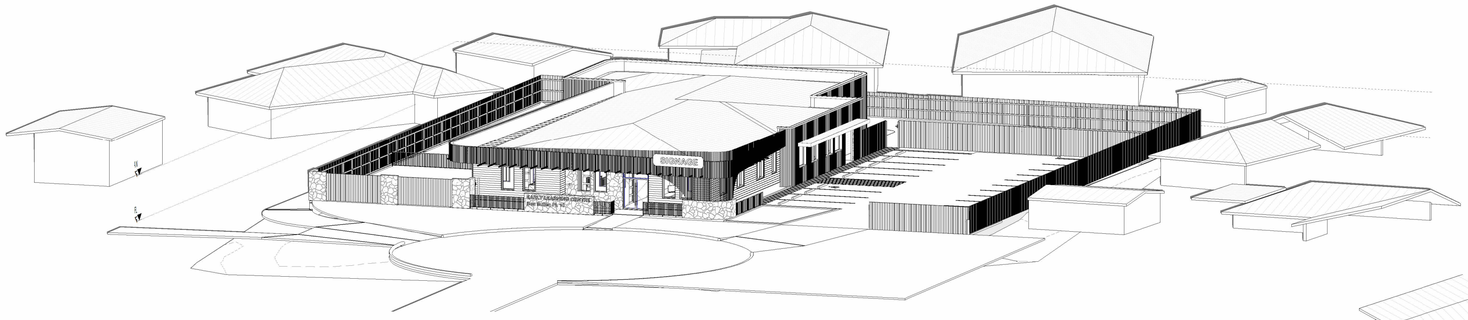
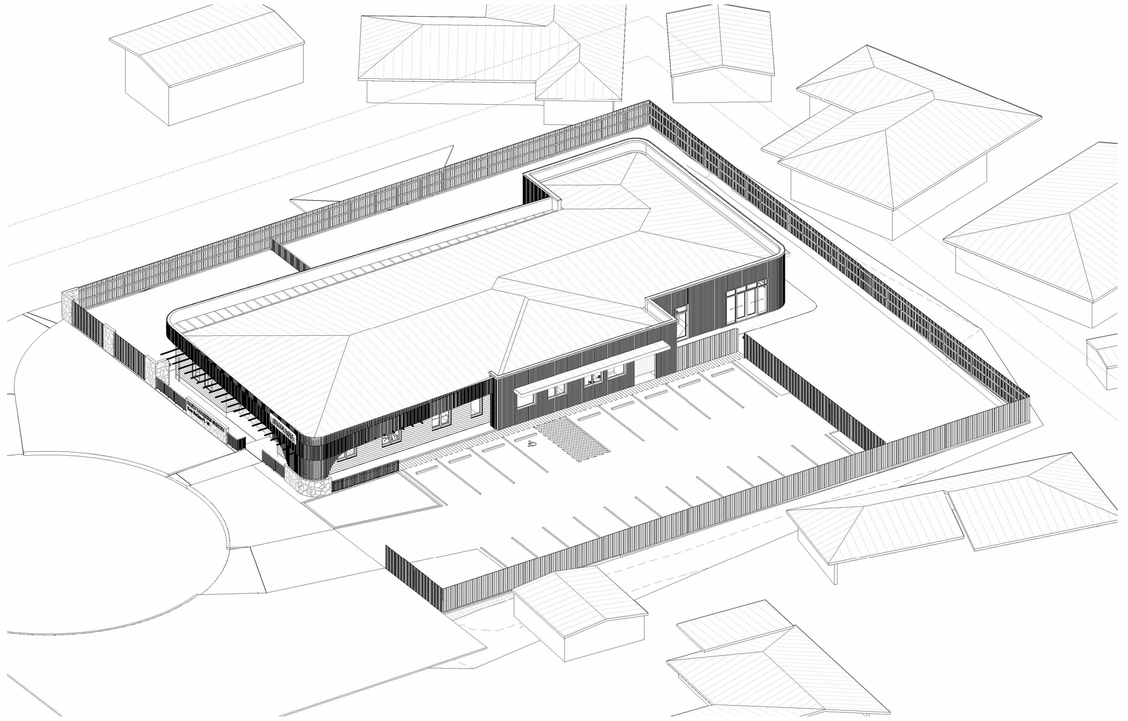
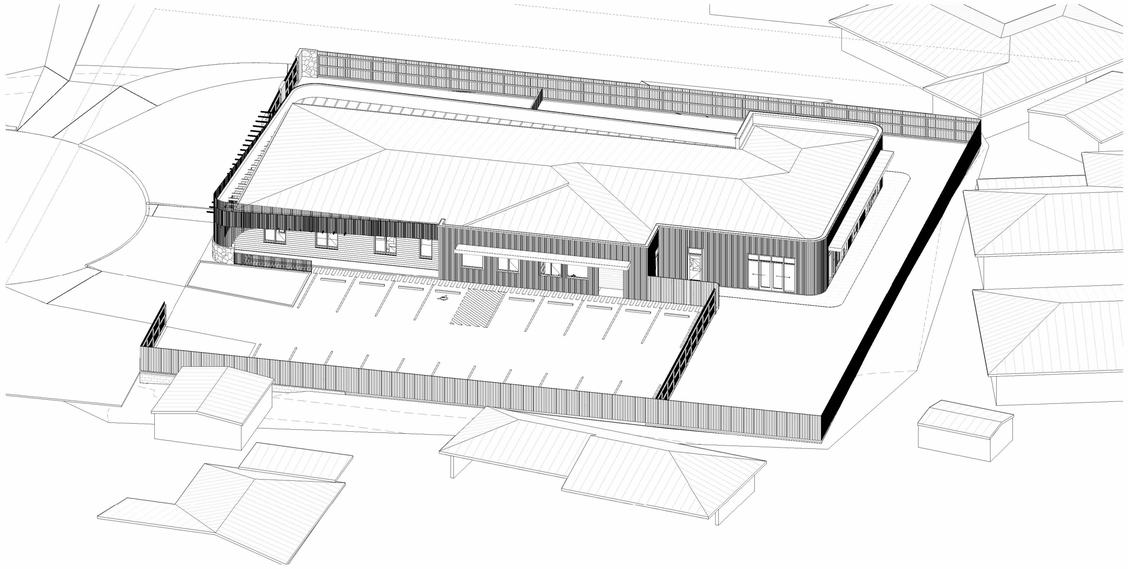
Scale: @A1
Date : 14-11-2024
Project Number : 241018
Drawing Number : **DA107**
Rev :



1 **21st JUNE 9AM**



2 **21st JUNE - 12PM**



3 **21st JUNE - 3PM**

**FOR DA**

- ALL BUILDING WORK TO COMPLY WITH BCA AND AS CODES AND RELEVANT AUTHORITIES REQUIREMENTS.
- ALL STEEL, CONCRETE AND TIMBER WORK TO BE IN ACCORDANCE WITH STRUCTURAL ENGINEERS SPECIFICATIONS AND RELEVANT SAA CODES.
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|---|---|---|---|---|---|---|---|---|
| | | | | | | | | DRAWN: CG |
| | | | | | | | | CHECKED: DB |
| | | | | | | | | APPROVED: DB |

**CHILDCARE CENTRE AT 10 BEN BULLEN PI, GOULBURN NSW 2580**

**VIEW FROM SUN 9 -15**

**GREENSCAPE DESIGN & ASSOCIATES**
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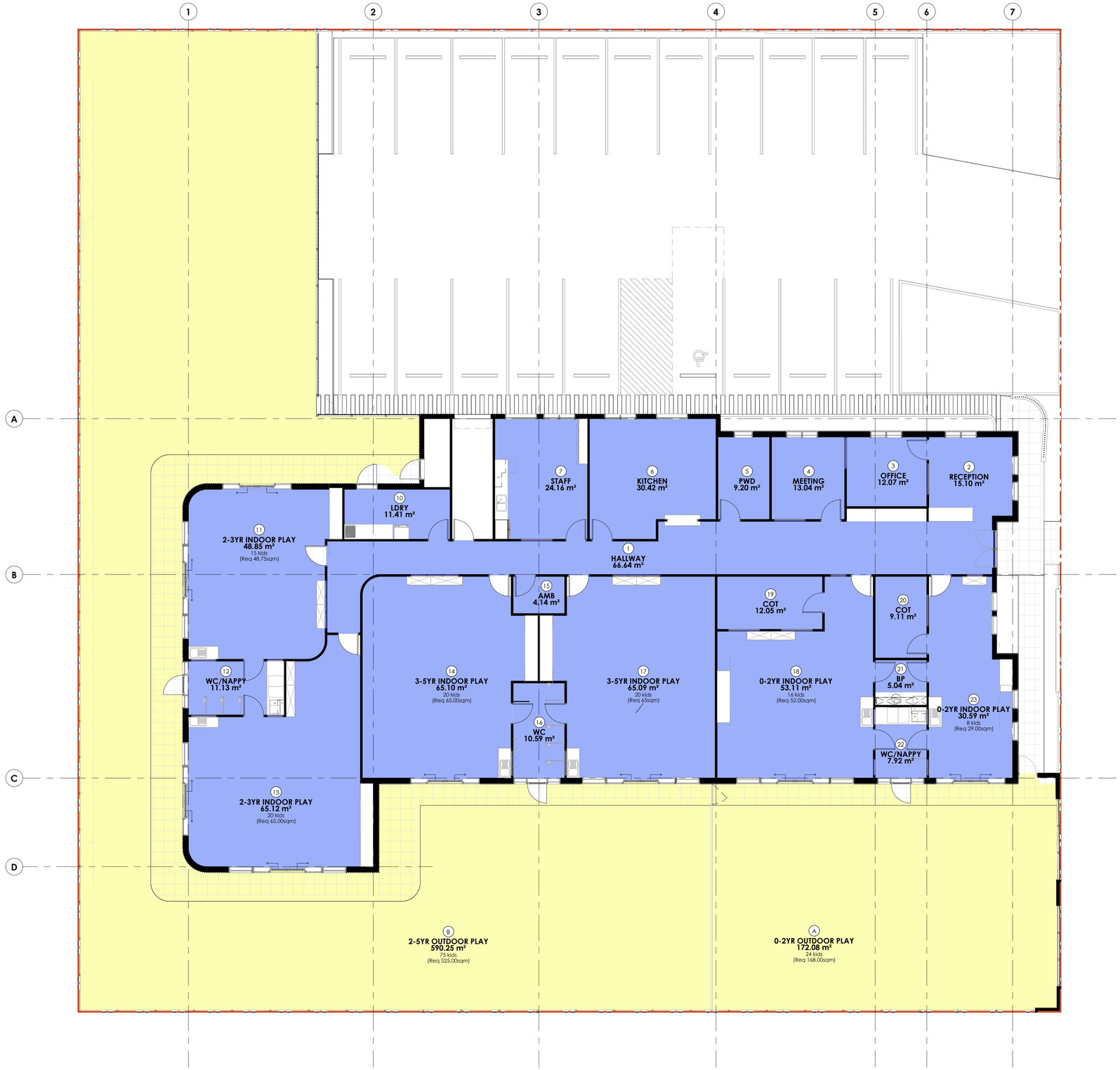
Scale: @A1

Date : 14-11-2024

Project Number : 241018

Drawing Number : **DA108**

Rev :




## 1 FSR GROUND FLOOR

1 : 100

**FSR**

Total Combined Floor Area of Habitable Rooms = **569.88m2**

Total Site Area **2089.45m²** **FSR = 0.27:1**

**FOR DA**

- ALL BUILDING WORK TO COMPLY WITH BCA AND AS CODES AND RELEVANT AUTHORITIES REQUIREMENTS.
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|---|---|---|---|---|---|---|---|---|
| | | | | | | | | DRAWN: CG |
| | | | | | | | | CHECKED: DB |
| | | | | | | | | APPROVED: DB |

TRUE NORTH

**CHILDCARE CENTRE AT 10 BEN BULLEN PI, GOULBURN NSW 2580**

**FSR PLAN**

**GREENSCAPE DESIGN & ASSOCIATES**
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Scale: 1 : 100 @A1

Date : 14-11-2024

Project Number : 241018

Drawing Number : **DA109**

Rev :


**UNENCUMBERED AREA**

- Total Combined Indoor Play Unencumbered Area = **762.33 m2**
- Total Combined Outdoor Play Unencumbered Area = **327.86 m2**
- Boundary

## 1 UNENCUMBERED AREA GROUND

1 : 100

**FOR DA**

- ALL BUILDING WORK TO COMPLY WITH BCA AND AS CODES AND RELEVANT AUTHORITIES REQUIREMENTS.
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|---|---|---|---|---|---|---|---|
| | | | | | | | |

DRAFTING
DRAWN: CG
CHECKED: DB
APPROVED: DB

TRUE NORTH

**CHILDCARE CENTRE AT 10 BEN BULLEN PI, GOULBURN NSW 2580**

**UNECUMBERED AREA PLANS**

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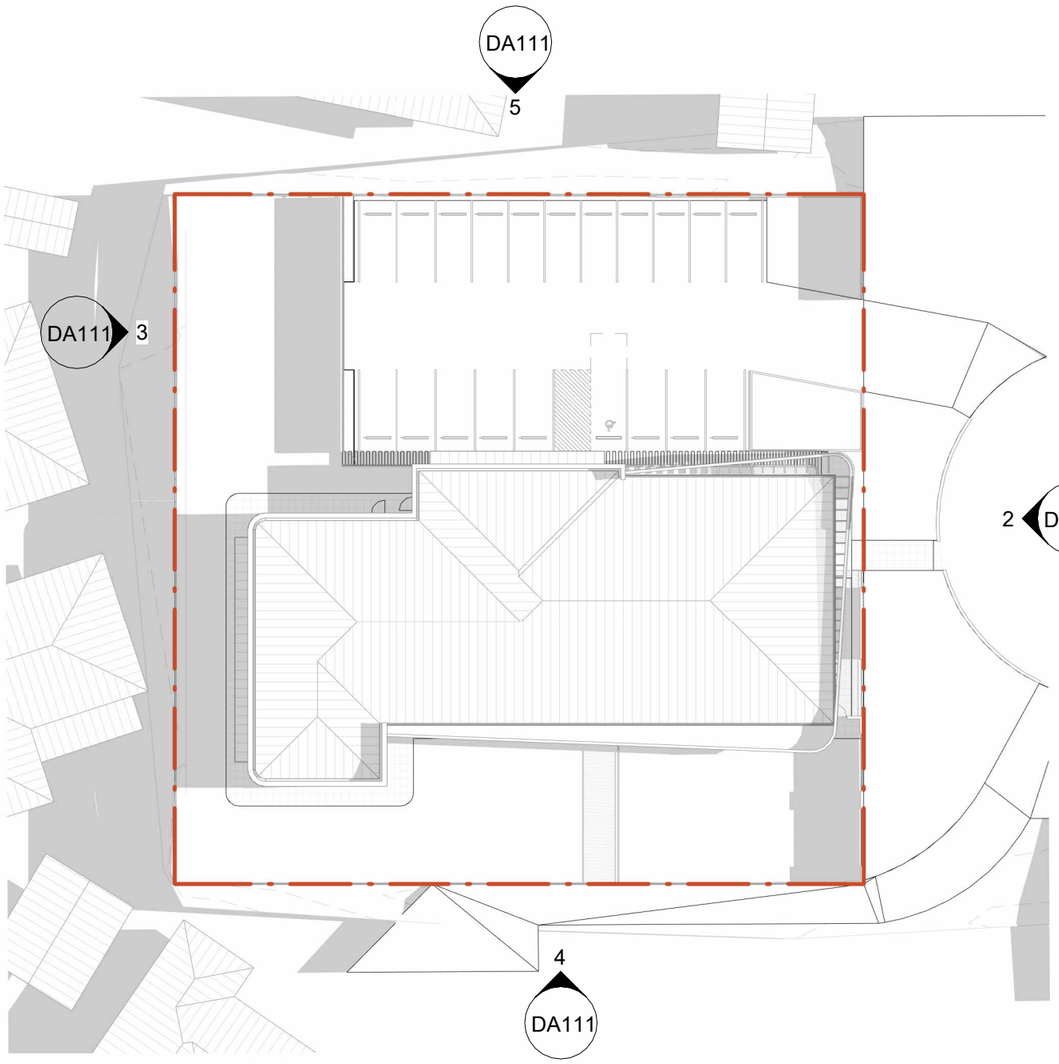
Scale: 1 : 100 @A1
Date : 14-11-2024
Project Number : 241018
Drawing Number : **DA110**
Rev :




## 1 Roof Plan

1 : 400


## 2 North Elevation

1 : 400


## 3 South Elevation

1 : 400


## 4 East Elevation

1 : 400


## 5 West Elevation

1 : 400

**ALL PLANS TO BE PRINTED IN COLOR**

- ALL BUILDING WORK TO COMPLY WITH BCA AND AS CODES AND RELEVANT AUTHORITIES REQUIREMENTS.
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GREENSCAPE
Landscape Architecture + Design



**CHILDCARE CENTRE AT 10 BEN BULLEN PI, GOULBURN NSW 2580**

**NOTIFICATION PLANS**

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INFO@GREENSCAPEDESIGN.COM.AU

True North

Scale : **1 : 400** @A3

Date : 14-11-2024

Project Number : 241018

Drawing Number : **DA111**

Rev :

A1

1:150@A1

3 6 9 12 15 30 M

| SYM | CODE | DESCRIPTION |
|---|---|---|
| | BM | BENCH MARK |
| | BOL | BOLLARD |
| GAS | GAS | GAS SERVICE/METER |
| HYD | HYD | HYDRANT |
| IC | IC | INSPECTION CAP |
| | LP | LIGHT POLE |
| PIT | PIT | SERVICE PIT |
| | PP | POWER POLE |
| SGN | SGN | SIGN |
| SLH | SLH | SEWER LAMP/VENT HOLE |
| SMH | SMH | SEWER MANHOLE |
| SV | SV | STOP VALVE |
| TEL | TEL | TELECOM SERVICE |
| WM | WM | WATER METER |
| US | US | UNKNOWN SERVICE |

**TITLE NOTATIONS:**

- RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- EASEMENT FOR WATER SUPPLY 5 METER (S) WIDE AFFECTING THE PART (S) SHOWN BURDENED IN DP12151641

**NOTES:**

1. BOUNDARIES HAVE BEEN DETERMINED BY FIELD SURVEY.
2. ORIGIN OF LEVELS SSM14993, RL 657.110 AHD.
3. CONTOUR INTERVAL, 0.5 METRES.
4. CONTOURS ARE INDICATIVE OF GROUND FORM ONLY. SPOT LEVELS SHOULD BE USED FOR CALCULATIONS OF QUANTITIES WITH CAUTION.
5. CRITICAL SPOT LEVELS SHOULD BE CONFIRMED PRIOR TO ANY DESIGN OR CONSTRUCTION.
6. THIS DRAWING MUST BE PRINTED IN COLOUR.
7. TOP OF WALLS AND FENCES ARE INDICATIVE IN NATURE AND AS SUCH ARE ONLY RELIABLE AT THE LOCATIONS INDICATED.
8. ONLY VISIBLE SERVICES HAVE BEEN SURVEYED. THE POSITION OF UNDERGROUND SERVICES HAVE NOT BEEN INVESTIGATED. IF EXCAVATION IS REQUIRED IT IS RECOMMENDED A FULL UTILITY INVESTIGATION BE UNDERTAKEN SUBJECT TO S149 OF THE EP&A, IN CONJUNCTION WITH A LOCATION SURVEY BEFORE CONSTRUCTION COMMENCES.
9. PRIOR TO ANY CONSTRUCTION WORK, SURVEY MARKS SHOULD BE PLACED TO DEFINE THE PROPERTY BOUNDARIES.
10. TREE SPREADS ARE DIAGRAMMATIC ONLY AND ARE NOT SYMMETRICAL.
11. THE POSITION OF RIDGE LINES ARE DIAGRAMMATIC ONLY.
12. 

| LAYER | LINE TYPE |
|---|---|
| BUILDING & STRUCTURES | |
| CONTOURS | |
| EDGE OF PAVING AND CONCRETE | |
| ELECTRICITY OVERHEAD | —EO—EO— |
| FENCE | —/—/— |
| GARDEN | |
| ROAD | |
| ROOF LINE | |
| ROCK OUTCROP | |
| WALLS AND RETAINING WALLS | |
| WINDOWS AND DOORS | |

PALM
P/CANOPY/TRUNK DIAMETER/HEIGHT

TREE
T/CANOPY/TRUNK DIAMETER/HEIGHT

ROOF FALL INDICATOR

DENOTES STONE RETAINING WALL

DENOTES COLUMN

DENOTES STAIRS

BEN BULLEN PLACE

PUBLIC PATHWAY

SINGLE STOREY BRICK RESIDENCE TILE ROOF No.28 BRADFORD DRIVE

SINGLE STOREY BRICK RESIDENCE TILE ROOF No.12 SAMUEL PLACE

SINGLE STOREY BRICK RESIDENCE TILE ROOF No.15 SAMUEL PLACE

SINGLE STOREY BRICK RESIDENCE TILE ROOF No.8

METAL SHED

12 D.P.872225

37 D.P.877261

26 D.P.872225

27 D.P.872225

28 D.P.872225

156 D.P.248976

AREA BY TITLE = 2090 m²

151 D.P.248976

D.P.248976

SITE BM
TOKEN ON KERB
RL 668.76 AHD

(A) - EASEMENT FOR WATER SUPPLY 5 WIDE (DP1251641)

NOTE: ANY SUBSURFACE CONSTRUCTION ON THE SUBJECT PROPERTY WILL REQUIRE A UTILITY INVESTIGATION BY A LICENSED UNDERGROUND OPERATOR .

LEGEND

BS - BOTTOM OF STEP
BW - BOTTOM OF WALL
DH - DOOR HEAD LEVEL
DS - DOOR SILL LEVEL
FL - FLOOR LEVEL
GFL - GARAGE FLOOR LEVEL
KI - KERB INVERT LEVEL
PA - PARAPET
PC - PEDESTRIAN CROSSING
SO - STORMWATER OUTLET
TF - TOP OF FENCE
TG - TOP OF GUTTER
TS - TOP OF STAIRS
TW - TOP OF WALL
VC - VEHICLE CROSSING
WH - WINDOW HEAD
WS - WINDOW SILL

BRAU INVESTMENTS PTY. LTD.

SURVEY PLAN SHOWING DETAIL, LEVELS & BOUNDARY IDENTIFICATION OVER LOT 156 IN D.P.248976
10 BEN BULLEN PLACE, GOULBURN NSW 2580

DIAL 1100 BEFORE YOU DIG

| | | |
|---|---|---|
| DATE OF REVISION: 04/11/2024 | LGA: GOULBURN | SITE AREA: 2090m² |
| REVISION: A | SURVEYED: AB | REFERENCE: HS24015 |
| DATE OF SURVEY: 02/11/2024 | DRAWN: AB | |
| HORIZONTAL DATUM: N/A | CHECKED: JS | |
| VERTICAL DATUM: AHD | SCALE @ A3 - 1:300 | |
| SHEET 1 OF 1 SHEETS | SCALE @ A1 - 1:150 | |

JASON SHELDRAKE
REG'D SURVEYOR
ID No.9132

ARP REGISTERED SURVEYORS