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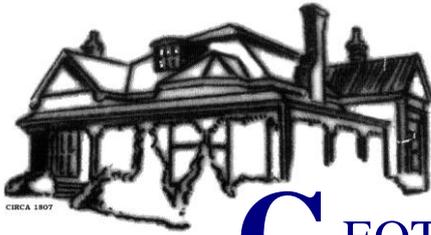


PRELIMINARY SITE INVESTIGATION

LOTS 21 & 22 IN DP1236215 - MEMORIAL AVENUE, PENRITH

REPORT NO 14578/3-AA 21 APRIL 2020

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Job No: 14578/3
Our Ref: 14578/3-AA
21 April 2020

Sinclair Nominees Pty Ltd and
FDC Construction (NSW) Pty Ltd
22-24 Junction Street
FOREST LODGE NSW 2037
Email: peterst@fdcbuilding.com.au

Attention: Mr P Stait

Dear Sir

re: **Proposed New Hotel Development**
Lots 20, 21 & 22 in DP1236215 - Memorial Avenue, Penrith
Preliminary Site Investigation

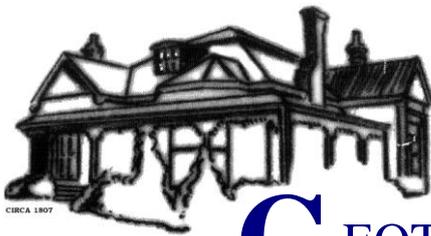
Please find herewith our Preliminary Site Investigation (PSI) report.

A brief of the outcome of the assessment is summarised in the Executive Summary.

If you have any questions, please do not hesitate to contact the undersigned.

Yours faithfully
GEOTECHNIQUE PTY LTD

DANDA SAPKOTA
Associate



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EXECUTIVE SUMMARY

This executive summary presents a synopsis of a Preliminary Site Investigation (PSI) for land registered as Lots 21 & 22 in DP1236215, located at 20 and 712 Memorial Avenue, Penrith, in the Local Government Area of Penrith.

It is understood that the site is proposed for a new hotel development with associated car park and covers an area of 12,473 square metres (m²).

It should be noted that the western portion of Lot 21, as indicated on Drawing No. 14578/3-AA1, was beyond the scope of this assessment, as part of an agreement with the client during the site meeting in November 2019, due to steep slope which was inaccessible to excavation plant for sampling and our environmental staff for visual inspection. The areas with potential underground services (in Lot 22) were also outside the scope of this assessment due to occupational health and safety reasons under the instruction of underground services locator.

The objectives of the PSI were to identify any areas of potential contamination at the site from the past and present activities, in consideration of State Environmental Planning Policy No. 55 – Remediation of Land (DUAP/EPA 1998), to assess if the site is likely to present a risk of harm to human health and the environment under the conditions of the proposed development, and to provide recommendation for further/detailed assessment, remediation and/or contamination management, if required, such that the site can be made suitable for the proposed use.

In order to achieve the objectives, the scope of works included a review of site historical and geological information, site reconnaissance, sampling and testing and preparation of an assessment report in accordance with the NSW Environment Protection Authority (EPA), "Guidelines for Consultants Reporting on Contaminated Sites" (NSW OEH 2011).

The findings of this PSI of the soil are summarised as follows:

- During the site inspection and sampling on 28 and 29 November 2019, a number of site features were identified as shown in the attached Drawing No 14578/3-AA1. During the site inspection by an environmental Scientist from Geotechnique Pty Ltd on 13 March 2020; the site features remained essentially unchanged since November 2019.
- The excavated test pits are indicated in Drawing No 14578/3-AA1. Reference should be made to the attached Table 1 - Test Pit Logs (Appendix H) for descriptions of the soils encountered during sampling.
- Fill comprising silty clay or crushed sandstone was encountered at most of the test pits across the site at depths ranging from approximately 0.1 metre (m) to about 2.2m.
- Inclusions (tile, terracotta pipe pieces, brick, concrete, and / or bitumen fragments, coal slag, and / or fibro-cement pieces) were noted in some test pits.

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Executive Summary continued

- Most of the test results satisfied the criteria for stating that the analytes selected are either not present (i.e. concentrations less than laboratory limits of reporting), or present in the soils at concentrations that do not pose a risk of harm to human health or the environment, under a “commercial / industrial” use. However, the laboratory tests identified soil contaminated with friable asbestos (<7mm) in soil and bonded asbestos-containing material (ACM) at locations, as tabulated and indicted on the attached Drawing No 14578/3-AA2.
- Remediation and validation of the site are required.

Based on this assessment, the implementation of the following recommendations is recommended:

- Soil contaminated with asbestos was identified at locations, as indicated and tabulated on Drawing No 14578/3-AA2. A detailed site investigation (DSI) to delineate the extents of identified asbestos contamination is therefore required.

Licensed Asbestos Assessor must be engaged to deal with friable asbestos (in soil) during the remediation and validation of the asbestos-contaminated soil.

- A remedial action plan (RAP) for asbestos is to be prepared by a licensed asbestos assessor to devise strategies for remediation/management of the asbestos contamination.
- Site validation is to be carried out following remediation of the asbestos impacted areas.
- Assessment (by sampling and testing) of soil in the footprints of site features, such as remnants of the shed, power poles, etc. (refer to Drawing No 14578/3-AA1), will be required after complete removal. In the event of identified contamination, the site can be made suitable after remediation followed by validation.
- Areas with possible underground services might be able to be reduced by using a method(s) such as potholing. Additional test pits and testing will be required in areas which are no longer affected by the services, after potholing.
- Removal of tile, terracotta pipe pieces, brick, concrete, and / or bitumen, coal slag, and fibro-cement pieces would be required.
- As council records could not be reviewed as part of this investigation (Appendix C, communication with the council). If potential contamination areas are identified based on the council records, the identified contamination areas can be made suitable after remediation followed by validation.
- Groundwater assessment was beyond the scope of this assessment. However, it is highly recommended for groundwater assessment to determine the contamination status of the groundwater within the site.

This report is considered valid based on site conditions during the site inspection and field sampling on 28 and 29 November 2019 and site inspection on 13 March 2020. Any variations to the site form or use beyond those dates will nullify the conclusion stated.

No contamination assessment can eliminate all risk; even a rigorous professional assessment might not detect all contamination within site. Whilst the assessment conducted at most of the site was carried out in accordance with current NSW guidelines, and the potential always exists for contaminants and contaminated soils to be present between sampled locations, in the steep inaccessible western portions of Lots 21 and 22 and the approximate areas with potential underground services.

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If any suspect materials (identified by unusual staining, odour, discolouration or inclusions such as building rubble, asbestos sheets/pieces/pipes, ash material, etc.) or any potentially contaminated area(s) and filled area(s) masked by the overgrown grass, are encountered during any stage of future and/or earthworks/site preparation, Unexpected Finds Management Protocol (Appendix J) should be implemented. In the event of contamination, detailed assessment, remediation and validation will be necessary.

For any materials to be excavated and removed from the site, it is recommended that waste classification of the materials, in accordance with the "Waste Classification Guidelines Part 1: Classifying Waste" (NSW EPA 2014), NSW EPA resource recovery exemptions and orders under the Protection of the Environment Operations (Waste) Regulation 2014, or NSW EPA Certification: Virgin excavated natural material is undertaken prior to disposal at an appropriately licensed landfill or potential re-use at other sites.

Any imported fill must be assessed by a qualified environmental consultant, prior to importation, to ensure suitability for the proposed use. In addition, the imported fill must be free from asbestos, ash and odour, not be discoloured and not acid sulphate soil. The imported fill should either be virgin excavated natural material (VENM) or excavated natural material (ENM).

Reference should be made to Section 17.0 of the report and Appendix L, for the limitations of this assessment.

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1.0 INTRODUCTION

This report presents the results of Preliminary Site Investigation (PSI) for land registered as Lots 21 & 22 in DP1236215, located at 20 and 712 Memorial Avenue, Penrith, in the Local Government Area of Penrith, as indicated in Figure 1 below:

FIGURE 1



Map Data ©2020 Google

It is understood that the site is proposed for a new hotel development with associated car park. A PSI is required to assess the site for the suitability for the intended use.

It should be noted that the western portion of Lot 21, as indicated on Drawing No 14578/3-AA1, was beyond the scope of this assessment, as part of an agreement with the client during the site meeting in November 2019, due to steep slope which was inaccessible to excavation plant for sampling and our environmental staff for visual inspection. The areas with potential underground services (in Lot 22) were also outside the scope of this assessment due to occupational health and safety reasons under the instruction of underground services locator.

The investigation of site contamination is a process incorporating a set of formal methods used for determining the nature, extent and concentrations of chemical substances either on or off-site, and the actual or potential risk to human health or the environment, resulting from those substances for the proposed development.

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The National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPM 1999) provides recommended methods for assessment and was amended in 2013 (NEPM 1999, April 2013).

Schedule A of the NEPM (1999) describes the tiered or staged site assessment process. Tier 1 comprises preliminary site investigation (Stage 1) and detailed site investigation (DSI). Tier 2 and Tier 3 investigations include site-specific risk assessments. The recommended general process for the evaluation of site contamination is shown in the flow chart in Appendix A as gleaned from Schedule A of the NEPM (1999).

The objectives of the PSI are to identify any areas of potential contamination at the site from the past and present activities, in consideration of State Environmental Planning Policy No. 55 – Remediation of Land (DUAP/EPA 1998), to assess if the site is likely to present a risk of harm to human health and the environment under the conditions of the proposed development, and to provide recommendation for further detailed assessment, and / or contamination management, if required, such that the site can be made suitable for the proposed use.

This report is generally prepared in accordance with the NSW Environment Protection Authority (EPA), "Guidelines for Consultants Reporting on Contaminated Sites" (OEH 2011) (Currently being revised and available in a Draft form for public consultation (NSW EPA 2019), and to satisfy Managing Land Contamination: Planning Guidelines, State Environmental Planning Policy No. 55 – Remediation of Land (DUAP/EPA 1998).

2.0 SCOPE OF WORK

In order to achieve the objective of this assessment, the following scope of work was conducted in accordance with the purchase order date 12 March 2020:

- A desktop study of;
 - ✓ Historical aerial photographs
 - ✓ NSW Land Registry Services records
 - ✓ NSW Environment Protection Authority (EPA) records
 - ✓ Groundwater bore records of Department of Primary Industries, Office of Water
 - ✓ Section 10.7 (2 & 5) Planning Certificates
 - ✓ Council records
 - ✓ SafeWork NSW records
 - ✓ Soil and geological maps
- Obtaining underground services plans from "Dial Before You Dig".
- Scanning of sample locations by a services locator.
- In accordance with the NSW EPA "*Sampling Design Guidelines for Contaminated Sites*", samples were recovered from thirteen (13) locations (TP201 to TP213) from Lot 21 (with an area of 4879m²) and from eighteen (18) locations (TP301 to 318) from Lot 22 (with an area of 7494m²), excluding the inaccessible area in the western portion of the Lot 21.
- Forwarding the soil and quality assurance (QA) / Quality Control (QC) samples to National Association of Testing Authorities (NATA) accredited laboratories for testing of potential contaminants of concern (PCOC).

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- Assessment of the laboratory analytical results.
- Assessment of the field and laboratory QA/QC.
- Assessment of the contamination status of soil in sampled locations.
- Preparation of the investigation report.

3.0 SITE IDENTIFICATION

The site comprises parcel of land currently registered as Lots 21 & 22 in DP1236215, located at 20 and 712 Memorial Avenue, Penrith, in the Local Government Area of Penrith. As shown on Drawing No 14578/3-AA1, the site covers an area of 12,473 square meters (m²).

Reference may be made to the deposited and cadastral plans in Appendix B for details of the registered Lots 21 and 22.

4.0 SITE HISTORY

In order to formulate a picture of the site history and to assist in the identification of any potential contamination, Geotechnique obtained and/or reviewed information including historical aerial photographs, NSW Land Registry Services records, certificates of land titles (past and present), Planning Certificates issued by Council under Section 10.7 (2 and 5) of the Environmental Planning and Assessment Act 1979, NSW OEH record of EPA notices for contaminated land and SafeWork NSW Records. The results of the information review are presented in the following sub-sections.

Aerial photographs, taken in 1961, 1970, 1978, 1986, 2009 and 2019 were examined. Copies of the aerial photographs are presented in Appendix C.

1961	The site appears to contain buildings/sheds and associated features in Lot 21 (near the Memorial Avenue) and Lot 22 (in the eastern portion of Lot 22). The adjacent properties to the north, east and south appear to have activities associated with rural land and /or residential/light commercial. Nepean Rivers borders the site to the west.
1970 and 1978	The site contains remains essentially unchanged since 1961.
1986	There appear demolition of the existing building/shed (in 1961) in the north-eastern portion of Lot 22, and appears cleared of vegetation. The adjoining properties to the distant northeast appear to have been developed into commercial the building in the eastern adjoining properties appear to have been demolished with the erection of the commercial building.
1994	The site and adjoining properties remain essentially unchanged since 1986.
2009	All the features in Lot 22 appear to have been demolished. Lot 21 remains essentially unchanged. The surrounding properties to the east, north and south appear essentially unchanged.
2019	All the features in Lot 21 and 22 appeared to have demolished. The surrounding properties to the east, north and south appear essentially unchanged.

Review of the aerial photograph indicated that the site was used as commercial land in the past. The distant adjoining properties appear to gradually develop into residential and/or commercial land.

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4.1 Section 10.7(2 & 5) Planning Certificates

The Planning Certificates (Certificate Nos: 20/01299 and 20/0130) under Section 10.7 Environmental Planning and Assessment Act 1979, respectively for Lots 22 and 21 in DP1236215, issued by Penrith City Council on 17 March 2019, indicated the following:

- The site is zoned as Zone SP3 Tourist.
- The site does not include or comprise a critical habitat.
- The site is not located in a conservation area.
- An item/items of environmental heritage (identified in Penrith Local Environmental Plan 2010) is/are situated on the land.
- The land is affected by environmentally sensitive land.
- The site is not affected by road widening or road realignment under Division 2 of Part 3 of the Roads Act 1993, any environmental planning instrument or any resolution of the Council.
- The land is affected by the Asbestos Policy adopted by the Council.
- The land is not identified as bush fire prone land according to Council records. However, some of the land in Lot 22 is identified as bush fire prone land according to Council records.
- The land may be subject to slip or subsidence. The applicant is advised to make their own enquiries as to the potential for slip or subsidence damage adjacent to the Nepean River.

Reference may be made to Appendix D for Section 10.7 (2) Certificates.

Publicly available records of Penrith City Council focus primarily on Development Applications (DA), Building Applications (BA) and application approvals. This information can sometimes include complaints or comments from neighbouring persons or companies, which might be relevant to the contamination status of the site.

Council Records could not be obtained during the preparation of the report (Appendix D) however, would be updated later upon receipt of the records.

4.2 NSW EPA Record of Notices and Environment Protection Licenses

The NSW OEH maintains the record of EPA notices for contaminated lands under Section 58 of the Contaminated Land Management (CLM) Act 1997. The notices relate to the investigation and/or remediation of site contamination considered to pose a significant risk of harm under the definition in the CLM Act. A search of the EPA notices on 31 March 2020 revealed no notices issued for the site. One new notice and to old notices were found issued to Crane Field Metals at Castlereagh Road, located approximately 1.6km to northeast of the site. It should be noted that the NSW EPA record for Contaminated Land does not provide a record of all contaminated lands in NSW. At the time of searching the records, 390 sites in NSW were registered in the database.

The EPA issues environment protection licences to owners or operators of various industrial premises under the Protection of the Environment Operations (POEO) Act to control the air, noise, water and waste impacts of an activity. A search of the POEO Public Register on 31 March 2020 found no records for the site.

NSW EPA and the POEO Public Register records are detailed in Appendix E of this report.

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4.3. SafeWork NSW Records

A request was made to SafeWork NSW to search for any information on the storage of hazardous chemicals.

A search of the records held by SafeWork NSW has not located any records pertaining to the site, as detailed in Appendix F.

4.4 Groundwater Bore Record

In order to obtain some understanding of regional groundwater conditions, a search was carried out through the website of the Department of Natural Resources for any registered groundwater bore data within a radius of 500m of the site. Based on the bore records, no bore information was available within the radius of 500m (Appendix G).

5.0 SITE CONDITION AND SURROUNDING ENVIRONMENT

5.1 Site Condition

At the time of sampling on 28 and 29 November 2019, the site comprises two separated lots (Lots 21 and 22 in DP1236215).

Lot 21 covering an area of was located to the north side of the pedestrian footbridge. At the time of site inspection, it was observed that most of the site was bound by a barbed wire steel wire fence, with exception to the western portion which was observed to be a steep retaining wall with dense vegetation beyond the fenced section. The ground surface comprised of bitumen and concrete hardstand in most of the eastern portion and some grass ground cover on the western part. A small retaining wall was observed within the central portion with a height of about 1m to 1.2m. Two vertical conduits with wires cut remnant from the previous motel dwelling in the south-western portion of the site. Lot 21 is bound by High Street (Great Western Highway) to the north, Memorial Avenue to the east and pedestrian footbridge (Yandhai Nepean Crossing) to the south and Nepean River to the west.

Lot 22 is bound by High Street (Great Western Highway) to the north, Memorial Avenue to the west and to the south, and Commercial (Motel and associated car park) to the east. It was noted the site was mostly grass-covered and was not fenced.

There were no air emissions emanating from the neighbouring properties.

During the site inspection carried out in March 2020, the site was essentially unchanged.

6.0 TOPOGRAPHY, GEOLOGY & HYDROGEOLOGY

The Geological Map of Penrith (Clark and Jones 1991) indicates that the site is underlain by Quaternary Age deposits of the Cranebrook Formation, comprising of gravel, sand, silt and clay.

The Soil Landscape Map of Penrith ((Hazelton et al. 1989), prepared by the Soil Conservation Service of NSW, indicates that the site is located within the Richmond landscape area and typically consists of clays, clay loams, sands and ironstone nodules.

The site is situated in close proximity to water bodies. Nepean River is located at about 2 to 5m to the west of the Lot 21.

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Reference should be made to Test Pit Logs in Appendix H for descriptions of the soils encountered during soil sampling. The sub-surface profile at the sampling locations is generalised as follows:

Topsoil	Silty Clay, low plasticity, dark brown, trace of root fibres, underlain by natural soil in TP315 (0-0.2m).
Fill	<p>Silty Clay, medium plasticity, grey in TP201 (0- >2.2m), TP201 (0-0.1m), TP10 (0-0.2m), TP11 (0-0.3m), TP212 (0-0.5m) and TP213 (0.5m), TP301 (0-0.5m), TP305 (0-0.2m), TP306 (0-0.3m), TP309 (0-0.4m), TP310 and 311 at depth 0-0.5m, TP314 (0-0.4), TP317 (0-0.4m) TP318 (0-0.2m).</p> <p>Silty Clay, medium plasticity, grey, with concrete fragments in TP203 (0-0.4m), TP205 and TP206 at depth 0-0.5m, and TP308 (0-0.5m), TP313 (0-0.5m) and TP316 (0-0.4m).</p> <p>Silty CLAY, medium plasticity, grey, trace of coal slag in TP204 (0-0.4m), TP207 (0-0.7m) and TP209 (0-1.0m).</p> <p>Silty CLAY, medium plasticity, grey, inclusion of brick pieces in TP208 (0.0.5m).</p> <p>Silty Clay, low to medium plasticity, brown to dark brown, inclusion of gravel inclusion of bricks in TP302 (0-1.0m), TP303 (0-0.8m), TP304 (0-1.8m), TP312 (0-0.4m).</p> <p>Silty CLAY, medium plasticity, grey, inclusion of concrete pieces, bitumen fragments and crushed sandstone in TP307 (0-0.4m).</p> <p>It should be noted that FCPs were observed in TP207 and TP208 at depth 0-0.15m.</p>
Natural Soil	<p>Silty Sandy CLAY, low plasticity, brown to dark brown, in TP201 to TP213 and TP301, TP305 to TP311, TP313, TP314, TP316 to TP318 at depths ranging from 0.2 to 1.5m.</p> <p>Depth of natural soil at TP201 could not be determined as fill was encountered at depth 2.2m (limit of the arm of the excavator).</p> <p>Silty CLAY, medium to high plasticity, brown, in TP302 to TP304 and TP312 at depth from 0.8m to 2.3m below existing ground level</p>

7.0 POTENTIAL FOR CONTAMINATION / CONCEPTUAL SITE MODEL

As defined in Schedule B2 of NEPM 1999 (April 2013), "conceptual site model (CSM) is a representation of site-related information regarding contamination sources, receptors and exposure pathways between those sources and receptors. The development of a CSM is an essential part of all site assessments and provides the framework for identifying how the site became contaminated and how potential receptors may be exposed to contamination either in the present or the future.

The initial CSM is developed from the results of the PSI, with regards to potential contamination sources and receptors and potential migration pathways between those sources and receptors as detailed below.

7.1 Potential Areas /Sources of Contamination (AEC) and Contaminants of Concern

Based on the findings of the desktop review and a site inspection, sampling and testing, the potential Areas of Environmental Concern (AEC) and associated contaminants have been identified and are presented in the following table:

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Areas of Environmental Concern & Associated Potential Contaminants of Concern

Potential AEC	Rational / Details	Potential Contaminants ²
Vicinity of existing features hardstands and the footprint of the demolished features	Degradation of metal features. Possible pest control activities in the vicinity of the house.	Metals Organochlorine Pesticides (OCP)
The site with uneven ground surface over the site and the surrounding areas and footprints of the previously demolished and existing features	Likely fill material from unknown origin	<ul style="list-style-type: none"> ➤ Asbestos ➤ Metals ➤ Total Petroleum Hydrocarbons (TPH) and Benzene, Toluene, Ethyl Benzene and Xylenes (BTEX) ➤ Organochlorine Pesticides (OCP) ➤ Polycyclic Aromatic Hydrocarbons (PAH) ➤ Volatile Organic Compounds (VOC) ➤ Polychlorinated Biphenyls (PCB) ➤ Phenols ➤ Asbestos ➤ PFAS (per- and polyfluoroalkyl substance) (due to a fire event in the past in Lot 21)
Timber Power poles	Degradation of the timber	<ul style="list-style-type: none"> ➤ Arsenic, Boron, Copper, Chromium, OCP, Creosote, Polycyclic Aromatic Hydrocarbons, etc.

Off-site impact of any contaminants is generally governed by the transport media available and likely receptors. The most common transport media are water and wind, while receptors include uncontaminated soils, groundwater, surface water bodies, humans, flora and fauna.

Migration of any soil contaminants to the deeper soil and/or groundwater regime would generally be via leaching from the contaminated soil, facilitated by infiltration of surface water. The site is situated in close proximity to water bodies. Nepean River is located at about 2m to 5m to the west of the Lot 21 and Peachtree Creek is located at about 200m to the east of the site.

8.0 DATA QUALITY OBJECTIVES

Data quality objectives (DQO) are qualitative and quantitative statements that specify the quality of the data required for the contamination assessment. DQO must ensure that the data obtained is sufficient to characterise the contamination on a site, and enable appropriate assessment of health and environmental risks for the current or proposed use. The DQO were developed for this contamination assessment in accordance with the Schedule B2 (Appendix B) of the NEPM 1999 (April 2013).

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At the investigation level, DQOs are qualitative and quantitative statements, developed in the first six of the seven steps of the DQO process that define the purpose of the site assessment to be undertaken and the type, quantity and quality of data needed to inform decisions relating to the assessment of site contamination. In the seventh step of the DQO process, the sampling analysis and quality plan (SAQP) is developed to generate data to meet the DQOs.

The process includes the development of the following:

- A statement of the DQOs
- The SAQP to achieve the DQOs
- Procedures to follow if the data does not meet the specified DQOs.

The DQO process adopted is detailed below:

8.1 State the Problem

The site is proposed for redevelopment for a hotel within the assessment area of approximately, 12,473m², as indicated in Drawing No 14578/3-AA1.

The 'problem' as it stands is that previous and existing land uses may have given rise to potential soil contamination, which could impact on the proposed development.

An investigation is to be undertaken in order to provide data on the status of the soil on site. The analytical data should then enable recommendations to be made with regard to any future remedial works.

The 'problem' to be addressed is whether the site can be declared environmentally suitable for the proposed development, following completion of remedial works.

The following key professional personnel were involved in the contamination assessment:

John Xu	Senior Associate
Danda Sapkota	Associate
Justin Hofmann	Environmental Scientist

8.2 Identify the Decisions

The decisions to be made in completing the assessment are as follows:

- Are there any unacceptable odours emanating from the site?
- Are there any unacceptable aesthetic issues within site?
- Are there any unacceptable risks to site occupants or the environment under the proposed land use?
- Are there any background soil contaminant levels within the site that pose a risk to future site occupants or the environment under the proposed development?
- Is there any evidence of or potential for, migration of contaminants from the site?
- Is further investigation required to delineate the extent of contamination/locations of concern identified?
- Does the site require remediation or management to ensure suitability for the proposed land use?

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8.3 Identify Inputs to the Decisions

The inputs into the decision process are as follows:

- Historical information of the through desktop study regarding the present and past use of the site.
- Site conditions and observation details (presented in Section 3.0).
- Soil sampling to target specific sources of potential contamination in the open accessible area.
- Soil profile information obtained through the sampling phase.
- Develop conceptual site model (presented in Section 7.0).
- Laboratory test data on analysed samples.
- Assessment of test results against applicable soil Investigation levels and screening levels in the National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013) (Section 12.0).

8.4 Define the Study Boundaries

The study boundaries for this investigation were identified as follows:

Spatial Boundaries: The spatial boundary of the site was defined by boundaries of the site including the locations of concern as shown on Drawing No 14578/3-AA2 up to the depths of exaction ranging from 0.5m at TP315 to 2.2m at TP201 (refer to Table 1 in Appendix H).

Temporal Boundaries: Soil sampling for the site was carried on 28 and 29 November 2019. The temporal boundaries were considered as the current status of the sampling locations at the time of the sampling.

8.5 Develop a Decision Rule

The information obtained through this assessment will be used to characterise the subject site in terms of contamination issues and risk to human health and the environment. The decision rule in characterising the site will be as follows:

- The assessment criteria are the NSW EPA produced and/or endorsed criteria, as specified in Section 12.0 of this report. For asbestos assessment, the site must be free of asbestos-cement pieces and no asbestos fibre detected in the soils.
- The subject site will be deemed contaminated or containing contamination “hot spots” if any of the above criteria are unfulfilled or if any asbestos-cement pieces/sheets are noted and/or asbestos fibres are detected in the samples analysed.
- Further investigation, remediation and/or management will be recommended if the site is found to be contaminated or containing contamination “hot spots”.

Laboratory test results will only be accepted and considered useable for this assessment under the following conditions:

- All laboratories used are accredited by NATA for the analyses undertaken.
- All detection limits set by the laboratories fall below the assessment criteria adopted.
- Analyte concentrations in the rinsate water sample should be less than laboratory limits of reporting or should not be detected significantly.

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- The recovery of spike concentrations in the trip spike sample is sufficient so as not to affect the reported concentrations of the soil samples when the same recovery is applied (BTEX only).
- The differences between the reported concentrations of the analytes in the field duplicate and the corresponding original samples are within accepted limits (refer to Section 10.5).
- The differences between the reported concentrations of the analytes in the inter-laboratory duplicate (split) and the corresponding original samples are within accepted limits (refer to Section 10.6).
- The QA/QC protocols and results reported by the laboratories comply with the requirements of the National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013) "Guideline on Laboratory Analysis of Potentially Contaminated Soils".

8.6 Specify Limits on Decision Errors

The limits on decision errors for this assessment are as follows:

- Selection of sampling patterns complies with those recommended in the NSW EPA sampling design guidelines, which have risk probabilities already incorporated. Sample numbers and sampling plans are therefore considered to be adequate for site characterisation.
- The analyte selection is based on the previous site investigations and soil profiles. The possibility of any other potential contaminants that would be detected through field observation (odours, staining, and colouring) during sampling may need to be included. The potential for contaminants other than those analysed is considered remote.
- The assessment criteria adopted from the guidelines stated in Section 12.0 have risk probabilities already incorporated.
- The acceptable limits for field and inter-laboratory duplicate comparisons are outlined in Sections 10.5 and 10.6 of this report.
- The acceptance limits for laboratory QA/QC parameters are based on the laboratory reported acceptance limits and those stated in the Schedule B3 of National Environment Protection (Assessment of Site Contamination) Measure (NEPM) 1999 (April 2013).

8.7 Optimise the Design for Obtaining Data

The following measures were undertaken to ensure accurate data collection:

- The procedures adopted for the location and collection of environmental samples were developed prior to implementation, in accordance with NSW EPA guidelines and current industry practice. The sampling program was designed to ensure the integrity of data collection during the assessment, including decontamination techniques, sample labelling, storage and chain of custody protocols.
- The analytical program was developed in theory prior to undertaking the sampling (based on the desktop study and soil profiles) and refined on the basis of field observations (both surface and sub-surface) during the sampling phase. All potential contaminants have been covered.
- Only laboratories accredited by NATA for the analyses undertaken were used for this assessment. The laboratory performance is assessed through a review of statistics calculated for QA samples such as blanks, spikes, duplicates and surrogates.

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- The field QA/QC protocols adopted are outlined in Section 10.0 of this report. The QA/QC program incorporates preparation of traceable documentation of procedures used in the sampling and analytical program and in data validation procedures.

8.8 Data Quality Indicators

The performance of the assessment in achieving the DQO will be assessed through the application of Data Quality Indicators (DQI), defined as follows:

Precision:	A quantitative measure of the variability (or reproducibility) of data;
Accuracy:	A quantitative measure of the closeness of reported data to the “true” value;
Representativeness:	The confidence (expressed qualitatively) that data is representative of each media present on the site;
Completeness:	A measure of the amount of useable data from a data collection activity;
Comparability:	The confidence (expressed qualitatively) that data can be considered equivalent for each sampling and analytical event.

9.0 SAMPLING & ANALYSIS PLAN AND SAMPLING METHODOLOGY

Sampling and analyses were carried out to obtain a reasonable assessment of the following:

1. Nature and location of any soil contaminant(s) within site.
2. The risk(s) that the contaminant(s) (if present) pose to human health and the environment under the conditions of the proposed land uses.

Sampling was carried out on 28 and 29 November 2019 by an Environmental Engineer/Scientist from Geotechnique, who was responsible for visually assessing the site, locating the sample locations, recovery of soil samples, preparation of quality assurance /quality control (QA/QC) samples, and logging the sub-surface profile encountered at each sample location.

Prior to sampling, the borehole locations were scanned by a service locator in order to avoid any underground services.

The sampling procedures adopted were as follows:

- The sample location was excavated to a predetermined depth using an excavator, and the sample was recovered from an excavator bucket, using a stainless steel trowel.
- The stainless steel auger/trowel was decontaminated prior to use, in order to prevent cross-contamination (refer to Section 10.3 for details of the procedures for decontamination of the trowel).
- To minimise the potential loss of VOC, the laboratory soil sample was immediately transferred, using a stainless steel trowel, to a labelled, laboratory supplied, 250ml glass jar and sealed with an airtight, Teflon screw-top lid. The fully filled jar was then placed in a chilled container.

In order to ensure the analytical performance of the primary laboratory, duplicate and split samples were prepared for analyses. Samples were kept in a labelled laboratory supplied glass jar (acid-washed and solvent-rinsed) and sealed with an airtight screw Teflon top lid. The fully filled jar was placed in a chilled container.

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A rinsate water sample was collected for each day's sampling and placed in bottles supplied by the laboratory. The fully filled bottles were labelled and placed in a chilled container.

At the completion of field sampling, the chilled container was transported to our Penrith office. All the jars were then transferred to a refrigerator where the temperature was maintained below 4 °C.

The day following field work, the primary samples in chilled containers with trip spike samples were forwarded under Chain of Custody (COC) conditions to the primary testing laboratory Envirolab Services Pty Ltd (Envirolab). Inter-laboratory duplicate (split) samples were forwarded to the secondary testing laboratory of {SGS Environmental Services (SGS)}. Both Envirolab and SGS are NATA accredited.

On receipt of the samples, the laboratories returned the Sample Receipt Advice, verifying the integrity of all the samples received.

The soil profile encountered, as described in Section 6.0 of this report, did not reveal any visual (staining, dyeing) or olfactory indicators of potential contaminants. Based on the potential for contamination discussed previously in this report (Section 7.0), the following laboratory analysis plan was implemented:

- 16 samples were selected for analysis of metals {arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), mercury (Hg), nickel (Ni) and zinc Zn}.
- 6 samples were selected for analysis of OCP.
- Four soil samples and four representative fibro-cement pieces recovered were also analysed for asbestos.
- Three samples were screened for PFAS analysis
- One rinsate sample was analysed for metals.
- One trip spike sample for BTEX.

On receipt of the samples, the laboratories returned the Sample Receipt Advice verifying the integrity of all samples received.

10.0 FIELD QUALITY ASSURANCE AND QUALITY CONTROL

10.1 Sampling Personnel

Geotechnique undertook all the sampling associated with this assessment. An Environmental Scientist (Justin Hoffman) from Geotechnique, trained in Geotechnique procedures for sampling and logging, nominated sample location, supervised the drilling of each sample location, logged the soil profile encountered, recovered soil samples, prepared quality control/quality assurance (QA/QC) samples and packaged the samples.

10.2 Decontamination Procedures

Soil samples were transferred from sample locations to the laboratory supplied glass jar using a decontaminated stainless steel trowel. The trowel was used to divide the soil sample into two portions to prepare duplicate and split samples. Decontamination of the trowel involved the following:

- Removal of soil adhering to the trowel by scrubbing with a brush;
- Washing the trowel thoroughly in a solution of phosphate-free detergent (Decon 90) using a brush;
- Rinsing the trowel thoroughly with distilled water;

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- Repeating the washing / rinsing steps and rinsing with distilled water;
- Drying the trowel with clean disposable towels.

10.3 Rinsate Samples

Two rinsate water samples were recovered in order to identify possible cross-contamination between the sampling locations.

The rinsate water samples were analysed for Metals and PAH. The test results for the rinsate water sample are summarised in Table A.

The actual laboratory analytical reports / certificates are presented in Appendix J.

As shown in Table A, all concentrations of analytes in the rinsate sample were less than laboratory limits of reporting, which indicates that adequate decontamination had been carried out in the field.

10.4 Trip Spike Samples

Trip spike samples were obtained from the laboratory on a regular basis, prior to conducting field sampling where volatile substances are suspected. The samples are held in the Penrith office of Geotechnique, at less than 4°C, for a period of not more than seven days. During the fieldwork, the trip spike sample was kept in the chilled container with soil samples recovered from the site. The trip spike sample was then forwarded to the primary laboratory together with the soil samples recovered from the site.

The laboratory prepares the trip spike by adding a known amount of pure petrol standard to a clean sand sample. The sample is mixed thoroughly to ensure a relatively homogenous distribution of the spike throughout the sample. When the sample is submitted for analysis, the same procedure is adopted for testing as for the soil samples being analysed from the site.

The purpose of the trip spike is to detect any loss or potential loss of volatiles from the soil samples during fieldwork, transportation, sample extraction or testing.

Two trip spike samples (TS1 and TS2) were forwarded to the primary analytical laboratory with the samples collected and was tested for BTEX. The test results for the trip spike sample, reported as a percentage recovery of the applied and known spike concentrations, are shown in Table B.

As indicated in Table B, the results show a good recovery of the spike concentrations, ranging between 78% and 120% were within the acceptable range.

Based on the above, it is considered that any loss of volatiles from the recovered samples that might have occurred would not affect the outcome / conclusions of this report.

10.5 Duplicate Samples

A field duplicate sample was prepared in the field through the following processes:

- A larger than normal quantity of soil was recovered from the sample location selected for duplication;
- The sample was divided into two portions, using the decontaminated trowel;

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- One portion of the sub-sample was immediately transferred, using the decontaminated trowel, into a labelled, laboratory supplied, 250ml glass jar and sealed with an airtight, Teflon screw top lid. The fully filled jar was labelled as the duplicate sample and immediately placed in a chilled container;
- The remaining portion was stored in the same way and labelled as the original sample.

Two duplicate samples were prepared on the basis of sample numbers recovered during the field work. The duplicate sample frequency was computed using the total number of samples analysed as part of this assessment. The duplicate sample frequencies computed are as follows:

• Metals:	43 samples analysed;	3 duplicates;	6.9% frequency
• TRH and BTEX:	21 samples analysed;	2 duplicates;	9.5% frequency
• PAH:	30 samples analysed;	2 duplicates;	16.6% frequency
• OCP:	22 samples analysed;	2 duplicates;	9.1% frequency
• PCB:	21 samples analysed;	2 duplicates;	9.5% frequency

The duplicate frequency adopted complies with the NEPM 1999 (April 2013), which recommends a duplicate frequency of at least 5%.

The laboratory test results are summarised in Tables C1 to C4.

A comparison was made of the laboratory test results for the duplicate sample with the original sample and the Relative Percentage Differences (RPD) was computed to assess the accuracy of the laboratory test procedures. RPD within 30% is generally considered acceptable. However, this variation can be higher for organic analysis than for inorganics and for low concentrations of analytes.

As shown in Tables C1 to C4, the comparisons between the duplicate and corresponding original sample indicated generally acceptable RPD, with the exception of some metals with RPDs ranging from 32 % to 100% for Co, Cu, Pb, Mn, Hg, Zn and Bap chromium and 40% for lead, for relatively lower concentrations and heterogeneity of the samples analysed, which is not considered critical as all the concentration were below the assessment criteria adopted.

Therefore, the test results provided by SGS are of adequate accuracy and reliability for this assessment.

10.6 Inter-laboratory Duplicate (Split) Sample

The inter-laboratory duplicate (split) sample provides a check on the analytical performance of the primary laboratory. The split sample was prepared on the basis of sample numbers recovered during fieldwork, and the analyses undertaken by the primary laboratory.

The split sample frequency was computed using the total number of samples analysed as part of this assessment. The split sample frequencies computed are as follows:

• Metals:	43 samples analysed;	3 duplicates;	6.9% frequency
• TRH and BTEX:	21 samples analysed;	2 duplicates;	9.5% frequency
• PAH:	30 samples analysed;	2 duplicates;	16.6% frequency
• OCP:	22 samples analysed;	2 duplicates;	9.6% frequency
• PCB:	21 samples analysed;	2 duplicates;	9.5% frequency

The split sample frequency adopted complies with the NEPM, 1999 (April 2013) which recommends a frequency of 5%.

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The results are summarised in Tables D1 to D4. The actual laboratory test results certificate of the split sample is presented in Appendix J.

Based on Schedule B (3) of the NEPM, the difference in the results between the split samples should generally be within 30% of the mean concentration determined by both laboratories, i.e., RPD should be within 30%. However, this variation can be higher for organic analysis than for inorganics and for low concentrations of analytes.

As shown in Tables D1 to D4, the comparisons between the split and corresponding original samples indicated generally acceptable RPD, with the exception of marginally higher RPD of 45% and 31% for Cu, and 34% for zinc, mainly considered due to the relatively lower concentrations of the samples analysed. Therefore, the variations are not considered critical and the test results provided by the primary laboratory are deemed reliable for this assessment.

Overall the split sample comparisons indicate that the test results provided by the primary laboratory can be relied upon for this assessment.

11.0 LABORATORY QUALITY ASSURANCE AND QUALITY CONTROL

Geotechnique uses only laboratories accredited by the NATA for chemical analyses. The laboratories also incorporate quality laboratory management systems to ensure that trained analysts using validated methods and suitably calibrated equipment produce reliable results.

In addition to the quality control samples, the laboratories also ensure that all analysts receive certification as to their competence in carrying out the analysis and participate in national and international proficiency studies.

SGS and Envirolab are accredited by NATA and operate a Quality System designed to comply with ISO / IEC 17025.

Within the allowable holding times, detailed in Schedule B (3) of The *National Environment Protection (Assessment of Site Contamination) Measure 2013 (NEPM)* by the National Environment Protection Council (NEPC), the soil samples were analysed. Within the allowable holding times for water detailed in Standard Methods for the Examination of Water and Wastewater (APHA), the rinsate sample was analysed.

The test methods adopted by the laboratories are indicated with the laboratory test results certificates. As part of the analytical run for the project, the laboratories included laboratory blanks, duplicate samples, laboratory control samples, matrix spikes, matrix spike duplicates and/or surrogate spikes.

We have checked the QA/QC procedures and results adopted by the laboratories against the appropriate guidelines. The quality control sample numbers adopted by SGS and Envirolab are considered adequate for the analyses undertaken.

The methods used by SGS and Envirolab have been validated and endorsed by NATA.

All reported laboratory Limits of Reporting (LOR) / Practical Quantitation Limit (PQL) were less than the assessment criteria adopted for each analyte.

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Overall, the quality control elements adopted by SGS and Envirolab indicate that the analytical data falls within acceptable levels of accuracy and precision for the analysis of soils. The analytical data provided is, therefore considered to be reliable and useable for this assessment.

12.0 ASSESSMENT CRITERIA

The criteria developed in the NEPM 1999 (April 2013) were used in this assessment, as follows:

- Risk-based Health Investigation Levels (HIL) for a broad range of metals and organic substances. The HIL are applicable for assessing human health risk via all relevant pathways of exposure. The HIL as listed in Table 1A (1) of Schedule B1 “*Guideline on Investigation Levels for Soil and Groundwater*” are provided for different land uses.

It is understood that the site is proposed for new hotel use with associated car park. It is therefore that HIL values for Commercial / Industrial have been adopted for this assessment.

- Health Screening Levels (HSL) for selected petroleum compounds, fractions and Naphthalene are applicable for assessing human health risk via inhalation and direct contact pathways. The HSL depend on specific soil physicochemical properties, land use scenarios and the characteristics of building structures. The HSL listed in Table 1A (3) of Schedule B1 “*Guideline on Investigation Levels for Soil and Groundwater*” apply to different soil types and depths below the surface to >4 m.

For this assessment, the analytical results were assessed against the available HSL for (HSL D).

- Ecological Screening Levels (ESL) for selected petroleum hydrocarbon compounds, TPH fractions and Benzo (a) Pyrene are applicable for assessing the risk to terrestrial ecosystems. ESL listed in Table 1B(6) of Schedule B1 “*Guideline on Investigation Levels for Soil and Groundwater*” broadly apply to coarse and fine-grained soils and various land uses and are generally applicable to the top 2m of soil.

The analytical results were assessed against the available ESL for *Commercial /Industrial*.

- Ecological Investigation Levels (EIL), a specific type of Soil Quality Guidelines (SQG) for selected metals and DDT, are applicable for assessing the risk to terrestrial ecosystems. EIL listed in Table 1B(1-5) of Schedule B1 “*Guideline on Investigation Levels for Soil and Groundwater*” depend on specific soil physicochemical properties and land use scenarios and generally apply to the top 2m of soil. For arsenic, lead and DDT, generic EIL are adopted, for *public open space* land use for aged contaminants. For other metals, where available, EIL are calculated using the EIL calculator developed by CSIRO for NEPC.

For this assessment, the analytical results were assessed against the available SQG / EIL for *Commercial and Industrial*.

For discrete soil samples, the individual concentration of analyte was assessed against the HIL D / EIL. For asbestos, the assessed soil must not contain bonded ACM in excess of 0.05%w/w and surface soil within the site is free of visible ACM, and friable asbestos in the soil is <0.001% w/w.

A detailed assessment will be recommended should the concentration(s) of analyte(s) in excess of HIL D, HSL D, EIL and ESL, in order to confirm the suitability of the site for the proposed use.

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13.0 FIELD & LABORATORY TEST RESULTS, ASSESSMENT & DISCUSSION

13.1 Field Results

Details of the sub-surface conditions encountered during fieldwork for this assessment are presented in Table 1 in Appendix G of this report. Fibro-cement pieces (FCPs) were observed at locations TP207 and TP208 (Table 1), the representative FCPs were collected for analysis of asbestos.

13.2 Analytical Results

The actual laboratory test result certificates from SGS are presented in Appendix J. The test results are also presented in Tables E to J together with the assessment criteria adopted. A discussion of the test data is presented in the following sub-sections.

13.2.1 Metals (As, Be, Bo, Cd, Cr, Cu, Mn, Pb, Hg, Se, Ni and Zn)

Test results of Cation Exchange Capacity (CEC) and pH in Table E were adopted to calculate EIL in Table E.

The Metals test results for the discrete soil samples are presented in Table E, and as shown, all concentrations of Metals were below the available relevant Ecological Investigation Level (EIL) and Health Investigation Levels (HIL) for commercial /Industrial (HIL D).

13.2.2 Total Recoverable Hydrocarbons (TRH) and BTEX

The TPH and BTEX test results for the discrete soil samples are presented in Table F. As shown, the concentrations of F1 (TPH C6-C10 less BTEX), F2 (TPH >C10-C16 less Naphthalene), F3 (TPH >C16-C34), F4 (TPH >C34-C40) and BTEX were below the relevant HSL D and ESL adopted.

13.2.3 Polycyclic Aromatic Hydrocarbons (PAH)

The PAH test results for the discrete soil samples are presented in Table G. As summarised in Table G, the concentrations of Benzo (a) pyrene, Benzo (a) pyrene TEQ, Naphthalene and Total PAH were well below the relevant HIL C, HSL C, ESL and / or EIL adopted.

13.2.4 Organochlorine Pesticides (OCP) and Polychlorinated Biphenyls (PCB)

The OCP test results for soil samples are presented in Table H and as indicated, the concentrations of OCP were well below the relevant HIL D. The concentrations of DDT were also below the EIL.

The PCB test results for discrete soil samples are presented in Table H. As indicated on Table H, the concentrations of PCB were below the HIL D adopted, as well as below the laboratory LOR.

13.2.5 Asbestos

The asbestos test results for the soil samples are presented in Table I and as indicated, No Asbestos fine / Fibrous Asbestos (AF and FA) in excess of 0.001%w/w, with the exception of TP304, where AF and FA was detected above the 0.001%.

As indicated in Table I, the FCP recovered at the location TP207 contained asbestos and is considered as bonded ACM. However, no asbestos was detected in the FCP recovered from location TP208.

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13.2.6 Per - and Poly-fluoroalkyl Substances (PFAS)

The PFAS test results for discrete samples screened for PFAS are presented in Table J, and as indicated all PFOS + PFHxS and PFOA concentrations were below the adopted Soil - Human Health Screening Values, all PFOS concentrations were below the adopted Soil-Ecological Direct Exposure values and all PFOS and PFOA concentrations were below the adopted Interim Soil-Ecological Indirect Exposure values.

14.0 SITE CHARACTERISATION

The results are discussed in the following sections in relation to the identified decisions developed as part of the DQO process (Section 8):

- **Odours:** No odours were observed at the site surface or within fill or natural soils at the site.
- **Aesthetics:** No unacceptable aesthetic issues were identified at the site surface or within fill soils at the site, with the exception of bonded ACM.
- **Human Health and Ecological Risk Assessment:** Maximum concentrations of site analytes were assessed by a human health investigation levels and ecological investigation levels for the proposed land use as specified in NEPM (1999, April 2013), which have risk probabilities already incorporated.
- **Potential Risks to Future Onsite Receptors:** As presented in the summary tables (Tables E to I) and discussed in Section 13.0, the majority of laboratory data and/or datasets for additional assessment satisfied the criteria for stating that the analytes selected are either not present (i.e. concentrations less than laboratory PQL), or present in the sampled soils at concentrations that do not pose a risk of hazard to human health or the environment, under the proposed use of the site for residential development, with the exception of the locations with the presence of asbestos (AF and FA <7mm) and asbestos containing material (ACM) contamination as indicated on the Drawing No 14578/3-AA2.
- **Chemical Mixtures:** There were no potential chemical mixtures observed during the site inspection that may pose a contamination issue at the site.
- **Is Remediation or Management Required?** Based on the results reported above, and the above characterisation and responses to decisions developed as part of the project DQOs, the locations, where the presence of asbestos (AF and FA <7mm) and the ACM were identified, requiring remediation works.

15.0 UPDATED CONCEPTUAL SITE MODEL

Based on the current PSI, the following Contaminants of Concern (Drawing No 14578/3-AA2) were identified where further assessment and /or requiring remediation works:

- AF, FA and Bonded ACM

Currently, the Lot 22 site is covered mostly with grass and the exposure of contaminants to human receptors is considered minimal with the exception of emergency workers during and earthworks/excavation, in the vicinity of the locations of concern. The proposed development, involving the excavation of soil will result in exposing the soil to residents (within the site or neighbouring properties), visitors and/or workers during the excavation/drilling who might come into contact with potentially contaminated media within the site.

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It is therefore, detailed assessment for the site to determine the extent of AF and FA and the ACM would be required followed by remediation and validation.

Assessment of ground water and the soil within the inaccessible areas as indicated in Drawing No 14578/3-AA2 was beyond the scope of this investigation.

16.0 CONCLUSION AND RECOMMENDATIONS

The findings of this PSI of the soil are summarised as follows:

- During the site inspection and sampling on 28 and 29 November 2019, a number of site features were identified as shown in the attached Drawing No 14578/3-AA1. During the site inspection by an environmental Scientist from Geotechnique Pty Ltd on 13 March 2020, the site features remained essentially unchanged since November 2019.
- The excavated test pits are indicated in Drawing No 14578/3-AA1. Reference should be made to the attached Table 1 - Test Pit Logs (Appendix H) for descriptions of the soils encountered during sampling.
- Fill comprising silty clay or crushed sandstone was encountered at most of the test pits across the site at depths ranging from approximately 0.1m to about 2.2m.
- Inclusions (tile, terracotta pipe pieces, brick, concrete, and / or bitumen fragments, coal slag, and / or fibro-cement pieces) were noted in some test pits.
- Most of the test results satisfied the criteria for stating that the analytes selected are either not present (i.e. concentrations less than laboratory limits of reporting), or present in the soils at concentrations that do not pose a risk of harm to human health or the environment, under a "commercial / industrial" use. However, the laboratory tests identified soil contaminated with friable asbestos (<7mm) in soil and bonded asbestos-containing material (ACM) at locations, as tabulated and indicted on the attached Drawing No 14578/3-AA2.
- Remediation and validation of the site are required.

Based on this assessment, the implementation of the following recommendations is recommended:

- Soil contaminated with asbestos was identified at locations, as indicated and tabulated on Drawing No 14578/3-AA2. A detailed contamination assessment (DCA) to delineate the extents of identified asbestos contamination is therefore required.

Licensed asbestos Assessor must be engaged to deal with friable asbestos (in soil) during the remediation and validation of the asbestos-contaminated soil.

- A remedial action plan (RAP) for asbestos is to be prepared by a licensed asbestos assessor to devise strategies for remediation/management of the asbestos contamination.
- Site validation is to be carried out following remediation of the asbestos impacted areas.
- Assessment (by sampling and testing) of soil in the footprints of site features, such as remnants of the shed, power poles, etc. (refer to Drawing No 14578/3-AA1), will be required after complete removal. In the event of identified contamination, the site can be made suitable after remediation followed by validation.

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- Areas with possible underground services might be able to be reduced by using method(s) such as potholing. Additional test pits and testing will be required in areas which are no longer affected by the services, after potholing.
- Removal of tile, terracotta pipe pieces, brick, concrete, and / or bitumen, coal slag, and fibro-cement pieces would be required.
- As council records could not be reviewed as part of this investigation (Appendix C, communication with the council). If potential contamination areas are identified based on the council records, the identified contamination areas can be made suitable after remediation followed by validation.
- Groundwater assessment was beyond the scope of this assessment; however, it is highly recommended for groundwater assessment to determine the contamination status of the groundwater within site.

This report is considered valid based on site conditions during site inspection and field sampling on 28 and 29 November 2019 and site inspection on 13 March 2020. Any variations to the site form or use beyond those dates will nullify the conclusion stated.

No contamination assessment can eliminate all risk; even a rigorous professional assessment might not detect all contamination within site. Whilst the assessment conducted at most of the site was carried out in accordance with current NSW guidelines, and the potential always exists for contaminants and contaminated soils to be present between sampled locations, in the steep inaccessible western portions of Lots 21 and 22 and the approximate areas with potential underground services.

If any suspect materials (identified by unusual staining, odour, discolouration or inclusions such as building rubble, asbestos sheets/pieces/pipes, ash material, etc.) or any potentially contaminated area(s) and filled area(s) masked by the overgrown grass, are encountered during any stage of future and/or earthworks/site preparation, Unexpected Finds Management Protocol (Appendix I) should be implemented. In the event of contamination, detailed assessment, remediation and validation will be necessary.

For any materials to be excavated and removed from the site, it is recommended that waste classification of the materials, in accordance with the "Waste Classification Guidelines Part 1: Classifying Waste" (NSW EPA 2014), NSW EPA resource recovery exemptions and orders under the Protection of the Environment Operations (Waste) Regulation 2014, or NSW EPA Certification: Virgin excavated natural material is undertaken prior to disposal at an appropriately licensed landfill or potential re-use at other sites.

Any imported fill must be assessed by a qualified environmental consultant, prior to importation, to ensure suitability for the proposed use. In addition, the imported fill must be free from asbestos, ash and odour, not be discoloured and not acid sulphate soil. The imported fill should either be virgin excavated natural material (VENM) or excavated natural material (ENM)

14578/3-AA
Lots 21 & 22 in DP1236215 - Memorial Avenue, Penrith

17.0 LIMITATIONS

To the best of our knowledge, all information obtained and contained in this report is true and accurate. No further investigation has been carried out to authenticate the information provided. Supporting documentation was obtained where possible, some of which is contained in this report.

This report has been prepared for the purpose stated within based on the agreed scope of work. Bayside Council may rely on the report in making development application determination. Any reliance on this report by other parties shall be at such parties' sole risk, as the report might not contain sufficient information for other purposes.

The information in this report is considered accurate at the completion of field sampling on 12 March 2020. Any variations to the site form or use beyond that date will nullify the conclusion stated.

Whilst the assessment conducted at the site was carried out in accordance with current NSW guidelines, the potential always exists for contaminated soils to be present between sampled locations and unexpected area.

Presented in Appendix L is a document entitled "Environmental Notes", which should be read in conjunction with this report.

References

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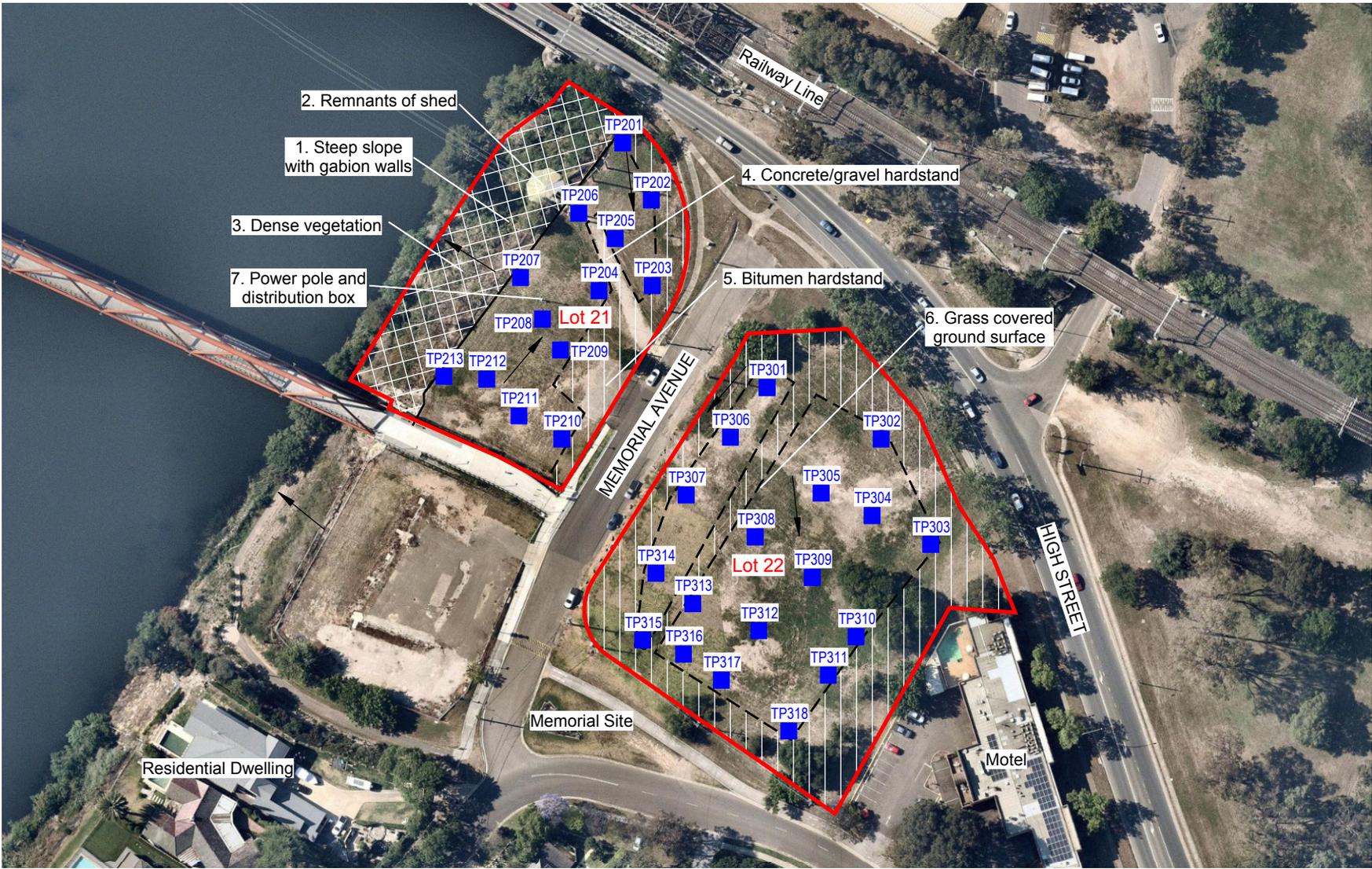
DRAWINGS

Drawing No 14578/3-AA1

Test Pit Locations

Drawing No 14578/3-AA2

Locations of Concern

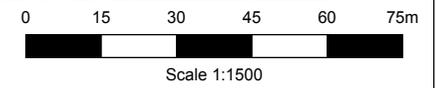


LEGEND

- Test Pit
- Slope
- Area Excluded from Assessment (inaccessible)

- Estimated Area Excluded from Assessment (possible underground services)

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NOTES

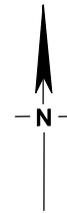
1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Lots 21 and 22 in DP1236215
 Memorial Avenue
 Penrith

Site Features and Test Pit Locations

Drawing No: 14578/3-AA1
 Job No: 14578/3
 Drawn By: MH
 Date: 2 April 2020
 Checked By: DS

File No: 14578-3
 Layers: 0, AA1



Location of Concern	Depth (m)	Contaminant	Concentration (mg/kg)
TP207	0.0-0.15	Asbestos (Bonded ACM)	-
TP304	1.5-1.8	Asbestos (<7mm AF / FA)	0.002% w/w
Assessment Criteria	0.05% w/w for bonded ACM in soil 0.001% w/w for AF & FA in soil No visual asbestos for surface soil		

Notes:

AF / FA: Asbestos Fine / Fibrous Asbestos

ACM: Asbestos Containing Material

Imagery ©2019 NearMap.com

0 15 30 45 60 75m



Scale 1:1500

LEGEND

 Test Pit

 Area Excluded from Assessment (inaccessible)

 Estimated Area Excluded from Assessment (possible underground services)



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NOTES

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Lots 21 and 22 in DP1236215
 Memorial Avenue
 Penrith

Exclusion Areas and Locations of Contamination

Drawing No: 14578/3-AA2
 Job No: 14578/3
 Drawn By: MH
 Date: 2 April 2020
 Checked By: DS

File No: 14578-3
 Layers: 0, AA2

TABLES

SOIL SAMPLES

<i>TABLE A</i>	<i>Rinsate Samples</i>
<i>TABLE B</i>	<i>Trip Spike Samples</i>
<i>TABLES C1 to C4</i>	<i>Duplicate Samples</i>
<i>TABLES D1 to D3</i>	<i>Split Samples</i>
<i>TABLE E</i>	<i>pH and Cation Exchange Capacity (CEC) Test Results</i>
<i>TABLE F</i>	<i>Total Recoverable Hydrocarbons (TRH) and BTEX Results</i>
<i>TABLE G</i>	<i>Polycyclic Aromatic Hydrocarbons (PAH)</i>
<i>TABLE H</i>	<i>Organochlorine Pesticides (OCP), Polychlorinated Biphenyls (PCB) and Phenols Test Results</i>
<i>TABLE I</i>	<i>Asbestos Results</i>
<i>TABLE J</i>	<i>Per - and Poly-fluoroalkyl Substances (PFAS) Results</i>

TABLE A
RINSATE
 (Ref No: 14578/3)

SAMPLE DATE	RS1 28/11/2019	RS2 29/11/2019
METAL	(mg/L)	(mg/L)
Arsenic	<0.02	<0.02
Beryllium	<0.005	<0.005
Boron	<0.05	<0.05
Cadmium	<0.001	<0.001
Chromium	<0.005	<0.005
Cobalt	<0.01	<0.01
Copper	<0.005	<0.005
Lead	<0.02	<0.02
Manganese	<0.005	<0.005
Mercury	<0.0001	<0.0001
Nickel	<0.005	<0.005
Selenium	<0.05	<0.05
Zinc	<0.01	<0.01
POLYCYCLIC AROMATIC HYDROCARBON (PAH)	(µg/L)	(µg/L)
Total PAH	<1	<1
Naphthalene	<0.1	<0.1
Benzo(a)Pyrene	<0.1	<0.1

TABLE B
TRIP SPIKE
(Ref No: 14578/3)

Sample	Sampling Date	BTEX			
		Benzene	Toluene	Ethylbenzene	Xylenes
TS1	28/11/2019	78%	81%	82%	82%
TS2	29/11/2019	112%	117%	120%	114%

Note : results are reported as percentage recovery of known spike concentrations

**TABLE C1
DUPLICATE SAMPLE
(Ref No: 14578/3)**

ANALYTE	TP202 0.0-0.15 (m) mg/kg	DDS2 mg/kg	RELATIVE PERCENTAGE DIFFERENCES (RPD) %
Arsenic	2	2	0
Beryllium	<0.5	<0.5	-
Boron	12	13	8
Cadmium	<0.3	<0.3	-
Chromium	4.9	5.2	6
Cobalt	2.3	1.9	19
Copper	12	11	9
Lead	13	11	17
Manganese	55	46	18
Mercury	0.24	0.19	23
Nickel	2.8	2.5	11
Selenium	<3	<3	-
Zinc	15	14	7
TOTAL RECOVERABLE HYDROCARBONS (TRH)			
F1 (C6-C10 less BTEX)	<25	<25	-
F2 (>C10-C16)	<25	<25	-
F3 (>C16-C34)	<90	<90	-
F4 (>C34-C40)	<120	<120	-
BTEX			
Benzene	<0.1	<0.1	-
Toluene	<0.1	<0.1	-
Ethyl Benzene	<0.1	<0.1	-
Xylenes	<0.3	<0.3	-
POLYCYCLIC AROMATIC HYDROCARBONS			
Benzo(a)Pyrene TEQ	<0.3	<0.3	-
Total PAH	<0.8	<0.8	-
Naphthalene	<0.1	<0.1	-
Benzo(a)Pyrene	<0.1	<0.1	-
ORGANOCHLORINE PESTICIDES (OCP)			
Hexachlorobenzene (HCB)	<0.1	<0.1	-
Heptachlor	<0.1	<0.1	-
Aldrin+Dieldrin	<0.15	<0.15	-
Endrin	<0.2	<0.2	-
Methoxychlor	<0.1	<0.1	-
Mirex	<0.1	<0.1	-
Endosulfan (alpha, beta & sulphate)	<0.5	<0.5	-
DDD+DDE+DDT	<0.6	<0.6	-
Chlordane (alpha & gamma)	<0.2	<0.2	-
POLYCHLORINATED BIPHENYLS (PCB)			
Total PCB	<1	<1	-

TABLE C2
DUPLICATE SAMPLE
(Ref No: 14578/3)

ANALYTE	TP301 0.0-0.15 (m) mg/kg	DDS3 mg/kg	RELATIVE PERCENTAGE DIFFERENCES (RPD) %
Arsenic	4	5	22
Beryllium	<0.5	<0.5	-
Boron	16	13	21
Cadmium	<0.3	<0.3	-
Chromium	9.9	8.8	12
Cobalt	5.8	5.3	9
Copper	17	12	34
Lead	22	26	17
Manganese	230	240	4
Mercury	<0.05	<0.05	-
Nickel	9.2	8.5	8
Selenium	<3	<3	-
Zinc	46	110	82
TOTAL RECOVERABLE HYDROCARBONS (TRH)			
F1 (C6-C10 less BTEX)	<25	<25	-
F2 (>C10-C16)	<25	<25	-
F3 (>C16-C34)	<90	<90	-
F4 (>C34-C40)	<120	<120	-
BTEX			
Benzene	<0.1	<0.1	-
Toluene	<0.1	<0.1	-
Ethyl Benzene	<0.1	<0.1	-
Xylenes	<0.3	<0.3	-
POLYCYCLIC AROMATIC HYDROCARBONS			
Benzo(a)Pyrene TEQ	0.5	<0.3	-
Total PAH	2.2	<0.8	-
Naphthalene	<0.1	<0.1	-
Benzo(a)Pyrene	0.3	0.1	100
ORGANOCHLORINE PESTICIDES (OCP)			
Hexachlorobenzene (HCB)	<0.1	<0.1	-
Heptachlor	<0.1	<0.1	-
Aldrin+Dieldrin	<0.16	<0.15	-
Endrin	<0.2	<0.2	-
Methoxychlor	<0.1	<0.1	-
Mirex	<0.1	<0.1	-
Endosulfan (alpha, beta & sulphate)	<0.5	<0.5	-
DDD+DDE+DDT	<0.6	<0.6	-
Chlordane (alpha & gamma)	<0.2	<0.2	-
POLYCHLORINATED BIPHENYLS (PCB)			
Total PCB	<1	<1	-

**TABLE C3
DUPLICATE SAMPLE
(Ref No: 14578/3)**

ANALYTE	TP317 0.0-0.15 (m) mg/kg	DDS4 mg/kg	RELATIVE PERCENTAGE DIFFERENCES (RPD) %
Arsenic	4	5	22
Beryllium	0.7	<0.5	-
Boron	15	14	7
Cadmium	<0.3	<0.3	-
Chromium	10	8.7	14
Cobalt	7.5	5.2	36
Copper	18	13	32
Lead	73	44	50
Manganese	690	280	85
Mercury	0.25	0.06	123
Nickel	9.6	7.1	30
Selenium	<3	<3	-
Zinc	77	74	4

TABLE C4
DUPLICATE
(Ref No: 14578/3)

ANALYTE	TP210 0.0-0.15 (m) µg/kg	DSS5 µg/kg	RELATIVE PERCENTAGE DIFFERENCES (RPD) %
PFAS			
PFHxS	<0.1	<0.1	-
PFOS	0.3	0.3	0
PFOA	0.1	0.1	0

TABLE D1
SPLIT SAMPLE
(Ref No: 14578/3)

ANALYTE	TP206	DSS2	RELATIVE PERCENTAGE
	0.0-0.15 (m) mg/kg (SGS)	mg/kg (ENVIROLAB)	DIFFERENCES (RPD) %
Arsenic	3	<4	-
Beryllium	0.5	<1	-
Boron	15	<3	-
Cadmium	<0.3	<0.4	-
Chromium	10	11	10
Cobalt	4.9	4	20
Copper	22	25	13
Lead	28	23	20
Manganese	200	200	0
Mercury	<0.05	<0.1	-
Nickel	9.2	8	14
Selenium	<3	<2	-
Zinc	64	54	17
TOTAL RECOVERABLE HYDROCARBONS (TRH)			
F1 (C6-C10 less BTEX)	<25	<25	-
F2 (>C10-C16)	<25	<50	-
F3 (>C16-C34)	<90	<100	-
F4 (>C34-C40)	<120	<100	-
BTEX			
Benzene	<0.1	<0.2	-
Toluene	<0.1	<0.5	-
Ethyl Benzene	<0.1	<1	-
Xylenes	<0.3	<3	-
POLYCYCLIC AROMATIC HYDROCARBONS (PAH)			
Benzo(a)Pyrene TEQ	<0.3	<0.5	-
Total PAH	<0.8	1.1	-
Naphthalene	<0.1	<0.1	-
Benzo(a)Pyrene	<0.1	0.1	-
ORGANOCHLORINE PESTICIDES (OCP)			
Hexachlorobenzene (HCB)	<0.1	<0.1	-
Heptachlor	<0.1	<0.1	-
Aldrin+Dieldrin	<0.15	<0.2	-
Endrin	<0.2	<0.1	-
Methoxychlor	<0.1	<0.1	-
Endosulfan (alpha (I), beta (II) & sulphate)	<0.5	<0.3	-
DDD+DDE+DDT	<0.6	<0.3	-
Chlordane (alpha & gamma)	<0.2	<0.2	-
POLYCHLORINATED BIPHENYLS (PCB)			
Total PCB	<1	<0.1	-

**TABLE D2
SPLIT SAMPLE
(Ref No: 14578/3)**

ANALYTE	TP313	DSS3	RELATIVE PERCENTAGE
	0.0-0.15 (m) mg/kg (SGS)		DIFFERENCES (RPD) %
Arsenic	5	5	0
Beryllium	<0.5	<1	-
Boron	12	<3	-
Cadmium	<0.3	<0.4	-
Chromium	8.3	11	28
Cobalt	5.5	7	24
Copper	12	19	45
Lead	28	30	7
Manganese	280	340	19
Mercury	0.06	<0.1	-
Nickel	8.3	10	19
Selenium	<3	<2	-
Zinc	54	60	11

**TABLE D3
SPLIT SAMPLE
(Ref No: 14578/3)**

ANALYTE	TP318	DSS4	RELATIVE PERCENTAGE
	0.0-0.15 (m) mg/kg (SGS)	mg/kg (ENVIROLAB)	DIFFERENCES (RPD) %
Arsenic	4	4	0
Beryllium	<0.5	<1	-
Boron	13	<3	-
Cadmium	<0.3	<0.4	-
Chromium	9.2	11	18
Cobalt	5.5	6	9
Copper	11	15	31
Lead	31	42	30
Manganese	270	300	11
Mercury	<0.05	<0.1	-
Nickel	9.1	8	13
Selenium	<3	<2	-
Zinc	53	75	34
TOTAL RECOVERABLE HYDROCARBONS (TRH)			
F1 (C6-C10 less BTEX)	<25	<25	-
F2 (>C10-C16)	<25	<50	-
F3 (>C16-C34)	<90	<100	-
F4 (>C34-C40)	<120	<100	-
BTEX			
Benzene	<0.1	<0.2	-
Toluene	<0.1	<0.5	-
Ethyl Benzene	<0.1	<1	-
Xylenes	<0.3	<3	-
POLYCYCLIC AROMATIC HYDROCARBONS (PAH)			
Benzo(a)Pyrene TEQ	<0.3	<0.5	-
Total PAH	1.2	1.1	9
Naphthalene	<0.1	<0.1	-
Benzo(a)Pyrene	0.1	0.1	0
ORGANOCHLORINE PESTICIDES (OCP)			
Hexachlorobenzene (HCB)	<0.1	<0.1	-
Heptachlor	<0.1	<0.1	-
Aldrin+Dieldrin	<0.15	<0.2	-
Endrin	<0.2	<0.1	-
Methoxychlor	<0.1	<0.1	-
Endosulfan (alpha (I), beta (II) & sulphate)	<0.5	<0.3	-
DDD+DDE+DDT	<0.6	<0.3	-
Chlordane (alpha & gamma)	<0.2	<0.2	-
POLYCHLORINATED BIPHENYLS (PCB)			
Total PCB	<1	<0.1	-

TABLE E
METAL, CATION EXCHANGE CAPACITY (CEC) & pH TEST RESULTS
DISCRETE SAMPLES (SILTY CLAY)
(Ref No: 14578/3)

Sample Location	Depth (m)	METAL (mg/kg)												CEC (cmol _e /kg)	pH	
		ARSENIC	BERYLLIUM	BORON	CADMIUM	CHROMIUM (Total)	COBALT	COPPER	LEAD	MANGANESE	MERCURY	NICKEL	SELENIUM			ZINC
TP201	0.0-0.15	4	<0.5	11	<0.3	5.2	<0.5	10	7	18	<0.05	0.7	<3	5	6.8	6.5
TP201	0.5-0.8	7	<0.5	22	<0.3	8.2	4.8	15	45	160	0.1	5.9	<3	77	-	-
TP201	1.0-1.3	5	0.5	19	<0.3	9.9	5.6	15	24	280	<0.05	3.5	<3	28	7.6	6.2
TP201	1.5-1.8	5	<0.5	20	<0.3	9.0	5.2	12	22	210	0.05	4.0	<3	29	-	-
TP201	2.0-2.2	4	<0.5	15	<0.3	5.2	<0.5	13	7	18	<0.05	0.6	<3	6	-	-
TP202	0.0-0.15	2	<0.5	12	<0.3	4.9	2.3	12	13	55	0.24	2.8	<3	15	-	-
TP202	0.5-0.8	4	0.5	13	<0.3	7.0	11	11	140	230	<0.05	11	<3	53	-	-
TP203	0.0-0.15	5	<0.5	19	<0.3	4.9	5.3	25	10	110	<0.05	4.8	<3	22	10	6.6
TP204	0.0-0.15	4	0.5	29	<0.3	13	14	41	26	480	0.13	23	<3	54	29	7.8
TP205	0.0-0.15	4	0.6	16	<0.3	5.3	6.3	30	12	150	<0.05	7.8	<3	32	-	-
TP206	0.0-0.15	3	0.5	15	<0.3	10	4.9	22	28	200	<0.05	9.2	<3	64	81	9.5
TP207	0.0-0.15	3	0.6	19	<0.3	12	8.3	13	30	420	0.09	9.7	<3	50	-	-
TP207	0.5-0.7	2	0.7	18	<0.3	19	8.8	20	150	340	0.07	19	<3	68	-	-
TP208	0.0-0.15	2	<0.5	7	<0.3	4.1	3.2	13	27	120	0.07	4.2	<3	37	-	-
TP209	0.0-0.15	3	0.5	16	<0.3	8.1	7.6	13	26	380	<0.05	8.6	<3	49	26	8.0
TP209	0.5-0.7	4	<0.5	11	<0.3	4.2	1.4	13	11	55	<0.05	1.9	<3	11	-	-
TP210	0.0-0.15	3	0.5	13	<0.3	7.8	6.3	23	64	360	0.07	7.8	<3	60	-	-
TP211	0.0-0.15	3	<0.5	11	<0.3	9.3	5.0	16	72	260	0.06	5.9	<3	140	48	8.2
TP212	0.0-0.15	4	<0.5	8	<0.3	5.8	4.4	14	90	220	0.14	5.3	<3	93	-	-
TP213	0.0-0.15	3	0.5	16	<0.3	12	5.8	16	45	300	<0.05	8.2	<3	62	42	7.8
TP301	0.0-0.15	4	<0.5	16	<0.3	9.9	5.8	17	22	230	<0.05	9.2	<3	46	30	8.3
TP302	0.0-0.15	4	0.6	14	<0.3	28	7.4	12	29	380	<0.05	18	<3	46	-	-
TP302	0.5-0.8	3	0.5	13	<0.3	24	6.5	13	32	310	<0.05	16	<3	51	-	-
TP303	0.0-0.15	4	0.6	21	<0.3	12	11	44	31	420	<0.05	12	<3	58	17	8.5
TP303	0.5-0.8	6	0.8	<5	<0.3	13	15	30	56	1400	<0.05	18	<3	76	-	-
TP304	0.0-0.15	4	0.7	15	<0.3	12	8.3	13	50	450	0.06	11	<3	77	-	-
TP304	0.5-0.8	8	0.7	21	<0.3	11	10	33	35	480	0.06	11	<3	76	-	-
TP304	1.0-1.3	8	0.8	22	<0.3	12	11	16	28	620	<0.05	12	<3	54	17	7.5
TP304	1.5-1.8	5	0.7	18	<0.3	10	9.9	16	32	530	<0.05	11	<3	74	-	-
TP305	0.0-0.15	7	0.5	12	<0.3	8.5	5.2	14	22	230	<0.05	7.4	<3	51	-	-
TP306	0.0-0.15	4	0.5	13	<0.3	8.8	5.6	12	27	290	<0.05	8.3	<3	49	-	-
TP307	0.0-0.15	4	0.5	13	<0.3	8.7	5.7	12	28	290	0.06	8.0	<3	54	-	-
TP308	0.0-0.15	5	0.5	13	<0.3	8.4	5.8	13	24	290	<0.05	7.9	<3	49	27	8.2
TP309	0.0-0.15	4	0.5	13	<0.3	8.9	5.9	13	25	300	<0.05	7.8	<3	49	-	-
TP310	0.0-0.15	3	0.5	15	<0.3	9.2	5.8	17	26	320	<0.05	7.7	<3	43	27	8.1
TP311	0.0-0.15	3	0.6	14	<0.3	7.9	5.7	11	27	290	<0.05	8.0	<3	48	-	-
TP312	0.0-0.15	4	0.5	16	<0.3	9.2	6.9	15	41	390	<0.05	9.8	<3	64	31	7.8
TP313	0.0-0.15	5	<0.5	12	<0.3	8.3	5.5	12	28	280	0.06	8.3	<3	54	-	-
TP314	0.0-0.15	7	0.5	17	<0.3	14	6.0	16	25	310	<0.05	7.4	<3	45	30	8.1
TP315	0.0-0.15	32	0.6	14	0.4	8.4	7.0	14	49	400	0.11	8.6	<3	89	8.1	5.9
TP316	0.0-0.15	8	0.6	15	<0.3	9.1	5.9	15	43	420	0.2	8.2	<3	76	32	7.9
TP317	0.0-0.15	4	0.7	15	<0.3	10	7.5	18	73	690	0.25	9.6	<3	77	-	-
TP318	0.0-0.15	4	<0.5	13	<0.3	9.2	5.5	11	31	270	<0.05	9.1	<3	53	32	8.1
Limit of Reporting (LOR)		1	0.5	5	0.3	0.5	0.5	0.5	1	1	0.05	0.5	3	2	0.02	0.1
Lowest CEC & pH															6.8	5.9
NATIONAL ENVIRONMENT PROTECTION AMENDMENT MEASURE (2013)																
Health-based Investigation Levels (HIL) D - ^a Commercial / Industrial D		3000	500	300000	900	3600 ^c	4000	240000	1500	60000	180 ^d	6000	10000	400000		
Ecological Investigation Levels (EIL) - ^b Commercial and industrial		160 ^e	-	-	-	670 ^f	-	210	1900 ^g	-	-	120	-	520		

Notes: a: Commercial / industrial includes premises such as shops, offices, factories and industrial sites.
b: EIL of aged copper, nickel & zinc were derived from calculation spreadsheet developed by CSIRO for NEPC; Old Suburb with Low Traffic; the lowest CEC=6.8 cmol_e/kg & pH=5.9; the assumed clay content=10 % were selected for derivation of EIL; a conservative approach.
c: Chromium (VI)
d: Methyl Mercury
e: Generic EIL for aged arsenic
f: Chromium (III)
g: Generic added contaminant limit (1800) for aged lead + ambient background concentration; Old Suburb with Low Traffic.

TABLE F
TOTAL RECOVERABLE HYDROCARBONS (TRH) AND BTEX TEST RESULTS
DISCRETE SAMPLES
(Ref No: 14578/3)

Sample Location	Depth (m)	Soil type	NATIONAL ENVIRONMENT PROTECTION AMENDMENT MEASURE (2013)																														
			TRH (mg/kg)					BTEX (mg/kg)				Health Screening Levels (HSL) D Commercial / Industrial				Ecological Screening Levels for fine-grained soil Commercial and industrial				Ecological Screening Levels for coarse-grained soil Commercial and industrial													
			F1	F2*	F2**	F3	F4	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES	F1	F2*	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES	F1	F2**	F3	F4	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES								
TP201	0.0-0.15	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	310	NL	4	NL	NL	NL	215	170	2500	6600	95	135	185	95	-	-	-	-	-	-	-	-
TP201	1.0-1.3	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	480	NL	6	NL	NL	NL	215	170	2500	6600	95	135	185	95	-	-	-	-	-	-	-	-
TP202	0.0-0.15	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	310	NL	4	NL	NL	NL	215	170	2500	6600	95	135	185	95	-	-	-	-	-	-	-	-
TP203	0.0-0.15	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	310	NL	4	NL	NL	NL	215	170	2500	6600	95	135	185	95	-	-	-	-	-	-	-	-
TP204	0.0-0.15	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	310	NL	4	NL	NL	NL	215	170	2500	6600	95	135	185	95	-	-	-	-	-	-	-	-
TP206	0.0-0.15	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	310	NL	4	NL	NL	NL	215	170	2500	6600	95	135	185	95	-	-	-	-	-	-	-	-
TP207	0.0-0.15	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	310	NL	4	NL	NL	NL	215	170	2500	6600	95	135	185	95	-	-	-	-	-	-	-	-
TP209	0.0-0.15	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	310	NL	4	NL	NL	NL	215	170	2500	6600	95	135	185	95	-	-	-	-	-	-	-	-
TP211	0.0-0.15	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	310	NL	4	NL	NL	NL	215	170	2500	6600	95	135	185	95	-	-	-	-	-	-	-	-
TP213	0.0-0.15	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	310	NL	4	NL	NL	NL	215	170	2500	6600	95	135	185	95	-	-	-	-	-	-	-	-
TP301	0.0-0.15	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	310	NL	4	NL	NL	NL	215	170	2500	6600	95	135	185	95	-	-	-	-	-	-	-	-
TP303	0.0-0.15	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	310	NL	4	NL	NL	NL	215	170	2500	6600	95	135	185	95	-	-	-	-	-	-	-	-
TP304	0.0-0.15	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	310	NL	4	NL	NL	NL	215	170	2500	6600	95	135	185	95	-	-	-	-	-	-	-	-
TP304	1.0-1.3	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	480	NL	6	NL	NL	NL	215	170	2500	6600	95	135	185	95	-	-	-	-	-	-	-	-
TP305	0.0-0.15	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	310	NL	4	NL	NL	NL	215	170	2500	6600	95	135	185	95	-	-	-	-	-	-	-	-
TP308	0.0-0.15	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	310	NL	4	NL	NL	NL	215	170	2500	6600	95	135	185	95	-	-	-	-	-	-	-	-
TP310	0.0-0.15	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	310	NL	4	NL	NL	NL	215	170	2500	6600	95	135	185	95	-	-	-	-	-	-	-	-
TP312	0.0-0.15	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	310	NL	4	NL	NL	NL	215	170	2500	6600	95	135	185	95	-	-	-	-	-	-	-	-
TP314	0.0-0.15	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	310	NL	4	NL	NL	NL	215	170	2500	6600	95	135	185	95	-	-	-	-	-	-	-	-
TP316	0.0-0.15	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	310	NL	4	NL	NL	NL	215	170	2500	6600	95	135	185	95	-	-	-	-	-	-	-	-
TP318	0.0-0.15	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	310	NL	4	NL	NL	NL	215	170	2500	6600	95	135	185	95	-	-	-	-	-	-	-	-
Limit of Reporting (LOR)			25	25	25	90	120	0.1	0.1	0.1	0.3																						

Notes:
F1: C6-C10 less BTEX
F2*: >C10-C16 less Naphthalene
F2**: >C10-C16
F3: >C16-C34
F4: >C34-C40
NL: Not Limiting

TABLE G
POLYCYCLIC AROMATIC HYDROCARBONS (PAH) TEST RESULTS
DISCRETE SAMPLES
(Ref No: 14578/3)

			NATIONAL ENVIRONMENT PROTECTION AMENDMENT MEASURE (2013)								
Sample Location	Depth (m)	Soil type	PAH (mg/kg)				Health-based Investigation Levels (HIL) D ² Commercial / Industrial D		Health Screening Level (HSL) D - Commercial / Industrial	Generic Ecological Investigation Level (EIL) - Commercial and industrial	Ecological Screening Level (ESL) - Commercial and industrial
			BaP TEQ	TOTAL PAHs	NAPHTHALENE	BENZO(a)PYRENE (BaP)	BaP TEQ	TOTAL PAHs	NAPHTHALENE	NAPHTHALENE	BENZO(a)PYRENE (BaP)
TP201	0.0-0.15	Clay	<0.3	<0.8	<0.1	<0.1	40	4000	NL	370	1.4
TP201	1.0-1.3	Clay	<0.3	<0.8	<0.1	<0.1	40	4000	NL	370	1.4
TP201	2.0-2.2	Clay	<0.3	<0.8	<0.1	<0.1	40	4000	NL	370	1.4
TP202	0.0-0.15	Clay	<0.3	<0.8	<0.1	<0.1	40	4000	NL	370	1.4
TP203	0.0-0.15	Clay	<0.3	<0.8	<0.1	<0.1	40	4000	NL	370	1.4
TP204	0.0-0.15	Clay	<0.3	<0.8	<0.1	0.1	40	4000	NL	370	1.4
TP205	0.0-0.15	Clay	<0.3	<0.8	<0.1	<0.1	40	4000	NL	370	1.4
TP206	0.0-0.15	Clay	<0.3	<0.8	<0.1	<0.1	40	4000	NL	370	1.4
TP207	0.0-0.15	Clay	0.9	5.4	<0.1	0.6	40	4000	NL	370	1.4
TP207	0.5-0.7	Clay	<0.3	<0.8	<0.1	<0.1	40	4000	NL	370	1.4
TP209	0.0-0.15	Clay	0.9	7.4	<0.1	0.6	40	4000	NL	370	1.4
TP209	0.5-0.7	Clay	<0.3	<0.8	<0.1	<0.1	40	4000	NL	370	1.4
TP211	0.0-0.15	Clay	0.3	1.4	<0.1	0.2	40	4000	NL	370	1.4
TP213	0.0-0.15	Clay	0.3	1.4	<0.1	0.2	40	4000	NL	370	1.4
TP301	0.0-0.15	Clay	0.5	2.2	<0.1	0.3	40	4000	NL	370	1.4
TP303	0.0-0.15	Clay	<0.3	<0.8	<0.1	<0.1	40	4000	NL	370	1.4
TP303	0.5-0.8	Clay	0.4	1.6	<0.1	0.2	40	4000	NL	370	1.4
TP304	0.0-0.15	Clay	<0.3	<0.8	<0.1	<0.1	40	4000	NL	370	1.4
TP304	0.5-0.8	Clay	<0.3	<0.8	<0.1	<0.1	40	4000	NL	370	1.4
TP304	1.0-1.3	Clay	<0.3	<0.8	<0.1	<0.1	40	4000	NL	370	1.4
TP305	0.0-0.15	Clay	<0.3	<0.8	<0.1	0.1	40	4000	NL	370	1.4
TP306	0.0-0.15	Clay	0.5	2.6	<0.1	0.3	40	4000	NL	370	1.4
TP308	0.0-0.15	Clay	0.4	1.7	<0.1	0.2	40	4000	NL	370	1.4
TP309	0.0-0.15	Clay	0.6	4.4	<0.1	0.4	40	4000	NL	370	1.4
TP310	0.0-0.15	Clay	0.6	3	<0.1	0.4	40	4000	NL	370	1.4
TP311	0.0-0.15	Clay	<0.3	0.9	<0.1	0.1	40	4000	NL	370	1.4
TP312	0.0-0.15	Clay	0.4	1.4	<0.1	0.2	40	4000	NL	370	1.4
TP314	0.0-0.15	Clay	0.4	1.9	<0.1	0.2	40	4000	NL	370	1.4
TP316	0.0-0.15	Clay	0.8	3.1	<0.1	0.5	40	4000	NL	370	1.4
TP318	0.0-0.15	Clay	<0.3	1.2	<0.1	0.1	40	4000	NL	370	1.4
Limit of Reporting (LOR)			0.3	0.8	0.1	0.1					

Notes: a: Commercial / industrial includes premises such as shops, offices, factories and industrial sites.

NL: Not Limiting

TABLE H
DISCRETE SAMPLES
(Ref No: 14578/3)

Sample Location	Depth (m)	OCP (mg/kg)										PCB	(mg/kg)
		HEXACHLOROBENZENE (HCB)	HEPTACHLOR	ALDRIN+DIELDRIN	ENDRIN	METHOXYCHLOR	MIREX	ENDOSULFAN (alpha, beta & sulphate)	DDD+DDE+DDT	DDT	CHLORDANE (alpha & gamma)		
TP201	0.0-0.15	<0.1	<0.1	<0.15	<0.2	<0.1	<0.1	<0.5	<0.6	<0.2	<0.2	<1	
TP201	1.0-1.3	<0.1	<0.1	<0.15	<0.2	<0.1	<0.1	<0.5	<0.6	<0.2	<0.2	<1	
TP202	0.0-0.15	<0.1	<0.1	<0.15	<0.2	<0.1	<0.1	<0.5	<0.6	<0.2	<0.2	<1	
TP203	0.0-0.15	<0.1	<0.1	<0.15	<0.2	<0.1	<0.1	<0.5	<0.6	<0.2	<0.2	<1	
TP204	0.0-0.15	<0.1	<0.1	<0.15	<0.2	<0.1	<0.1	<0.5	<0.6	<0.2	<0.2	<1	
TP206	0.0-0.15	<0.1	<0.1	<0.15	<0.2	<0.1	<0.1	<0.5	<0.6	<0.2	<0.2	<1	
TP207	0.0-0.15	<0.1	<0.1	<0.15	<0.2	<0.1	<0.1	<0.5	<0.6	<0.2	0.6	<1	
TP209	0.0-0.15	<0.1	<0.1	<0.31	<0.2	<0.1	<0.1	<0.5	<0.6	<0.2	<0.2	<1	
TP211	0.0-0.15	<0.1	<0.1	1.6	<0.2	<0.1	<0.1	<0.5	<0.6	<0.2	<0.2	<1	
TP213	0.0-0.15	<0.1	<0.1	<0.24	<0.2	<0.1	<0.1	<0.5	<0.6	<0.2	<0.2	<1	
TP301	0.0-0.15	<0.1	<0.1	<0.16	<0.2	<0.1	<0.1	<0.5	<0.6	<0.2	<0.2	<1	
TP303	0.0-0.15	<0.1	<0.1	<0.15	<0.2	<0.1	<0.1	<0.5	<0.6	<0.2	<0.2	<1	
TP304	0.0-0.15	<0.1	<0.1	<0.15	<0.2	<0.1	<0.1	<0.5	<0.6	<0.2	<0.2	<1	
TP304	1.0-1.3	<0.1	<0.1	<0.15	<0.2	<0.1	<0.1	<0.5	<0.6	<0.2	<0.2	<1	
TP305	0.0-0.15	<0.1	<0.1	<0.15	<0.2	<0.1	<0.1	<0.5	<0.6	<0.2	<0.2	<1	
TP308	0.0-0.15	<0.1	<0.1	<0.22	<0.2	<0.1	<0.1	<0.5	<0.6	<0.2	<0.2	<1	
TP310	0.0-0.15	<0.1	<0.1	<0.15	<0.2	<0.1	<0.1	<0.5	<0.6	<0.2	<0.2	<1	
TP312	0.0-0.15	<0.1	<0.1	<0.15	<0.2	<0.1	<0.1	<0.5	<0.6	<0.2	<0.2	<1	
TP314	0.0-0.15	<0.1	<0.1	<0.15	<0.2	<0.1	<0.1	<0.5	<0.6	<0.2	<0.2	<1	
TP315	0.0-0.15	<0.1	<0.1	<0.15	<0.2	<0.1	<0.1	<0.5	<0.6	<0.2	<0.2	<1	
TP316	0.0-0.15	<0.1	<0.1	<0.15	<0.2	<0.1	<0.1	<0.5	<0.6	<0.2	<0.2	<1	
TP318	0.0-0.15	<0.1	<0.1	<0.15	<0.2	<0.1	<0.1	<0.5	<0.6	<0.2	<0.2	<1	
Limit of Reporting (LOR)		0.1	0.1	0.15	0.2	0.1	0.1	0.5	0.6	0.2	0.2	1	
NATIONAL ENVIRONMENT PROTECTION AMENDMENT MEASURE (2013)													
Health-based Investigation Levels (HIL) D - Commercial / Industrial D ^a		80	50	45	100	2500	100	2000	3600		530	7	
Ecological Investigation Levels (EIL) - Commercial and industrial										640 ^b			

Notes: a: Commercial / industrial includes premises such as shops, offices, factories and industrial sites.

b: Generic EIL for DDT

TABLE I
ASBESTOS TEST RESULTS
DISCRETE SAMPLES
(Ref No: 14578/3)

Sample Location	Depth (m)	ASBESTOS (% w/w)	
TP203	0.0-0.15	<0.01	<0.001
TP204	0.0-0.15	<0.01	<0.001
TP206	0.0-0.15	<0.01	<0.001
TP207	0.0-0.15	<0.01	<0.001
TP208	0.0-0.15	<0.01	<0.001
TP209	0.0-0.15	<0.01	<0.001
TP210	0.0-0.15	<0.01	<0.001
TP211	0.0-0.15	0.02	<0.001
TP212	0.0-0.15	<0.01	<0.001
TP213	0.0-0.15	<0.01	<0.001
TP302	0.0-0.15	<0.01	<0.001
TP302	0.5-0.8	<0.01	<0.001
TP303	0.0-0.15	<0.01	<0.001
TP303	0.5-0.8	<0.01	<0.001
TP304	0.0-0.15	<0.01	<0.001
TP304	0.5-0.8	<0.01	<0.001
TP304	1.0-1.3	<0.01	<0.001
TP304	1.5-1.8	<0.01	0.002
TP307	0.0-0.15	<0.01	<0.001
TP308	0.0-0.15	<0.01	<0.001
TP312	0.0-0.15	<0.01	<0.001
TP313	0.0-0.15	<0.01	<0.001
TP316	0.0-0.15	<0.01	<0.001
Limits of Reporting (LOR)		0.01	0.001
NATIONAL ENVIRONMENT PROTECTION AMENDMENT MEASURE (2013)			
Health Screening Levels - Commercial / Industrial D ^a		0.05	0.001
Fibro-cement Piece			
FCP-TP207	0.0-0.15	ACM	
FCP-TP208	0.0-0.15	No ACM	

Notes: ACM: Asbestos Containing Material
 AF: Asbestos Fines
 FA: Fibrous Asbestos
 a: Commercial / industrial includes premises such as shops, offices, factories and industrial sites.

TABLE J
PER- AND POLY- FLUOROALKYL SUBSTANCE (PFAS)
(Ref No: 14578/3)

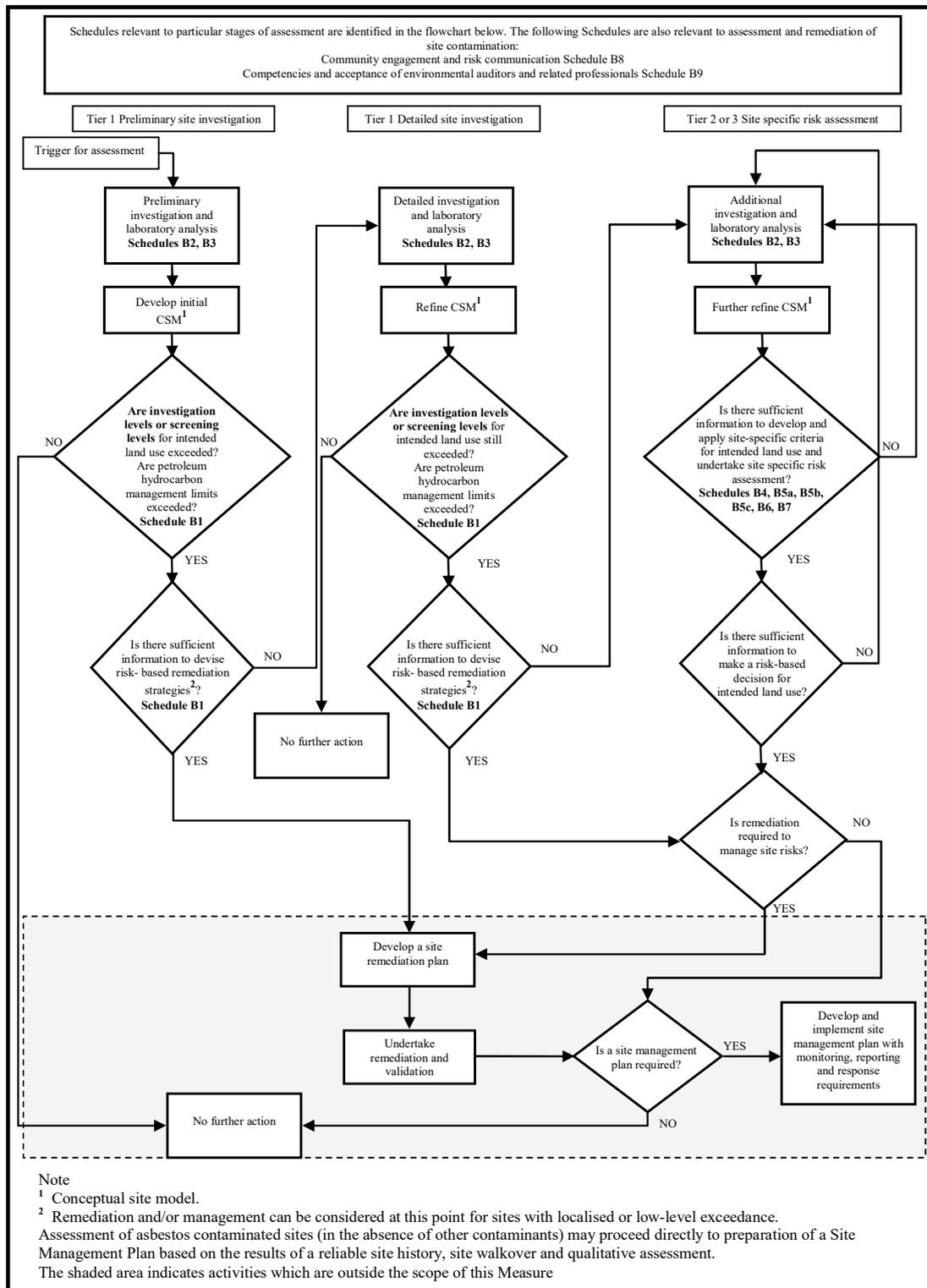
Analyte		PFAS (µg/kg)			
		PFOS	PFHxS	PFOS+PFHxS	PFOA
Location	Depth (m)				
TP208	0.0-0.15	0.8	<0.1	0.8	<0.1
TP210	0.0-0.15	0.3	<0.1	0.3	0.1
TP213	0.0-0.15	0.7	<0.1	0.7	0.2
Practical Quantitation Limit (PQL)		0.1	0.1	0.1	0.1
PFAS National Environmental Management Plan 2018					
Soil-Human Health Screening Values ^a				20 mg/kg	50 mg/kg
				20,000 µg/kg	50,000 µg/kg
Interim Soil-Ecological Indirect Exposure ^b		0.14 mg/kg			
		140 µg/kg			

Notes: a: Commercial
b: Commercial

APPENDIX A

**RECOMMENDED GENERAL PROCESS FOR ASSESSMENT OF SITE CONTAMINATION
FLOW CHART**

Schedule A—Recommended general process for assessment of site contamination



APPENDIX B

CADASTRAL RECORDS

14578/3**Summary of Proprietors****Lot 21 DP 1236215****(Prior Titles: 2/1226395, 5, 6 & 8 /1230453)**

Year	Proprietor
2020	Log Cabin Pub Pty Ltd

Lot 2 DP 1226395

Year	Proprietor
?- 2020	Sinclair Nominees Pty Limited
1907-?	His Excellency the Governor (Resumption and Dedication of Land for Road)

Lot 5 DP 1230453

Year	Proprietor
1983 - 2020	Sinclair Nominees Pty Limited
1958 - 1983	D'Aguilar Pty Limited
1941 - 1958	Mountain Hotels Pty Limited
1939 - 1941	Cecil Hay (investor)

Lot 6 DP 1230453

Year	Proprietor
2018 - 2020	Sinclair Nominees Pty Limited
1975 - 2018	Roads and Maritime Services / The Council of the City of Penrith
1958 - 1975	D'Aguilar Pty Limited
1941 - 1958	Mountain Hotels Pty Limited
1939 - 1941	Cecil Hay (investor)

Lot 8 DP 1230453

Year	Proprietor
?- 2020	Sinclair Nominees Pty Limited
1968 -?	Metropolitan Water Sewerage and Drainage Board

14578/3

Lot 22 DP 1236215

(Prior Titles: Y/161997, 1/1214298, 2/655559, 1/1224462 & Vol 15083 Fol 99)

Year	Proprietor
2020	Log Cabin Pub Pty Ltd

Lot Y DP 161997

(Book 3587 No 115, Book 2215 No 654)

Year	Proprietor
1984 - 2020	Sinclair Nominees Pty Limited
1959 - 1984	Kathleen Grace Ingham (previously Kathleen Grace Lowe)
1952 - 1959	Mordaunt Charles Darcy Lowe (stud breeder) & Kathleen Grace Lowe
1948 - 1952	Colin Evans (panel beater)
1902 - 1948	William James Fuller

Lot 1 DP 1214298

(Book 2059 No 842, Book 1907 No 138, Book 1901 No 719 & Book 1176 No 808)

Book 2059 No 842

Year	Proprietor
? - 2020	Sinclair Nominees Pty Limited
1948 - ?	Colin Evans (panel beater)
1948	Sarah Ellen Fuller

Book 1907 No 138

Year	Proprietor
? - 2020	Sinclair Nominees Pty Limited
1941 - ?	His Most Gracious Majesty King George VI, The Commissioner For Main Roads & The Council of The Municipality of Penrith
1925 - 1941	Nelson Price
1920 - 1925	Herbert Joseph Williamson

14578/3

Book 1901 No 719

Year	Proprietor
? - 2020	Sinclair Nominees Pty Limited
1941 - ?	The Commissioner for Main Roads
1911 - 1941	Sarah Ellen Fuller

Book 1176 No 808

Year	Proprietor
? - 2020	Sinclair Nominees Pty Limited
1920 - ?	Herbert Joseph Williamson
1920	Francis Henry Woodriff & Garnet Honeman (farmer)

Lot 2 DP 655559

Year	Proprietor
1983 - 2020	Sinclair Nominees Pty Limited
1958 - 1983	D'Aguilar Pty Limited
1941- 1958	Mountain Hotels Pty Limited
1939 - 1941	Cecil Hay (investor)

**Lot 1 DP 1224462
(3B/155224, Book 1901 No 719)**

Year	Proprietor
2018 - 2020	Sinclair Nominees Pty Limited
1941 - 2018	Roads and Maritime Services / The Commissioner for Main Roads
1911 - 1941	Sarah Ellen Fuller

Vol 15083 Fol 99

Year	Proprietor
1983 - 2020	Sinclair Nominees Pty Limited
1967 - 1983	D'Aguilar Pty Limited
1967	Florence May Copping

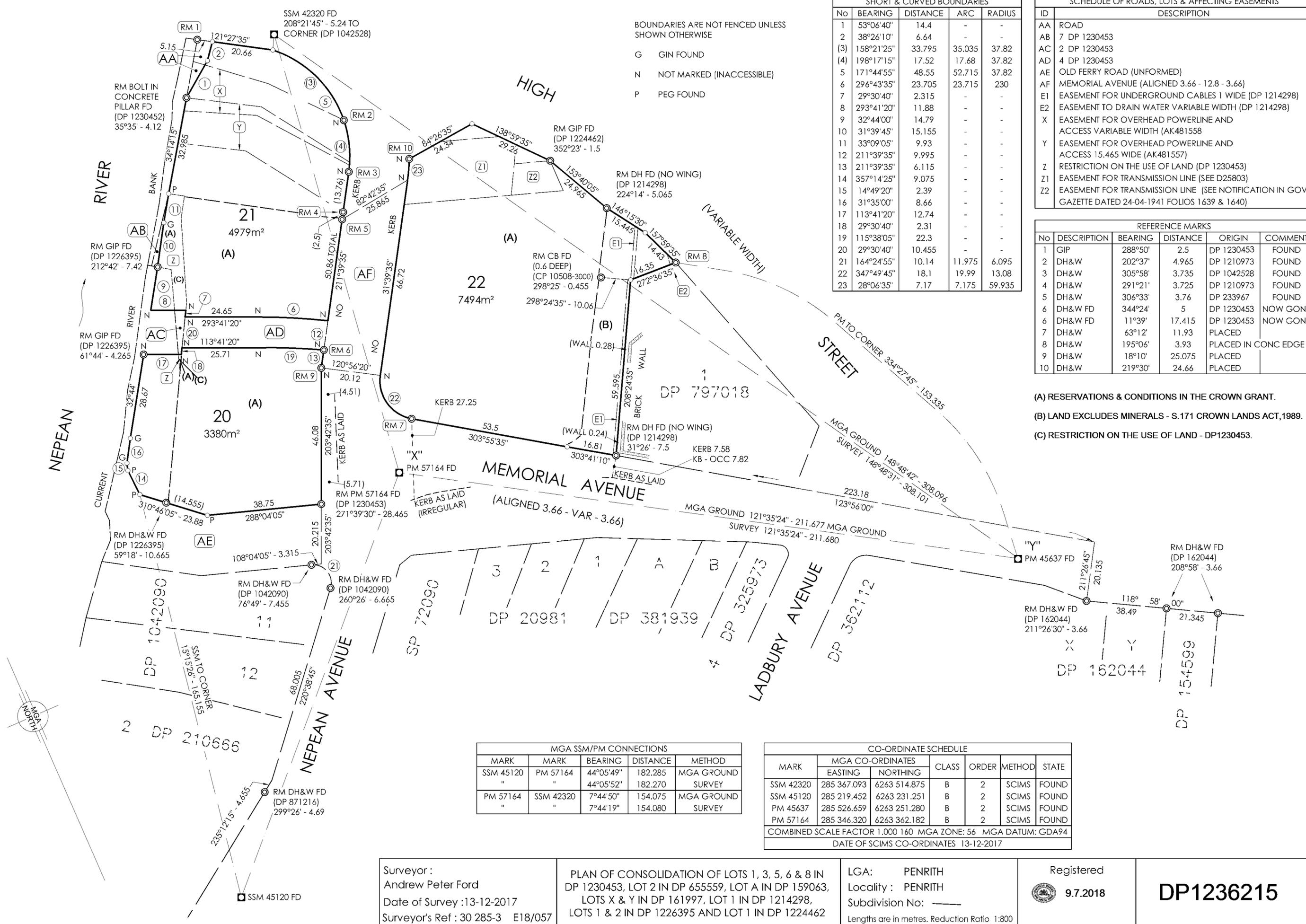
14578/3

Summary of Potential Leases

**Part of Lot 21 DP 1236215 (Lots 5 & 6 DP1230453)
and
Part of Lot 22 DP 1236215 (Lot 2 DP 655559)**

Year	Potential Lessee
1950 - 1958	Arthur Clive Odgers (illegible) hotel keeper
1947 - 1950	Richard James Wolff (illegible) hotel keeper
1939 - 1947	Log Cabin (Penrith) Pty Limited

Req:R855815 /Doc:DP 1236215 P /Rev:09-Jul-2018 /NSW LRS /Pgs:ALL /Prt:26-Mar-2020 13:42 /Seq:1 of 3
Office of the Registrar-General /Src:GLOBALX /Ref:advlgeo



BOUNDARIES ARE NOT FENCED UNLESS SHOWN OTHERWISE

G GIN FOUND

N NOT MARKED (INACCESSIBLE)

P PEG FOUND

SHORT & CURVED BOUNDARIES				
No	BEARING	DISTANCE	ARC	RADIUS
1	53°06'40"	14.4	-	-
2	38°26'10"	6.64	-	-
(3)	158°21'25"	33.795	35.035	37.82
(4)	198°17'15"	17.52	17.68	37.82
5	171°44'55"	48.55	52.715	37.82
6	296°43'35"	23.705	23.715	230
7	29°30'40"	2.315	-	-
8	293°41'20"	11.88	-	-
9	32°44'00"	14.79	-	-
10	31°39'45"	15.155	-	-
11	33°09'05"	9.93	-	-
12	211°39'35"	9.995	-	-
13	211°39'35"	6.115	-	-
14	357°14'25"	9.075	-	-
15	14°49'20"	2.39	-	-
16	31°35'00"	8.66	-	-
17	113°41'20"	12.74	-	-
18	29°30'40"	2.31	-	-
19	115°38'05"	22.3	-	-
20	29°30'40"	10.455	-	-
21	164°24'55"	10.14	11.975	6.095
22	347°49'45"	18.1	19.99	13.08
23	28°06'35"	7.17	7.175	59.935

SCHEDULE OF ROADS, LOTS & AFFECTING EASEMENTS	
ID	DESCRIPTION
AA	ROAD
AB	7 DP 1230453
AC	2 DP 1230453
AD	4 DP 1230453
AE	OLD FERRY ROAD (UNFORMED)
AF	MEMORIAL AVENUE (ALIGNED 3.66 - 12.8 - 3.66)
E1	EASEMENT FOR UNDERGROUND CABLES 1 WIDE (DP 1214298)
E2	EASEMENT TO DRAIN WATER VARIABLE WIDTH (DP 1214298)
X	EASEMENT FOR OVERHEAD POWERLINE AND ACCESS VARIABLE WIDTH (AK481558)
Y	EASEMENT FOR OVERHEAD POWERLINE AND ACCESS 15.465 WIDE (AK481557)
Z	RESTRICTION ON THE USE OF LAND (DP 1230453)
Z1	EASEMENT FOR TRANSMISSION LINE (SEE D25803)
Z2	EASEMENT FOR TRANSMISSION LINE (SEE NOTIFICATION IN GOV GAZETTE DATED 24-04-1941 FOLIOS 1639 & 1640)

REFERENCE MARKS					
No	DESCRIPTION	BEARING	DISTANCE	ORIGIN	COMMENT
1	GIP	288°50'	2.5	DP 1230453	FOUND
2	DH&W	202°37'	4.965	DP 1210973	FOUND
3	DH&W	305°58'	3.735	DP 1042528	FOUND
4	DH&W	291°21'	3.725	DP 1210973	FOUND
5	DH&W	306°33'	3.76	DP 233967	FOUND
6	DH&W FD	344°24'	5	DP 1230453	NOW GONE
7	DH&W FD	11°39'	17.415	DP 1230453	NOW GONE
8	DH&W	63°12'	11.93		PLACED
9	DH&W	195°06'	3.93		PLACED IN CONC EDGE
10	DH&W	18°10'	25.075		PLACED
11	DH&W	219°30'	24.66		PLACED

(A) RESERVATIONS & CONDITIONS IN THE CROWN GRANT.

(B) LAND EXCLUDES MINERALS - S.171 CROWN LANDS ACT, 1989.

(C) RESTRICTION ON THE USE OF LAND - DP1230453.

MGA SSM/PM CONNECTIONS				
MARK	MARK	BEARING	DISTANCE	METHOD
SSM 45120	PM 57164	44°05'49"	182.285	MGA GROUND
"	"	44°05'52"	182.270	SURVEY
PM 57164	SSM 42320	7°44'50"	154.075	MGA GROUND
"	"	7°44'19"	154.080	SURVEY

CO-ORDINATE SCHEDULE						
MARK	MGA CO-ORDINATES		CLASS	ORDER	METHOD	STATE
	EASTING	NORTHING				
SSM 42320	285 367.093	6263 514.875	B	2	SCIMS	FOUND
SSM 45120	285 219.452	6263 231.251	B	2	SCIMS	FOUND
PM 45637	285 526.659	6263 251.280	B	2	SCIMS	FOUND
PM 57164	285 346.320	6263 362.182	B	2	SCIMS	FOUND

COMBINED SCALE FACTOR 1.000 160 MGA ZONE: 56 MGA DATUM: GDA94
DATE OF SCIMS CO-ORDINATES 13-12-2017

Surveyor :
Andrew Peter Ford
Date of Survey :13-12-2017
Surveyor's Ref : 30 285-3 E18/057

PLAN OF CONSOLIDATION OF LOTS 1, 3, 5, 6 & 8 IN DP 1230453, LOT 2 IN DP 655559, LOT A IN DP 159063, LOTS X & Y IN DP 161997, LOT 1 IN DP 1214298, LOTS 1 & 2 IN DP 1226395 AND LOT 1 IN DP 1224462

LGA: PENRITH
Locality : PENRITH
Subdivision No: _____
Lengths are in metres, Reduction Ratio 1:800

Registered
9.7.2018

DP1236215

PLAN FORM 6 (2017)	DEPOSITED PLAN ADMINISTRATION SHEET	Sheet 1 of 2 sheet(s)
Registered: 9.7.2018 Title System: TORRENS	Office Use Only <h1 style="margin: 0;">DP1236215</h1>	Office Use Only
PLAN OF CONSOLIDATION OF LOT 1, 3, 5, 6 & 8 IN DP 1230453, LOT 2 IN DP 655559, LOT A IN DP 159063, LOTS X & Y IN DP 161997, LOT 1 IN DP 1214298 & LOTS 1 & 2 IN DP 1226395 & LOT 1 IN DP 1224462	LGA: PENRITH Locality: PENRITH Parish: CASTLEREAGH County: CUMBERLAND	
<p style="text-align: center;">Survey Certificate</p> I, ANDREW PETER FORD of FREEBURN SURVEYING a surveyor registered under the <i>Surveying and Spatial Information Act 2002</i> , certify that: *(a) The land shown in the plan was surveyed in accordance with the <i>Surveying and Spatial Information Regulation 2017</i> , is accurate and the survey was completed on 13 December 2017. *(b) The part of the land shown in the plan (*being*excluding** was surveyed in accordance with the <i>Surveying and Spatial Information Regulation 2017</i>, the part surveyed is accurate and the survey was completed on, the part not surveyed was compiled in accordance with that Regulation, or *(c) The land shown in this plan was compiled in accordance with the <i>Surveying and Spatial Information Regulation 2017</i>. Datum Line: X - Y Type: *Urban/*Rural The terrain is *Level-Undulating / *Steep-Mountainous Signature: Dated: 13/12/2017 Surveyor Identification No: 2181 Surveyor registered under the <i>Surveying and Spatial Information Act 2002</i> *Strike out inappropriate words. **Specify the land actually surveyed or specify any land shown in the plan that is not the subject of the survey.	<p style="text-align: center;">Crown Lands NSW/Western Lands Office Approval</p> I, (Authorised Officer) in approving this plan certify that all necessary approvals in regard to the allocation of the land shown herein have been given. Signature: Date: File Number: Office:	
Plans used in the preparation of survey/compilation. R8623 - 1603 DP 580256 DP 159063 C10508 - 3000 DP 871216 DP 1210973 DP 14656 DP 1042090 DP 1226395 DP 85981 DP 655559 DP 1224462 DP 83915 DP 1214298 DP 1230453 DP 233967 DP 162044 DP 161997	<p style="text-align: center;">Subdivision Certificate 5C17/0104</p> I, Garvin Cherry *Authorised Person/*General Manager/*Accredited Certifier, certify that the provisions of s.109J of the <i>Environmental Planning and Assessment Act 1979</i> have been satisfied in relation to the proposed subdivision, new road or reserve set out herein. Signature: Accreditation number: Consent Authority: PENRITH CITY COUNCIL Date of endorsement: 15/2/18 Subdivision Certificate number: 010/18 File number: DA 17/0007 *Strike through if inapplicable.	
Surveyor's Reference: 30285-3 E. 18/057	Statements of intention to dedicate public roads, create public reserves and drainage reserves, acquire/resume land. Signatures, Seals and Section 88B Statements should appear on PLAN FORM 6A	

PLAN FORM 6A Annexure (2012)

WARNING: Creasing or folding will lead to rejection

ePlan

DEPOSITED PLAN ADMINISTRATION SHEET

Sheet 2 of 2 sheet(s)

Office Use Only
Registered:  9.7.2018

Office Use Only
DP1236215

PLAN OF CONSOLIDATION OF LOT 1, 3, 5, 6 & 8
IN DP 1230453, LOT 2 IN DP 655559, LOT A IN
DP 159063, LOTS X & Y IN DP 161997, LOT 1 &
2 IN DP 1214298 & LOTS 1 & 2 IN DP 1226395 &
LOT 1 IN DP 1224462

THIS SHEET IS FOR THE PROVISION OF THE FOLLOWING INFORMATION AS REQUIRED:

- A schedule of lots and addresses – See 600 SSI Regulation 2012.
- Statements of intention to create and release affecting interests in accordance with section 88B Conveyancing Act 1919.
- Signatures and seals - see 195D Conveyancing Act 1919.
- Any information which cannot fit in the appropriate panel on sheet 1 of the administration sheets.

Subdivision Certificate No: 010/18
Date of Endorsement: 15/2/18

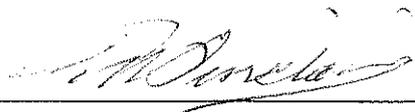
NOTE:
STREET ADDRESSES OF ALL LOTS ARE NOT AVAILABLE.

EXECUTED BY

SINCLAIR NOMINEES PTY LIMITED
ACN 001 303 788

In accordance with s127 of the Corporations Act 2001, on the 12th day of April 2018
In accordance with its constitution in the presence of:

ROSS HENRY SINCLAIR
DIRECTOR (print name)


DIRECTOR (signature)

MARKUS DUNDLER
DIRECTOR/SECRETARY (print name)


DIRECTOR/SECRETARY (signature)

If space is insufficient use additional Annexure Sheet

SURVEYOR'S REFERENCE: 30285-3



NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 21/1236215

SEARCH DATE	TIME	EDITION NO	DATE
26/3/2020	1:11 PM	2	26/2/2020

LAND

LOT 21 IN DEPOSITED PLAN 1236215
AT PENRITH
LOCAL GOVERNMENT AREA PENRITH
PARISH OF CASTLEREAGH COUNTY OF CUMBERLAND
TITLE DIAGRAM DP1236215

FIRST SCHEDULE

LOG CABIN PUB PTY LTD (T AP921209)

SECOND SCHEDULE (4 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S) WITHIN THE PART(S) SHOWN SO INDICATED IN THE TITLE DIAGRAM
2 AK481557 EASEMENT FOR OVERHEAD POWER LINE(S) AND ACCESS 15.465 WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
3 AK481558 EASEMENT FOR OVERHEAD POWER LINE(S) AND ACCESS VARIABLE WIDTH AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
4 DP1230453 RESTRICTION(S) ON THE USE OF LAND AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM

NOTATIONS

DP1042528 NOTE: PLAN OF EASEMENTS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

advlgeo

PRINTED ON 26/3/2020

Obtained from NSW LRS on 26 March 2020 12:11 PM AEST
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NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
26/3/2020 1:15PM

FOLIO: 21/1236215

First Title(s): OLD SYSTEM
Prior Title(s): 2/1226395 5-6/1230453
8/1230453

Recorded	Number	Type of Instrument	C.T. Issue
9/7/2018	DP1236215	DEPOSITED PLAN	FOLIO CREATED EDITION 1
14/2/2020	AP902491	CAVEAT	
26/2/2020	AP921209	TRANSFER	EDITION 2

*** END OF SEARCH ***

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PRINTED ON 26/3/2020



NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 22/1236215

SEARCH DATE	TIME	EDITION NO	DATE
-----	----	-----	----
26/3/2020	1:11 PM	2	26/2/2020

LAND

LOT 22 IN DEPOSITED PLAN 1236215
AT PENRITH
LOCAL GOVERNMENT AREA PENRITH
PARISH OF CASTLEREAGH COUNTY OF CUMBERLAND
TITLE DIAGRAM DP1236215

FIRST SCHEDULE

LOG CABIN PUB PTY LTD (T AP921209)

SECOND SCHEDULE (6 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S) WITHIN THE PART(S) SHOWN SO INDICATED IN THE TITLE DIAGRAM
- 2 LAND EXCLUDES MINERALS (S.171 CROWN LANDS ACT 1989) WITHIN THE PART SHOWN SO INDICATED IN THE TITLE DIAGRAM
- 3 D25803 EASEMENT FOR TRANSMISSION LINE 20.115 METRE(S) WIDE AND VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 4 EASEMENT FOR TRANSMISSION LINE AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM VIDE NOTIFICATION IN GOV. GAZ. DATED 24.04.1941 FOLIO'S 1639 & 1640
- 5 DP1214298 EASEMENT FOR UNDERGROUND CABLES 1 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 6 DP1214298 EASEMENT TO DRAIN WATER VARIABLE WIDTH AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

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Obtained from NSW LRS on 26 March 2020 12:11 PM AEST

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NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
26/3/2020 1:15PM

FOLIO: 22/1236215

First Title(s): OLD SYSTEM
Prior Title(s): Y/161997 2/655559
1/1214298 1/1224462
VOL 15083 FOL 99

Recorded	Number	Type of Instrument	C.T. Issue
9/7/2018	DP1236215	DEPOSITED PLAN	FOLIO CREATED EDITION 1
19/3/2019	AP125425	CANCELLATION OF CAUTION	
14/2/2020	AP902491	CAVEAT	
26/2/2020	AP921209	TRANSFER	EDITION 2

*** END OF SEARCH ***

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PRINTED ON 26/3/2020

System Document Identification

Form Number:01T-e
Template Number: T_nsw16
ELN Document ID:548543587
ELN NOS ID: 548543589

TRANSFER
New South Wales
Real Property Act 1900

Land Registry Document Identification

AP921209

Stamp Duty: 9765316-001

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises the Registrar General to collect the information required by this form for the establishment and maintenance of the Real Property Act Register. Section 96B RP Act requires that the Register is made available to any person for search upon payment of a fee, if any.

LODGED BY:

Responsible Subscriber: CLARK MCNAMARA LAWYERS ABN 17628821915
Address: L19, 1 Market ST
Sydney 2000
Telephone:
PEXA Subscriber Number: 24451
Customer Account Number: 503649L
Document Collection Box: 1W
Client Reference: 28461

LAND TITLE REFERENCE

20/1236215
22/1236215
21/1236215

TRANSFEROR

SINCLAIR NOMINEES PTY. LIMITED ACN 001303788
Registered company

TRANSFeree

LOG CABIN PUB PTY LTD ACN 638344108
Registered company

Tenancy: Sole Proprietor

CONSIDERATION

The transferor acknowledges receipt of the consideration of \$16,500,000.00

ESTATE TRANSFERRED

FEE SIMPLE

The Transferor transfers to the Transferee the Estate specified in this Instrument and acknowledges receipt of any Consideration shown.

SIGNING FOR TRANSFEROR

I certify that:

1. The Certifier has taken reasonable steps to ensure that this Registry Instrument or Document is correct and compliant with relevant legislation and any Prescribed Requirement.
2. The Certifier has retained the evidence supporting this Registry Instrument or Document.
3. The Certifier holds a properly completed Client Authorisation for the Conveyancing Transaction including this Registry Instrument or Document.
4. The Certifier has taken reasonable steps to verify the identity of the transferor.

Party Represented by Subscriber:

SINCLAIR NOMINEES PTY. LIMITED

Signed By: Phillip Andy Thompson
PEXA Signer Number:56496

Signer Capacity:Practitioner Certifier
Digital Signing Certificate Number:30914

Signed for
Subscriber: PHILLIP ANDY THOMPSON ABN 18956087807
PHILLIP THOMPSON & ASSOCIATES

Subscriber Capacity:Representative Subscriber

PEXA Subscriber Number:23443

Customer Account Number:502963

Date: 24/02/2020

SIGNING FOR TRANSFEREE

I certify that:

1. The Certifier has taken reasonable steps to ensure that this Registry Instrument or Document is correct and compliant with relevant legislation and any Prescribed Requirement.
2. The Certifier has retained the evidence supporting this Registry Instrument or Document.
3. The Certifier holds a properly completed Client Authorisation for the Conveyancing Transaction including this Registry Instrument or Document.
4. The Certifier has taken reasonable steps to verify the identity of the transferee.

Party Represented by Subscriber:

LOG CABIN PUB PTY LTD

Signed By:Paul Antony Clark

Signer Capacity:Practitioner Certifier

PEXA Signer Number:63868

Digital Signing Certificate Number:37391

**Signed for
Subscriber:**

PARTNERS OF CLARK MCNAMARA LAWYERS ABN 17628821915

CLARK MCNAMARA LAWYERS

Subscriber Capacity:Representative Subscriber

PEXA Subscriber Number:24451

Customer Account Number:503649

Date: 24/02/2020

APPENDIX C

AERIAL PHOTOGRAPHS

14578/3



October 2019



October 2009

*Sinclair Nominees Pty Ltd
C/- FDC Construction (NSW) Pty Ltd
DS.mh/03.04.2020*

14578/3



1994



1986

*Sinclair Nominees Pty Ltd
C/- FDC Construction (NSW) Pty Ltd
DS.mh/03.04.2020*

14578/3



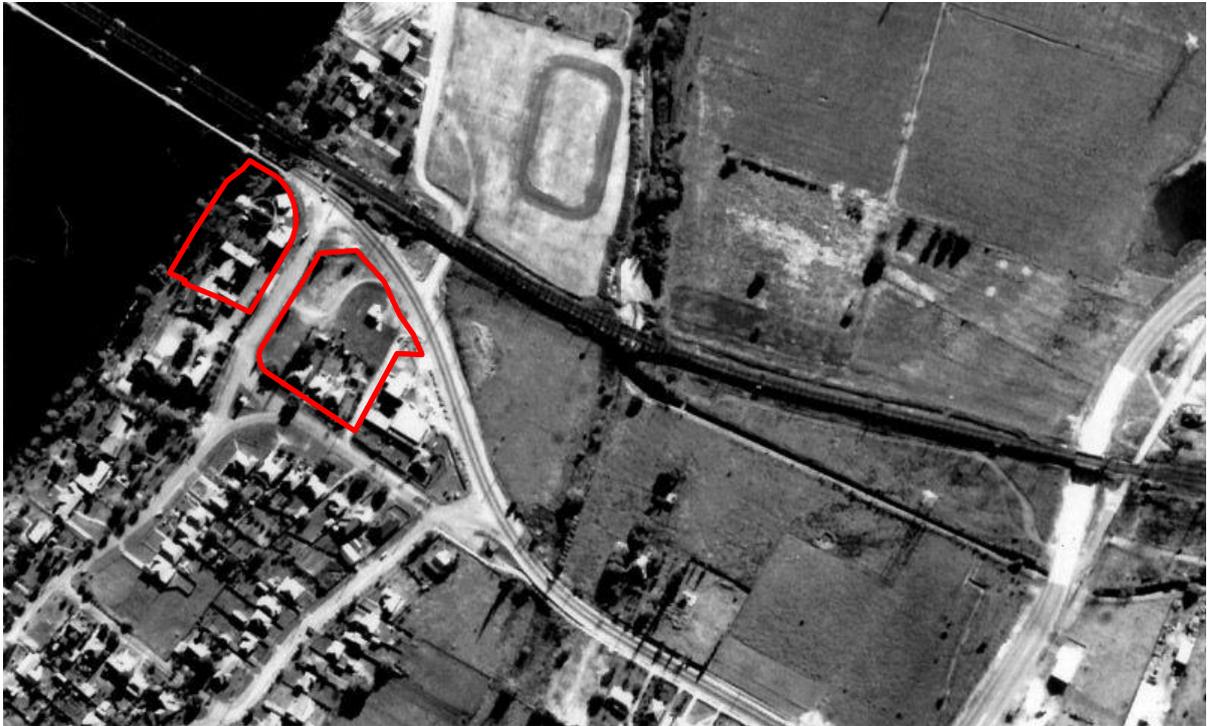
1978



1970

*Sinclair Nominees Pty Ltd
C/- FDC Construction (NSW) Pty Ltd
DS.mh/03.04.2020*

14578/3



1961

*Sinclair Nominees Pty Ltd
C/- FDC Construction (NSW) Pty Ltd
DS.mh/03.04.2020*

APPENDIX D

SECTION 149 (2 AND 5) PLANNING CERTIFICATES AND COUNCIL RECORDS

PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

Property No: 798293
Your Reference: 14578/3
Contact No:

Issue Date: 17 March 2020
Certificate No: 20/01300

Issued to: Geotechnique Pty Ltd
PO Box 880
PENRITH NSW 2750

PRECINCT 2010

DESCRIPTION OF LAND

County: CUMBERLAND

Parish: CASTLEREAGH

Location: 20 Memorial Avenue PENRITH NSW 2750

Land Description: Lot 21 DP 1236215

- PART 1 PRESCRIBED MATTERS -

In accordance with the provisions of Section 10.7(2) of the Act the following information is furnished in respect of the abovementioned land:

1 NAMES OF RELEVANT PLANNING INSTRUMENTS AND DCPs

1(1) The name of each environmental planning instrument that applies to the carrying out of development on the land:

Penrith Local Environmental Plan 2010, published 22nd September 2010, as amended, applies to the land.

Sydney Regional Environmental Plan No.9 - Extractive Industry (No.2), gazetted 15 September 1995, as amended, applies to the local government area of Penrith.

Sydney Regional Environmental Plan No. 20 - Hawkesbury-Nepean River (No. 2 - 1997), gazetted 7 November 1997, as amended, applies to the local government area of Penrith (except land to which State Environmental Planning Policy (Penrith Lakes Scheme) 1989 applies).

The following State environmental planning policies apply to the land (subject to the exclusions noted below):

State Environmental Planning Policy No.19 - Bushland in Urban Areas. (Note: This policy does not apply to certain land referred to in the National Parks and Wildlife Act 1974 and the Forestry Act 1916.)

State Environmental Planning Policy No.21 - Caravan Parks.

State Environmental Planning Policy No.33 - Hazardous and Offensive Development.

State Environmental Planning Policy No.50 - Canal Estate Development. (Note: This policy does not apply to the land to which State Environmental Planning Policy (Penrith Lakes Scheme) 1989 applies.

State Environmental Planning Policy No.55 - Remediation of Land.

State Environmental Planning Policy No.64 - Advertising and Signage.

PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

State Environmental Planning Policy No.65 - Design Quality of Residential Apartment Development.
State Environmental Planning Policy No.70 - Affordable Housing (Revised Schemes).
State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 (Note: This policy applies to land within New South Wales that is land zoned primarily for urban purposes or land that adjoins land zoned primarily for urban purposes, but only as detailed in clause 4 of the policy.)
State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004.
State Environmental Planning Policy (State Significant Precincts) 2005.
State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2013.
State Environmental Planning Policy (Infrastructure) 2007.
State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.
State Environmental Planning Policy (Affordable Rental Housing) 2009.
State Environmental Planning Policy (State and Regional Development) 2011.
State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017.
State Environmental Planning Policy (Education Establishments and Child Care Centre Facilities) 2017.
State Environmental Planning Policy (Primary Production and Rural Development) 2019.

1(2) The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act:

(Information is provided in this section only if a proposed environmental planning instrument that is or has been the subject of community consultation or on public exhibition under the Act will apply to the carrying out of development on the land.)

Draft State Environmental Planning Policy (Western Sydney Corridors) may apply to the land. Further information is available here: <https://www.transport.nsw.gov.au/corridors>.

On 22 June 2018, the NSW Government announced changes to the recommended alignments for the Western Sydney corridors, including continuing with the previously gazetted 1951 corridor for the Bells Line of Road Castlereagh Connection.

Draft State Environmental Planning Policy (Environment) applies to the land.

Draft State Environmental Planning Policy (Remediation of Land) applies to the land.

Draft State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 applies to the land.

Draft State Environmental Planning Policy (Infrastructure) 2007 applies to the land.

Draft State Environmental Planning Policy (State and Regional Development) 2011 applies to the land.

1(3) The name of each development control plan that applies to the carrying out of development on the land:

Penrith Development Control Plan 2014 applies to the land.

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2 ZONING AND LAND USE UNDER RELEVANT LEPs

For each environmental planning instrument or proposed instrument referred to in clause 1 (other than a SEPP or proposed SEPP) that includes the land in any zone (however described):

2(a)-(d) the identity of the zone; the purposes that may be carried out without development consent; the purposes that may not be carried out except with development consent; and the purposes that are prohibited within the zone. Any zone(s) applying to the land is/are listed below and/or in annexures.

(Note: If no zoning appears in this section see section 1(1) for zoning and land use details (under the Sydney Regional Environmental Plan or State Environmental Planning Policy that zones this property).)

**Zone SP3 Tourist
(Penrith Local Environmental Plan 2010)**

1 Objectives of zone

- To provide for a variety of tourist-oriented development and related uses.
- To provide for diverse tourist and visitor accommodation and activities that are compatible with the promotion of tourism in Penrith.
- To create an appropriate scale that maintains important views to and from the Nepean River as well as to the Blue Mountains escarpment, while also improving important connections to the Penrith City Centre and the Nepean River.

2 Permitted without consent

Nil

3 Permitted with consent

Aquaculture; Amusement centres; Boat launching ramps; Boat sheds; Car parks; Charter and tourism boating facilities; Community facilities; Educational establishments; Entertainment facilities; Environmental facilities; Environmental protection works; Flood mitigation works; Food and drink premises; Function centres; Helipads; Health services facilities; Information and education facilities; Jetties; Kiosks; Markets; Neighbourhood shops; Passenger transport facilities; Places of public worship; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Registered clubs; Roads; Service stations; Signage; Tourist and visitor accommodation; Water recreation structures

4 Prohibited

Any development not specified in item 2 or 3

Flood planning

All or part of the subject land is identified in Penrith Local Environmental Plan 2010 (PLEP 2010) Clause 7.2 Flood Planning. Development consent is required for any development on land to which Clause 7.2 of PLEP 2010 applies.

Additional information relating to Penrith Local Environmental Plan 2010

Note 1: Under the terms of Clause 2.4 of Penrith Local Environmental Plan 2010 development may be carried out on unzoned land only with development consent.

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Note 2: Under the terms of Clause 2.6 of Penrith Local Environmental Plan 2010 land may be subdivided but only with development consent, except for the exclusions detailed in the clause.

Note 3: Under the terms of Clause 2.7 of Penrith Local Environmental Plan 2010 the demolition of a building or work may be carried out only with development consent.

Note 4: A temporary use may be permitted with development consent subject to the requirements of Clause 2.8 of Penrith Local Environmental Plan 2010.

Note 5: Under the terms of Clause 4.1A of Penrith Local Environmental Plan 2010, despite any other provision of this plan, development consent must not be granted for dual occupancy on an internal lot in Zone R2 Low Density Residential.

Note 6: Under the terms of Clause 5.1 of Penrith Local Environmental Plan 2010 development on land acquired by an authority of the State under the owner-initiated acquisition provisions may, before it is used for the purpose for which it is reserved, be carried out, with development consent, for any purpose.

Note 7: Under the terms of Clause 5.3 of Penrith Local Environmental Plan 2010 development consent may be granted to development of certain land for any purpose that may be carried out in an adjoining zone.

Note 8: Clause 5.10 of Penrith Local Environmental Plan 2010 details when development consent is required/not required in relation to heritage conservation.

Note 9: Under the terms of Clause 5.11 of Penrith Local Environmental Plan 2010 bush fire hazard reduction work authorised by the *Rural Fires Act 1997* may be carried out on any land without development consent.

Note 10: Under the terms of Clause 7.1 of Penrith Local Environmental Plan 2010 (PLEP 2010) development consent is required for earthworks unless the work is exempt development under PLEP 2010 or another applicable environmental planning instrument, or the work is ancillary to other development for which development consent has been given.

Note 11: Sex services premises and restricted premises may only be permitted subject to the requirements of Clause 7.23 of Penrith Local Environmental Plan 2010.

2(e) whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed:

(Information is provided in this section only if any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed.)

2(f) whether the land includes or comprises critical habitat:

(Information is provided in this section only if the land includes or comprises critical habitat.)

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2(g) whether the land is in a conservation area (however described):

(Information is provided in this section only if the land is in a conservation area (however described).)

2(h) whether an item of environmental heritage (however described) is situated on the land:

An item/Items of environmental heritage (identified in Penrith Local Environmental Plan 2010) is/are situated on the land.

**2A ZONING AND LAND USE UNDER STATE ENVIRONMENTAL PLANNING POLICY
(SYDNEY REGION GROWTH CENTRES) 2006**

(Information is provided in this section only if the land is within any zone under State Environmental Planning Policy (Sydney Region Growth Centres) 2006.)

3 COMPLYING DEVELOPMENT

HOUSING CODE

(The Housing Code only applies if the land is within Zones R1, R2, R3, R4 or RU5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

- The land contains an item of environmental heritage, a heritage item and/or a draft heritage item. If the land is within the relevant zones complying development under the Housing Code **may not** be carried out on any part of the land that is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or that comprises, or on which there is, a draft heritage item. Complying development **may** be carried out on any part of the land that is not identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is not located an item that is so identified, or that does not comprise, or on which there is not, a draft heritage item. Plans of the above items may be found in the applicable planning instrument(s)/draft planning instrument(s).
- The land is affected by a reservation for a public purpose. If the land is within the relevant zones complying development under the Housing Code **may not** be carried out on any part of the land that is reserved for a public purpose by an environmental planning instrument. Complying development **may** be carried out on any part of the land that is not reserved for a public purpose by an environmental planning instrument. For the purposes of this section “public purpose” means any land that is zoned either Zone E1, RE1, SP1 or SP2 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument, or land that is subject to acquisition.
- The land is affected by environmentally sensitive land identified by an environmental planning instrument. If the land is within the relevant zones complying development under the Housing Code **may not** be carried out on any part of the land identified by an environmental planning instrument as being environmentally sensitive land. Complying development **may** be carried out on any part of the land that is not identified by an environmental planning instrument as being environmentally sensitive land. For the purposes of this section “environmentally sensitive land” means any land that is identified in Schedule 3 of Sydney Regional Environmental Plan No. 9 - Extractive Industry (No. 2); any land defined as “environmentally

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sensitive areas” in Sydney Regional Environmental Plan No 20 - Hawkesbury-Nepean River (No 2 - 1997); any land zoned Zone E2 Environmental Conservation under State Environmental Planning Policy (Western Sydney Employment Area) 2009; any Natural Resources Sensitive Land under Penrith Local Environmental Plan 2010; and any land zoned either Zone E1 National Parks and Nature Reserves, Zone E2 Environmental Conservation, Zone W1 Natural Waterways or Zone W2 Recreational Waterways under Penrith Local Environmental Plan 2010.

RURAL HOUSING CODE

(The Rural Housing Code only applies if the land is within Zones RU1, RU2, RU3, RU4, RU6 or R5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

- The land contains an item of environmental heritage, a heritage item and/or a draft heritage item. If the land is within the relevant zones complying development under the Rural Housing Code **may not** be carried out on any part of the land that is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or that comprises, or on which there is, a draft heritage item. Complying development **may** be carried out on any part of the land that is not identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is not located an item that is so identified, or that does not comprise, or on which there is not, a draft heritage item. Plans of the above items may be found in the applicable planning instrument(s)/draft planning instrument(s).
- The land is affected by a reservation for a public purpose. If the land is within the relevant zones complying development under the Rural Housing Code **may not** be carried out on any part of the land that is reserved for a public purpose by an environmental planning instrument. Complying development **may** be carried out on any part of the land that is not reserved for a public purpose by an environmental planning instrument. For the purposes of this section “public purpose” means any land that is zoned either Zone E1, RE1, SP1 or SP2 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument, or land that is subject to acquisition.
- The land is affected by environmentally sensitive land identified by an environmental planning instrument. If the land is within the relevant zones complying development under the Rural Housing Code **may not** be carried out on any part of the land identified by an environmental planning instrument as being environmentally sensitive land. Complying development **may** be carried out on any part of the land that is not identified by an environmental planning instrument as being environmentally sensitive land. For the purposes of this section “environmentally sensitive land” means any land that is identified in Schedule 3 of Sydney Regional Environmental Plan No. 9 - Extractive Industry (No. 2); any land defined as “environmentally sensitive areas” in Sydney Regional Environmental Plan No 20 - Hawkesbury-Nepean River (No 2 - 1997); any land zoned Zone E2 Environmental Conservation under State Environmental Planning Policy (Western Sydney Employment Area) 2009; any Natural Resources Sensitive Land under Penrith Local Environmental Plan 2010; and any land zoned either Zone E1 National Parks and Nature Reserves, Zone E2 Environmental Conservation, Zone W1 Natural Waterways or Zone W2 Recreational Waterways under Penrith Local Environmental Plan 2010.

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LOW RISE MEDIUM DENSITY HOUSING CODE

(The Low Rise Medium Density Housing Code only applies if the land is within Zones R1, R2, R3 or RU5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

- The land contains an item of environmental heritage, a heritage item and/or a draft heritage item. If the land is within the relevant zones complying development under the Low Rise Medium Density Housing Code **may not** be carried out on any part of the land that is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or that comprises, or on which there is, a draft heritage item. Complying development **may** be carried out on any part of the land that is not identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is not located an item that is so identified, or that does not comprise, or on which there is not, a draft heritage item. Plans of the above items may be found in the applicable planning instrument(s)/draft planning instrument(s).
- The land is affected by a reservation for a public purpose. If the land is within the relevant zones complying development under the Low Rise Medium Density Housing Code **may not** be carried out on any part of the land that is reserved for a public purpose by an environmental planning instrument. Complying development **may** be carried out on any part of the land that is not reserved for a public purpose by an environmental planning instrument. For the purposes of this section “public purpose” means any land that is zoned either Zone E1, RE1, SP1 or SP2 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument, or land that is subject to acquisition.
- The land is affected by environmentally sensitive land identified by an environmental planning instrument. If the land is within the relevant zones complying development under the Low Rise Medium Density Housing Code **may not** be carried out on any part of the land identified by an environmental planning instrument as being environmentally sensitive land. Complying development **may** be carried out on any part of the land that is not identified by an environmental planning instrument as being environmentally sensitive land. For the purposes of this section “environmentally sensitive land” means any land that is identified in Schedule 3 of Sydney Regional Environmental Plan No. 9 - Extractive Industry (No. 2); any land defined as “environmentally sensitive areas” in Sydney Regional Environmental Plan No 20 - Hawkesbury-Nepean River (No 2 - 1997); any land zoned Zone E2 Environmental Conservation under State Environmental Planning Policy (Western Sydney Employment Area) 2009; any Natural Resources Sensitive Land under Penrith Local Environmental Plan 2010; and any land zoned either Zone E1 National Parks and Nature Reserves, Zone E2 Environmental Conservation, Zone W1 Natural Waterways or Zone W2 Recreational Waterways under Penrith Local Environmental Plan 2010.

Please note that Council has been deferred from the application of Part 3B of the Low Rise Medium Density Housing Code until 1 July 2020. That Part will not apply to Penrith Local Government Area during this time.

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GREENFIELD HOUSING CODE

(The Greenfield Housing Code only applies if the land is within Zones R1, R2, R3, R4 or RU5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument, and if the land is identified as a Greenfield Housing Code Area by the Greenfield Housing Code Area Map.)

- The land contains an item of environmental heritage, a heritage item and/or a draft heritage item. If the land is within the relevant zones, and if the land is identified as a Greenfield Housing Code Area by the Greenfield Housing Code Area Map complying development under the Greenfield Housing Code **may not** be carried out on any part of the land that is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or that comprises, or on which there is, a draft heritage item. Complying development **may** be carried out on any part of the land that is not identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is not located an item that is so identified, or that does not comprise, or on which there is not, a draft heritage item. Plans of the above items may be found in the applicable planning instrument(s)/draft planning instrument(s).
- The land is affected by a reservation for a public purpose. If the land is within the relevant zones, and if the land is identified as a Greenfield Housing Code Area by the Greenfield Housing Code Area Map complying development under the Greenfield Housing Code **may not** be carried out on any part of the land that is reserved for a public purpose by an environmental planning instrument. Complying development **may** be carried out on any part of the land that is not reserved for a public purpose by an environmental planning instrument. For the purposes of this section “public purpose” means any land that is zoned either Zone E1, RE1, SP1 or SP2 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument, or land that is subject to acquisition.
- The land is affected by environmentally sensitive land identified by an environmental planning instrument. If the land is within the relevant zones, and if the land is identified as a Greenfield Housing Code Area by the Greenfield Housing Code Area Map complying development under the Greenfield Housing Code **may not** be carried out on any part of the land identified by an environmental planning instrument as being environmentally sensitive land. Complying development **may** be carried out on any part of the land that is not identified by an environmental planning instrument as being environmentally sensitive land. For the purposes of this section “environmentally sensitive land” means any land that is identified in Schedule 3 of Sydney Regional Environmental Plan No. 9 - Extractive Industry (No. 2); any land defined as “environmentally sensitive areas” in Sydney Regional Environmental Plan No 20 - Hawkesbury-Nepean River (No 2 - 1997); any land zoned Zone E2 Environmental Conservation under State Environmental Planning Policy (Western Sydney Employment Area) 2009; any Natural Resources Sensitive Land under Penrith Local Environmental Plan 2010; and any land zoned either Zone E1 National Parks and Nature Reserves, Zone E2 Environmental Conservation, Zone W1 Natural Waterways or Zone W2 Recreational Waterways under Penrith Local Environmental Plan 2010.

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HOUSING ALTERATIONS CODE

- The land contains an item of environmental heritage, a heritage item and/or a draft heritage item. Complying development under the Housing Alterations Code **may not** be carried out on any part of the land that is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or that comprises, or on which there is, a draft heritage item. Complying development **may** be carried out on any part of the land that is not identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is not located an item that is so identified, or that does not comprise, or on which there is not, a draft heritage item. Plans of the above items may be found in the applicable planning instrument(s)/draft planning instrument(s).

GENERAL DEVELOPMENT CODE

- The land contains an item of environmental heritage, a heritage item and/or a draft heritage item. Complying development under the General Development Code **may not** be carried out on any part of the land that is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or that comprises, or on which there is, a draft heritage item. Complying development **may** be carried out on any part of the land that is not identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is not located an item that is so identified, or that does not comprise, or on which there is not, a draft heritage item. Plans of the above items may be found in the applicable planning instrument(s)/draft planning instrument(s).

COMMERCIAL AND INDUSTRIAL ALTERATIONS CODE

- The land contains an item of environmental heritage, a heritage item and/or a draft heritage item. Complying development under the Commercial and Industrial Alterations Code **may not** be carried out on any part of the land that is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or that comprises, or on which there is, a draft heritage item. Complying development **may** be carried out on any part of the land that is not identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is not located an item that is so identified, or that does not comprise, or on which there is not, a draft heritage item. Plans of the above items may be found in the applicable planning instrument(s)/draft planning instrument(s).

SUBDIVISIONS CODE

- The land contains an item of environmental heritage, a heritage item and/or a draft heritage item. Complying development under the Subdivisions Code **may not** be carried out on any part of the land that is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or that comprises, or on which there is, a draft heritage item. Complying development **may** be carried out on any part of the land that is not identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is not located an item that is so identified, or that does not comprise, or on which there is not, a draft heritage item. Plans
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of the above items may be found in the applicable planning instrument(s)/draft planning instrument(s).

DEMOLITION CODE

- The land contains an item of environmental heritage, a heritage item and/or a draft heritage item. Complying development under the Demolition Code **may not** be carried out on any part of the land that is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or that comprises, or on which there is, a draft heritage item. Complying development **may** be carried out on any part of the land that is not identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is not located an item that is so identified, or that does not comprise, or on which there is not, a draft heritage item. Plans of the above items may be found in the applicable planning instrument(s)/draft planning instrument(s).

COMMERCIAL AND INDUSTRIAL (NEW BUILDINGS AND ADDITIONS) CODE

(The Commercial and Industrial (New Buildings and Additions) Code only applies if the land is within Zones B1, B2, B3, B4, B5, B6, B7, B8, IN1, IN2, IN3, IN4 or SP3 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

- The land contains an item of environmental heritage, a heritage item and/or a draft heritage item. If the land is within the relevant zones complying development under the Commercial and Industrial (New Buildings and Additions) Code **may not** be carried out on any part of the land that is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or that comprises, or on which there is, a draft heritage item. Complying development **may** be carried out on any part of the land that is not identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is not located an item that is so identified, or that does not comprise, or on which there is not, a draft heritage item. Plans of the above items may be found in the applicable planning instrument(s)/draft planning instrument(s).
 - The land is affected by a reservation for a public purpose. If the land is within the relevant zones complying development under the Commercial and Industrial (New Buildings and Additions) Code **may not** be carried out on any part of the land that is reserved for a public purpose by an environmental planning instrument. Complying development **may** be carried out on any part of the land that is not reserved for a public purpose by an environmental planning instrument. For the purposes of this section “public purpose” means any land that is zoned either Zone E1, RE1, SP1 or SP2 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument, or land that is subject to acquisition.
 - The land is affected by environmentally sensitive land identified by an environmental planning instrument. If the land is within the relevant zones complying development under the Commercial and Industrial (New Buildings and Additions) Code **may not** be carried out on any part of the land identified by an environmental planning instrument as being environmentally sensitive land. Complying development **may** be carried out on any part of the land that is not identified by an environmental planning instrument as being environmentally sensitive land. For the purposes of this section “environmentally sensitive land” means any
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land that is identified in Schedule 3 of Sydney Regional Environmental Plan No. 9 - Extractive Industry (No. 2); any land defined as “environmentally sensitive areas” in Sydney Regional Environmental Plan No 20 - Hawkesbury-Nepean River (No 2 - 1997); any land zoned Zone E2 Environmental Conservation under State Environmental Planning Policy (Western Sydney Employment Area) 2009; any Natural Resources Sensitive Land under Penrith Local Environmental Plan 2010; and any land zoned either Zone E1 National Parks and Nature Reserves, Zone E2 Environmental Conservation, Zone W1 Natural Waterways or Zone W2 Recreational Waterways under Penrith Local Environmental Plan 2010.

FIRE SAFETY CODE

- The land contains an item of environmental heritage, a heritage item and/or a draft heritage item. Complying development under the Fire Safety Code **may not** be carried out on any part of the land that is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or that comprises, or on which there is, a draft heritage item. Complying development **may** be carried out on any part of the land that is not identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is not located an item that is so identified, or that does not comprise, or on which there is not, a draft heritage item. Plans of the above items may be found in the applicable planning instrument(s)/draft planning instrument(s).

(NOTE: (1) Council has relied on Planning and Infrastructure Circulars and Fact Sheets in the preparation of this information. Applicants should seek their own legal advice in relation to this matter with particular reference to State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

(2) Penrith Local Environmental Plan 2010 (if it applies to the land) contains additional complying development not specified in State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.)

4 COASTAL PROTECTION

The land is not affected by the operation of sections 38 or 39 of the Coastal Protection Act 1979, to the extent that council has been so notified by the Department of Public Works.

5 MINE SUBSIDENCE

The land is not proclaimed to be a mine subsidence district within the meaning of section 15 of the Mine Subsidence Compensation Act 1961.

6 ROAD WIDENING AND ROAD REALIGNMENT

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

- (a) Division 2 of Part 3 of the Roads Act 1993, or
- (b) an environmental planning instrument, or
- (c) a resolution of council.

7 COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

(a) Council Policies

The land is affected by the Asbestos Policy adopted by Council.

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The land is not affected by any other policy adopted by the council that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

(b) Other Public Authority Policies

The Bush Fire Co-ordinating Committee has adopted a Bush Fire Risk Management Plan that covers the local government area of Penrith City Council, and includes public, private and Commonwealth lands.

The land is not affected by a policy adopted by any other public authority and notified to the council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the council, that restricts the development of the land because of the likelihood of land slip, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

7A FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

(1) Development on the land or part of the land for the purposes of dwelling houses, dual occupancies, multi dwelling housing or residential flat buildings (not including development for the purposes of group homes or seniors housing) (if such uses are permissible on the land) is subject to flood related development controls.

(2) Development on the land or part of the land for industrial or commercial purposes (if such uses are permissible on the land) is subject to flood related development controls.

Development on the land or part of the land for purposes other than industrial or commercial, or for purposes other than those referred to in (1) above, will be considered on a merits based approach and flood related development controls may apply.

Note 1: The land is subject to Penrith Development Control Plan 2014 Section C3.5 Flood Planning. On application and payment of the prescribed fee Council may be able to provide in writing a range of advice in regard to the extent of flooding affecting the property.

Note 2: Additional information is available in the s10.7(5) information in respect of the land, relating to a low flood island.

8 LAND RESERVED FOR ACQUISITION

The land is affected by provisions under an environmental planning instrument, a deemed environmental planning instrument or a draft environmental planning instrument applying to the land that provides for acquisition by a public authority, as referred to in section 3.15 of the Act.

9 CONTRIBUTIONS PLANS

The Cultural Facilities Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith.

The Penrith City Local Open Space Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith, excluding industrial areas and the release areas identified in Appendix B of the Plan (Penrith Lakes, Cranebrook, Sydney Regional Environmental Plan No. 30 - St Marys, Waterside, Thornton, the WELL Precinct, Glenmore Park and Erskine Park).

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The Penrith City District Open Space Facilities Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith, with the exclusion of industrial lands and the Penrith Lakes development site.

The Penrith City Centre Civic Improvement Plan applies to the land.

9A BIODIVERSITY CERTIFIED LAND

(Information is provided in this section only if the land is biodiversity certified land under Part 8 of the *Biodiversity Conservation Act 2016*.)

10 BIODIVERSITY STEWARDSHIP SITES

(Information is provided in this section only if Council has been notified by the Chief Executive of the Office of Environment and Heritage that the land is land to which a biobanking stewardship agreement under Part 5 of the *Biodiversity Conservation Act 2016* relates.)

10A NATIVE VEGETATION CLEARING SET ASIDES

(Information is provided in this section only if Council has been notified of the existence of a set aside area by Local Land Services or it is registered in the public register under which section 60ZC of the *Local Land Services Act 2013* relates).

11 BUSH FIRE PRONE LAND

The land is not identified as bush fire prone land according to Council records.

12 PROPERTY VEGETATION PLANS

(Information is provided in this section only if Council has been notified that the land is land to which a property vegetation plan approved under the *Native Vegetation Act 2003* applies and continues in force.)

13 ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

(Information is provided in this section only if Council has been notified that an order has been made under the *Trees (Disputes Between Neighbours) Act 2006* to carry out work in relation to a tree on the land.)

14 DIRECTIONS UNDER PART 3A

(Information is provided in this section only if there is a direction by the Minister in force under section 75P(2)(c1) of the Act (repealed on 1st October 2011) that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect.)

PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

15 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS AFFECTING SENIORS HOUSING

(Information is provided in this section only if:

- (a) there is a current site compatibility certificate (seniors housing), of which the council is aware, issued under State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land; and/or
- (b) any terms of a kind referred to in clause 18(2) of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land.)

16 SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

(Information is provided in this section only if there is a valid site compatibility certificate (infrastructure), of which council is aware, in respect of proposed development on the land.)

17 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

(Information is provided in this section only if:

- (a) there is a current site compatibility certificate (affordable rental housing), of which the council is aware, in respect of proposed development on the land; and/or
- (b) any terms of a kind referred to in clause 17(1) or 37(1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 have been imposed as a condition of consent to a development application in respect of the land.)

18 PAPER SUBDIVISION INFORMATION

(Information is provided in this section only if a development plan adopted by a relevant authority applies to the land or is proposed to be subject to a consent ballot, or a subdivision order applies to the land.)

19 SITE VERIFICATION CERTIFICATES

(Information is provided in this section only if there is a current site verification certificate, of which council is aware, in respect of the land.)

NOTE: The following matters are prescribed by section 59(2) of the Contaminated Land Management Act 1997 as additional matters to be specified in a planning certificate

(a) (Information is provided in this section only if, as at the date of this certificate, the land (or part of the land) is significantly contaminated land within the meaning of the Contaminated Land Management Act 1997.)

(b) (Information is provided in this section only if, as at the date of this certificate, the land is subject to a management order within the meaning of the Contaminated Land Management Act 1997.)

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(c) (Information is provided in this section only if, as at the date of this certificate, the land is the subject of an approved voluntary management proposal within the meaning of the Contaminated Land Management Act 1997.)

(d) (Information is provided in this section only if, at the date of this certificate, the land subject to an ongoing maintenance order within the meaning of the Contaminated Land Management Act 1997.)

(e) (Information is provided in this section only if the land is the subject of a site audit statement within the meaning of the Contaminated Land Management Act 1997 - a copy of which has been provided to Council.)

Note: Section 10.7(5) information for this property may contain additional information regarding contamination issues.

20 LOOSE FILL ASBESTOS INSULATION

(Information is provided in this section only if there is a residential premises listed on the register of residential premises that contain or have contained loose-fill asbestos insulation (as required by Division 1A of Part 8 of the Home Building Act 1989))

21 AFFECTED BUILDING NOTICES AND BUILDING PRODUCT RECTIFICATION ORDERS

(Information is provided in this section only if Council is aware of any “affected building notice” and/or a “building product rectification order” in force for the land).

Note: The Environmental Planning and Assessment Amendment Act 2017 commenced operation on the 1 March 2018. As a consequence of this Act the information contained in this certificate needs to be read in conjunction with the provisions of the Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017, and Environmental Planning and Assessment Regulation 2000.

Information is provided only to the extent that Council has been notified by relevant government departments.

10.7(5) Certificate

**This Certificate is directed to the following
relevant matters affecting the land**

When information pursuant to section 10.7(5) is requested the Council is under no obligation to furnish any of the information supplied herein pursuant to that section. Council draws your attention to section 10.7(6) which states that a council shall not incur any liability in respect of any advice provided in good faith pursuant to sub-section (5). The absence of any reference to any matter affecting the land shall not imply that the land is not affected by any matter not referred to in this certificate.

Note:

- Council’s 10.7(5) information does not include development consent or easement information. Details of development consents may be obtained by making enquiries with Council’s Development Services Department pursuant to section 12 of the Local Government Act 1993 or (for development applications lodged after January

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2007) by viewing the Online Services area at www.penrithcity.nsw.gov.au. Details of any easements may be obtained from a Title Search at Land and Property Information New South Wales.

- This certificate does not contain information relating to Complying Development Certificates.
- This certificate may not provide full details of development rights over the land.

* Biodiversity Conservation Act 2016

When considering any development application Council must have regard to the Biodiversity Conservation Act 2016. Please note that this legislation may have application to any land throughout the city. Interested persons should make their own enquiries in regard to the impact that this legislation could have on this land.

* Slip or Subsidence

The land may be subject to slip or subsidence. The applicant is advised to make their own enquiries as to the potential for slip or subsidence damage adjacent to the Nepean River.

* Restrictions as to User

This property is subject to restriction(s) as to user. See current or previous Section 88B Instrument(s) for details.

* Low Flood Island

The land has been identified as being on Low Flood Island. A Low Flood Island is defined as a locality which becomes isolated in a flood event and which can be completely inundated by larger floods up to the Probable Maximum Flood (PMF) level. The PMF is the largest flood that could conceivably occur at a particular location.

There are constraints on the evacuation of the area as evacuation routes can be cut early in a flood event. In accordance with the New South Wales Floodplain Development Manual, the site has been categorised as High Hazard. This hazard category also applies in relation to Penrith Development Control Plan 2014 Section C3.5 Flood Planning.

* Preservation of Trees and Vegetation

See Chapter C2 of Penrith Development Control Plan 2014 for specific controls relating to the preservation of trees and vegetation.

* Development Control Plan General Information

Penrith Development Control Plan 2014 which applies to the land, sets out requirements for a range of issues that apply across the Penrith Local Government Area, including:

- Site Planning and Design Principles
- Vegetation Management
- Water Management
- Land Management
- Waste Management
- Landscape Design
- Culture and Heritage
- Public Domain
- Advertising and Signage
- Transport, Access and Parking
- Subdivision
- Noise and Vibration, and

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- Infrastructure and Services.

The Development Control Plan also specifies requirements relating to various types of land uses including:

- Rural Land Uses
- Residential Development
- Commercial and Retail Development, and
- Industrial Development

as well as for a number of specific activities, including child care centres; health consulting rooms; educational establishments; parent friendly amenities; places of public worship; vehicle repair stations; cemeteries, crematoria and funeral homes; extractive industries; and telecommunication facilities.

The Development Control Plan also details requirements relating to key precincts within the Penrith Local Government Area, including:

- Caddens
- Claremont Meadows Stage 2
- Cranebrook
- Emu Heights
- Emu Plains
- Erskine Business Park
- Glenmore Park
- Kingswood
- Mulgoa Valley
- Orchard Hills
- Penrith
- Penrith Health and Education Precinct
- Riverlink Precinct
- St Clair,
- St Marys / St Marys North, and
- Sydney Science Park.

Penrith Development Control Plan 2014 may be accessed at <https://www.penrithcity.nsw.gov.au/Building-and-Development/Planning-and-Zoning/Planning-Controls/Development-Control-Plans/>

* Penrith City Centre Controls

See Part 8 of Penrith Local Environmental Plan 2010 and Chapter E11 of Penrith Development Control Plan 2014 for specific controls relating to Penrith City Centre (which includes the subject property).

* Active Street Frontage

The land is identified as an “Active Street Frontage” on the Penrith Local Environmental Plan 2010 (PLEP 2010) Active Street Frontages Map. See Clause 7.8 of PLEP 2010 for details.

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* Serviced Apartment Controls

See Part 7.26 of Penrith Local Environmental Plan 2010 for specific controls relating to Serviced Apartments (which includes the subject property).

Additional matters that consent authority must consider

Clause 92 (1)(f) of *Environmental Planning and Assessment Regulation 2000* (the Regulation) applies to the land. Relevantly this clause provides:

- (f) *in the case of a development application for development for the erection of a building for residential purposes on land in Penrith City Centre, the Development Assessment Guideline: An Adaptive Response to Flood Risk Management for Residential Development in the Penrith City Centre published by the Department of Planning and Environment on 28 June 2019.*

A copy of this Guideline is available on the website of the Department.

Clause 92(1)(a)-(e) of the Regulation may also apply to the land.

Warwick Winn
General Manager

PER



Please note:

Certain amendments to the Environmental Planning and Assessment Act 1979 No 203 (Act) commenced on 1 March 2018.

The Environmental Planning and Assessment (Amendment) Act 2017 No 60 makes structural changes to the Act and, as a consequence, the Act has been renumbered in a decimal format. For example, Section 149 Planning Certificates have become Section 10.7 Certificates. Some of the information in this certificate may refer to the previous version of the Act.

Council is committed to updating all relevant documents in a timely manner. This will include planning instruments, applications, approvals, orders, certificates, forms and other associated documents in both printed and electronic versions. Council is required to implement these changes and regrets any inconvenience caused to the local business, industry and the community.

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Environmental Planning and Assessment Act, 1979

Property No: 798294
Your Reference: 14578/3
Contact No:

Issue Date: 17 March 2020
Certificate No: 20/01299

Issued to: Geotechnique Pty Ltd
PO Box 880
PENRITH NSW 2750

PRECINCT 2010

DESCRIPTION OF LAND

County: CUMBERLAND

Parish: CASTLEREAGH

Location: 712 High Street PENRITH NSW 2750

Land Description: Lot 22 DP 1236215

- PART 1 PRESCRIBED MATTERS -

In accordance with the provisions of Section 10.7(2) of the Act the following information is furnished in respect of the abovementioned land:

1 NAMES OF RELEVANT PLANNING INSTRUMENTS AND DCPs

1(1) The name of each environmental planning instrument that applies to the carrying out of development on the land:

Penrith Local Environmental Plan 2010, published 22nd September 2010, as amended, applies to the land.

Sydney Regional Environmental Plan No.9 - Extractive Industry (No.2), gazetted 15 September 1995, as amended, applies to the local government area of Penrith.

Sydney Regional Environmental Plan No. 20 - Hawkesbury-Nepean River (No. 2 - 1997), gazetted 7 November 1997, as amended, applies to the local government area of Penrith (except land to which State Environmental Planning Policy (Penrith Lakes Scheme) 1989 applies).

The following State environmental planning policies apply to the land (subject to the exclusions noted below):

State Environmental Planning Policy No.19 - Bushland in Urban Areas. (Note: This policy does not apply to certain land referred to in the National Parks and Wildlife Act 1974 and the Forestry Act 1916.)

State Environmental Planning Policy No.21 - Caravan Parks.

State Environmental Planning Policy No.33 - Hazardous and Offensive Development.

State Environmental Planning Policy No.50 - Canal Estate Development. (Note: This policy does not apply to the land to which State Environmental Planning Policy (Penrith Lakes Scheme) 1989 applies.

State Environmental Planning Policy No.55 - Remediation of Land.

State Environmental Planning Policy No.64 - Advertising and Signage.

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State Environmental Planning Policy No.65 - Design Quality of Residential Apartment Development.
State Environmental Planning Policy No.70 - Affordable Housing (Revised Schemes).
State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 (Note: This policy applies to land within New South Wales that is land zoned primarily for urban purposes or land that adjoins land zoned primarily for urban purposes, but only as detailed in clause 4 of the policy.)
State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004.
State Environmental Planning Policy (State Significant Precincts) 2005.
State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2013.
State Environmental Planning Policy (Infrastructure) 2007.
State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.
State Environmental Planning Policy (Affordable Rental Housing) 2009.
State Environmental Planning Policy (State and Regional Development) 2011.
State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017.
State Environmental Planning Policy (Education Establishments and Child Care Centre Facilities) 2017.
State Environmental Planning Policy (Primary Production and Rural Development) 2019.

1(2) The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act:

(Information is provided in this section only if a proposed environmental planning instrument that is or has been the subject of community consultation or on public exhibition under the Act will apply to the carrying out of development on the land.)

Draft State Environmental Planning Policy (Western Sydney Corridors) may apply to the land. Further information is available here: <https://www.transport.nsw.gov.au/corridors>.

On 22 June 2018, the NSW Government announced changes to the recommended alignments for the Western Sydney corridors, including continuing with the previously gazetted 1951 corridor for the Bells Line of Road Castlereagh Connection.

Draft State Environmental Planning Policy (Environment) applies to the land.

Draft State Environmental Planning Policy (Remediation of Land) applies to the land.

Draft State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 applies to the land.

Draft State Environmental Planning Policy (Infrastructure) 2007 applies to the land.

Draft State Environmental Planning Policy (State and Regional Development) 2011 applies to the land.

1(3) The name of each development control plan that applies to the carrying out of development on the land:

Penrith Development Control Plan 2014 applies to the land.

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2 ZONING AND LAND USE UNDER RELEVANT LEPs

For each environmental planning instrument or proposed instrument referred to in clause 1 (other than a SEPP or proposed SEPP) that includes the land in any zone (however described):

2(a)-(d) the identity of the zone; the purposes that may be carried out without development consent; the purposes that may not be carried out except with development consent; and the purposes that are prohibited within the zone. Any zone(s) applying to the land is/are listed below and/or in annexures.

(Note: If no zoning appears in this section see section 1(1) for zoning and land use details (under the Sydney Regional Environmental Plan or State Environmental Planning Policy that zones this property).)

Zone SP3 Tourist (Penrith Local Environmental Plan 2010)

1 Objectives of zone

- To provide for a variety of tourist-oriented development and related uses.
- To provide for diverse tourist and visitor accommodation and activities that are compatible with the promotion of tourism in Penrith.
- To create an appropriate scale that maintains important views to and from the Nepean River as well as to the Blue Mountains escarpment, while also improving important connections to the Penrith City Centre and the Nepean River.

2 Permitted without consent

Nil

3 Permitted with consent

Aquaculture; Amusement centres; Boat launching ramps; Boat sheds; Car parks; Charter and tourism boating facilities; Community facilities; Educational establishments; Entertainment facilities; Environmental facilities; Environmental protection works; Flood mitigation works; Food and drink premises; Function centres; Helipads; Health services facilities; Information and education facilities; Jetties; Kiosks; Markets; Neighbourhood shops; Passenger transport facilities; Places of public worship; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Registered clubs; Roads; Service stations; Signage; Tourist and visitor accommodation; Water recreation structures

4 Prohibited

Any development not specified in item 2 or 3

Flood planning

All or part of the subject land is identified in Penrith Local Environmental Plan 2010 (PLEP 2010) Clause 7.2 Flood Planning. Development consent is required for any development on land to which Clause 7.2 of PLEP 2010 applies.

Additional information relating to Penrith Local Environmental Plan 2010

Note 1: Under the terms of Clause 2.4 of Penrith Local Environmental Plan 2010 development may be carried out on unzoned land only with development consent.

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Note 2: Under the terms of Clause 2.6 of Penrith Local Environmental Plan 2010 land may be subdivided but only with development consent, except for the exclusions detailed in the clause.

Note 3: Under the terms of Clause 2.7 of Penrith Local Environmental Plan 2010 the demolition of a building or work may be carried out only with development consent.

Note 4: A temporary use may be permitted with development consent subject to the requirements of Clause 2.8 of Penrith Local Environmental Plan 2010.

Note 5: Under the terms of Clause 4.1A of Penrith Local Environmental Plan 2010, despite any other provision of this plan, development consent must not be granted for dual occupancy on an internal lot in Zone R2 Low Density Residential.

Note 6: Under the terms of Clause 5.1 of Penrith Local Environmental Plan 2010 development on land acquired by an authority of the State under the owner-initiated acquisition provisions may, before it is used for the purpose for which it is reserved, be carried out, with development consent, for any purpose.

Note 7: Under the terms of Clause 5.3 of Penrith Local Environmental Plan 2010 development consent may be granted to development of certain land for any purpose that may be carried out in an adjoining zone.

Note 8: Clause 5.10 of Penrith Local Environmental Plan 2010 details when development consent is required/not required in relation to heritage conservation.

Note 9: Under the terms of Clause 5.11 of Penrith Local Environmental Plan 2010 bush fire hazard reduction work authorised by the *Rural Fires Act 1997* may be carried out on any land without development consent.

Note 10: Under the terms of Clause 7.1 of Penrith Local Environmental Plan 2010 (PLEP 2010) development consent is required for earthworks unless the work is exempt development under PLEP 2010 or another applicable environmental planning instrument, or the work is ancillary to other development for which development consent has been given.

Note 11: Sex services premises and restricted premises may only be permitted subject to the requirements of Clause 7.23 of Penrith Local Environmental Plan 2010.

2(e) whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed:

(Information is provided in this section only if any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed.)

2(f) whether the land includes or comprises critical habitat:

(Information is provided in this section only if the land includes or comprises critical habitat.)

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2(g) whether the land is in a conservation area (however described):

(Information is provided in this section only if the land is in a conservation area (however described).)

2(h) whether an item of environmental heritage (however described) is situated on the land:

An item/Items of environmental heritage (identified in Penrith Local Environmental Plan 2010) is/are situated on the land.

2A ZONING AND LAND USE UNDER STATE ENVIRONMENTAL PLANNING POLICY (SYDNEY REGION GROWTH CENTRES) 2006

(Information is provided in this section only if the land is within any zone under State Environmental Planning Policy (Sydney Region Growth Centres) 2006.)

3 COMPLYING DEVELOPMENT

HOUSING CODE

(The Housing Code only applies if the land is within Zones R1, R2, R3, R4 or RU5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

- The land contains an item of environmental heritage, a heritage item and/or a draft heritage item. If the land is within the relevant zones complying development under the Housing Code **may not** be carried out on any part of the land that is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or that comprises, or on which there is, a draft heritage item. Complying development **may** be carried out on any part of the land that is not identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is not located an item that is so identified, or that does not comprise, or on which there is not, a draft heritage item. Plans of the above items may be found in the applicable planning instrument(s)/draft planning instrument(s).
- The land is affected by environmentally sensitive land identified by an environmental planning instrument. If the land is within the relevant zones complying development under the Housing Code **may not** be carried out on any part of the land identified by an environmental planning instrument as being environmentally sensitive land. Complying development **may** be carried out on any part of the land that is not identified by an environmental planning instrument as being environmentally sensitive land. For the purposes of this section “environmentally sensitive land” means any land that is identified in Schedule 3 of Sydney Regional Environmental Plan No. 9 - Extractive Industry (No. 2); any land defined as “environmentally sensitive areas” in Sydney Regional Environmental Plan No 20 - Hawkesbury-Nepean River (No 2 - 1997); any land zoned Zone E2 Environmental Conservation under State Environmental Planning Policy (Western Sydney Employment Area) 2009; any Natural Resources Sensitive Land under Penrith Local Environmental Plan 2010; and any land zoned either Zone E1 National Parks and Nature Reserves, Zone E2 Environmental Conservation, Zone W1 Natural Waterways or Zone W2 Recreational Waterways under Penrith Local Environmental Plan 2010.

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RURAL HOUSING CODE

(The Rural Housing Code only applies if the land is within Zones RU1, RU2, RU3, RU4, RU6 or R5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

- The land contains an item of environmental heritage, a heritage item and/or a draft heritage item. If the land is within the relevant zones complying development under the Rural Housing Code **may not** be carried out on any part of the land that is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or that comprises, or on which there is, a draft heritage item. Complying development **may** be carried out on any part of the land that is not identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is not located an item that is so identified, or that does not comprise, or on which there is not, a draft heritage item. Plans of the above items may be found in the applicable planning instrument(s)/draft planning instrument(s).
- The land is affected by environmentally sensitive land identified by an environmental planning instrument. If the land is within the relevant zones complying development under the Rural Housing Code **may not** be carried out on any part of the land identified by an environmental planning instrument as being environmentally sensitive land. Complying development **may** be carried out on any part of the land that is not identified by an environmental planning instrument as being environmentally sensitive land. For the purposes of this section “environmentally sensitive land” means any land that is identified in Schedule 3 of Sydney Regional Environmental Plan No. 9 - Extractive Industry (No. 2); any land defined as “environmentally sensitive areas” in Sydney Regional Environmental Plan No 20 - Hawkesbury-Nepean River (No 2 - 1997); any land zoned Zone E2 Environmental Conservation under State Environmental Planning Policy (Western Sydney Employment Area) 2009; any Natural Resources Sensitive Land under Penrith Local Environmental Plan 2010; and any land zoned either Zone E1 National Parks and Nature Reserves, Zone E2 Environmental Conservation, Zone W1 Natural Waterways or Zone W2 Recreational Waterways under Penrith Local Environmental Plan 2010.

LOW RISE MEDIUM DENSITY HOUSING CODE

(The Low Rise Medium Density Housing Code only applies if the land is within Zones R1, R2, R3 or RU5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

- The land contains an item of environmental heritage, a heritage item and/or a draft heritage item. If the land is within the relevant zones complying development under the Low Rise Medium Density Housing Code **may not** be carried out on any part of the land that is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or that comprises, or on which there is, a draft heritage item. Complying development **may** be carried out on any part of the land that is not identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is not located an item that is so identified, or that does not comprise, or on which there is not, a draft heritage item. Plans of the above items may be found in the applicable planning instrument(s)/draft planning instrument(s).

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- The land is affected by environmentally sensitive land identified by an environmental planning instrument. If the land is within the relevant zones complying development under the Low Rise Medium Density Housing Code **may not** be carried out on any part of the land identified by an environmental planning instrument as being environmentally sensitive land. Complying development **may** be carried out on any part of the land that is not identified by an environmental planning instrument as being environmentally sensitive land. For the purposes of this section “environmentally sensitive land” means any land that is identified in Schedule 3 of Sydney Regional Environmental Plan No. 9 - Extractive Industry (No. 2); any land defined as “environmentally sensitive areas” in Sydney Regional Environmental Plan No 20 - Hawkesbury-Nepean River (No 2 - 1997); any land zoned Zone E2 Environmental Conservation under State Environmental Planning Policy (Western Sydney Employment Area) 2009; any Natural Resources Sensitive Land under Penrith Local Environmental Plan 2010; and any land zoned either Zone E1 National Parks and Nature Reserves, Zone E2 Environmental Conservation, Zone W1 Natural Waterways or Zone W2 Recreational Waterways under Penrith Local Environmental Plan 2010.

Please note that Council has been deferred from the application of Part 3B of the Low Rise Medium Density Housing Code until 1 July 2020. That Part will not apply to Penrith Local Government Area during this time.

GREENFIELD HOUSING CODE

(The Greenfield Housing Code only applies if the land is within Zones R1, R2, R3, R4 or RU5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument, and if the land is identified as a Greenfield Housing Code Area by the Greenfield Housing Code Area Map.)

- The land contains an item of environmental heritage, a heritage item and/or a draft heritage item. If the land is within the relevant zones, and if the land is identified as a Greenfield Housing Code Area by the Greenfield Housing Code Area Map complying development under the Greenfield Housing Code **may not** be carried out on any part of the land that is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or that comprises, or on which there is, a draft heritage item. Complying development **may** be carried out on any part of the land that is not identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is not located an item that is so identified, or that does not comprise, or on which there is not, a draft heritage item. Plans of the above items may be found in the applicable planning instrument(s)/draft planning instrument(s).
- The land is affected by environmentally sensitive land identified by an environmental planning instrument. If the land is within the relevant zones, and if the land is identified as a Greenfield Housing Code Area by the Greenfield Housing Code Area Map complying development under the Greenfield Housing Code **may not** be carried out on any part of the land identified by an environmental planning instrument as being environmentally sensitive land. Complying development **may** be carried out on any part of the land that is not identified by an environmental planning instrument as being environmentally sensitive land. For the purposes of this section “environmentally sensitive land” means any land that is identified in Schedule 3 of Sydney Regional Environmental Plan No. 9 - Extractive Industry (No. 2); any land defined

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as “environmentally sensitive areas” in Sydney Regional Environmental Plan No 20 - Hawkesbury-Nepean River (No 2 - 1997); any land zoned Zone E2 Environmental Conservation under State Environmental Planning Policy (Western Sydney Employment Area) 2009; any Natural Resources Sensitive Land under Penrith Local Environmental Plan 2010; and any land zoned either Zone E1 National Parks and Nature Reserves, Zone E2 Environmental Conservation, Zone W1 Natural Waterways or Zone W2 Recreational Waterways under Penrith Local Environmental Plan 2010.

HOUSING ALTERATIONS CODE

- The land contains an item of environmental heritage, a heritage item and/or a draft heritage item. Complying development under the Housing Alterations Code **may not** be carried out on any part of the land that is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or that comprises, or on which there is, a draft heritage item. Complying development **may** be carried out on any part of the land that is not identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is not located an item that is so identified, or that does not comprise, or on which there is not, a draft heritage item. Plans of the above items may be found in the applicable planning instrument(s)/draft planning instrument(s).

GENERAL DEVELOPMENT CODE

- The land contains an item of environmental heritage, a heritage item and/or a draft heritage item. Complying development under the General Development Code **may not** be carried out on any part of the land that is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or that comprises, or on which there is, a draft heritage item. Complying development **may** be carried out on any part of the land that is not identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is not located an item that is so identified, or that does not comprise, or on which there is not, a draft heritage item. Plans of the above items may be found in the applicable planning instrument(s)/draft planning instrument(s).

COMMERCIAL AND INDUSTRIAL ALTERATIONS CODE

- The land contains an item of environmental heritage, a heritage item and/or a draft heritage item. Complying development under the Commercial and Industrial Alterations Code **may not** be carried out on any part of the land that is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or that comprises, or on which there is, a draft heritage item. Complying development **may** be carried out on any part of the land that is not identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is not located an item that is so identified, or that does not comprise, or on which there is not, a draft heritage item. Plans of the above items may be found in the applicable planning instrument(s)/draft planning instrument(s).

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SUBDIVISIONS CODE

- The land contains an item of environmental heritage, a heritage item and/or a draft heritage item. Complying development under the Subdivisions Code **may not** be carried out on any part of the land that is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or that comprises, or on which there is, a draft heritage item. Complying development **may** be carried out on any part of the land that is not identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is not located an item that is so identified, or that does not comprise, or on which there is not, a draft heritage item. Plans of the above items may be found in the applicable planning instrument(s)/draft planning instrument(s).

DEMOLITION CODE

- The land contains an item of environmental heritage, a heritage item and/or a draft heritage item. Complying development under the Demolition Code **may not** be carried out on any part of the land that is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or that comprises, or on which there is, a draft heritage item. Complying development **may** be carried out on any part of the land that is not identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is not located an item that is so identified, or that does not comprise, or on which there is not, a draft heritage item. Plans of the above items may be found in the applicable planning instrument(s)/draft planning instrument(s).

COMMERCIAL AND INDUSTRIAL (NEW BUILDINGS AND ADDITIONS) CODE

(The Commercial and Industrial (New Buildings and Additions) Code only applies if the land is within Zones B1, B2, B3, B4, B5, B6, B7, B8, IN1, IN2, IN3, IN4 or SP3 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

- The land contains an item of environmental heritage, a heritage item and/or a draft heritage item. If the land is within the relevant zones complying development under the Commercial and Industrial (New Buildings and Additions) Code **may not** be carried out on any part of the land that is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or that comprises, or on which there is, a draft heritage item. Complying development **may** be carried out on any part of the land that is not identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is not located an item that is so identified, or that does not comprise, or on which there is not, a draft heritage item. Plans of the above items may be found in the applicable planning instrument(s)/draft planning instrument(s).
 - The land is affected by environmentally sensitive land identified by an environmental planning instrument. If the land is within the relevant zones complying development under the Commercial and Industrial (New Buildings and Additions) Code **may not** be carried out on any part of the land identified by an environmental planning instrument as being environmentally sensitive land. Complying development **may** be carried out on any part of the land that is not identified by an environmental planning instrument as being environmentally
-

PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

sensitive land. For the purposes of this section “environmentally sensitive land” means any land that is identified in Schedule 3 of Sydney Regional Environmental Plan No. 9 - Extractive Industry (No. 2); any land defined as “environmentally sensitive areas” in Sydney Regional Environmental Plan No 20 - Hawkesbury-Nepean River (No 2 - 1997); any land zoned Zone E2 Environmental Conservation under State Environmental Planning Policy (Western Sydney Employment Area) 2009; any Natural Resources Sensitive Land under Penrith Local Environmental Plan 2010; and any land zoned either Zone E1 National Parks and Nature Reserves, Zone E2 Environmental Conservation, Zone W1 Natural Waterways or Zone W2 Recreational Waterways under Penrith Local Environmental Plan 2010.

FIRE SAFETY CODE

- The land contains an item of environmental heritage, a heritage item and/or a draft heritage item. Complying development under the Fire Safety Code **may not** be carried out on any part of the land that is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or that comprises, or on which there is, a draft heritage item. Complying development **may** be carried out on any part of the land that is not identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is not located an item that is so identified, or that does not comprise, or on which there is not, a draft heritage item. Plans of the above items may be found in the applicable planning instrument(s)/draft planning instrument(s).

(NOTE: (1) Council has relied on Planning and Infrastructure Circulars and Fact Sheets in the preparation of this information. Applicants should seek their own legal advice in relation to this matter with particular reference to State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

(2) Penrith Local Environmental Plan 2010 (if it applies to the land) contains additional complying development not specified in State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.)

4 COASTAL PROTECTION

The land is not affected by the operation of sections 38 or 39 of the Coastal Protection Act 1979, to the extent that council has been so notified by the Department of Public Works.

5 MINE SUBSIDENCE

The land is not proclaimed to be a mine subsidence district within the meaning of section 15 of the Mine Subsidence Compensation Act 1961.

6 ROAD WIDENING AND ROAD REALIGNMENT

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

- (a) Division 2 of Part 3 of the Roads Act 1993, or
- (b) an environmental planning instrument, or
- (c) a resolution of council.

7 COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

(a) Council Policies

The land is affected by the Asbestos Policy adopted by Council.

PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

The land is not affected by any other policy adopted by the council that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

(b) Other Public Authority Policies

The Bush Fire Co-ordinating Committee has adopted a Bush Fire Risk Management Plan that covers the local government area of Penrith City Council, and includes public, private and Commonwealth lands.

The land is not affected by a policy adopted by any other public authority and notified to the council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the council, that restricts the development of the land because of the likelihood of land slip, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

7A FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

(1) Development on the land or part of the land for the purposes of dwelling houses, dual occupancies, multi dwelling housing or residential flat buildings (not including development for the purposes of group homes or seniors housing) (if such uses are permissible on the land) is subject to flood related development controls.

(2) Development on the land or part of the land for industrial or commercial purposes (if such uses are permissible on the land) is subject to flood related development controls.

Development on the land or part of the land for purposes other than industrial or commercial, or for purposes other than those referred to in (1) above, will be considered on a merits based approach and flood related development controls may apply.

Note 1: The land is subject to Penrith Development Control Plan 2014 Section C3.5 Flood Planning. On application and payment of the prescribed fee Council may be able to provide in writing a range of advice in regard to the extent of flooding affecting the property.

Note 2: Additional information is available in the s10.7(5) information in respect of the land, relating to a low flood island.

8 LAND RESERVED FOR ACQUISITION

No environmental planning instrument or proposed environmental planning instrument referred to in clause 1 makes provision in relation to the acquisition of the land by a public authority, as referred to in section 3.15 of the Act.

9 CONTRIBUTIONS PLANS

The Cultural Facilities Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith.

The Penrith City Local Open Space Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith, excluding industrial areas and the release areas identified in Appendix B of the Plan (Penrith Lakes, Cranebrook, Sydney Regional Environmental Plan No. 30 - St Marys, Waterside, Thornton, the WELL Precinct, Glenmore Park and Erskine Park).

PLANNING CERTIFICATE UNDER SECTION 10.7

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The Penrith City District Open Space Facilities Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith, with the exclusion of industrial lands and the Penrith Lakes development site.

The Penrith City Centre Civic Improvement Plan applies to the land.

9A BIODIVERSITY CERTIFIED LAND

(Information is provided in this section only if the land is biodiversity certified land under Part 8 of the *Biodiversity Conservation Act 2016*.)

10 BIODIVERSITY STEWARDSHIP SITES

(Information is provided in this section only if Council has been notified by the Chief Executive of the Office of Environment and Heritage that the land is land to which a biobanking stewardship agreement under Part 5 of the *Biodiversity Conservation Act 2016* relates.)

10A NATIVE VEGETATION CLEARING SET ASIDES

(Information is provided in this section only if Council has been notified of the existence of a set aside area by Local Land Services or it is registered in the public register under which section 60ZC of the *Local Land Services Act 2013* relates).

11 BUSH FIRE PRONE LAND

Some of the land is identified as bush fire prone land according to Council records. Guidance as to restrictions that may be placed on the land as a result of the land being bush fire prone can be obtained by contacting Council. Such advice would be subject to further requirements of the NSW Rural Fire Services.

12 PROPERTY VEGETATION PLANS

(Information is provided in this section only if Council has been notified that the land is land to which a property vegetation plan approved under the *Native Vegetation Act 2003* applies and continues in force.)

13 ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

(Information is provided in this section only if Council has been notified that an order has been made under the *Trees (Disputes Between Neighbours) Act 2006* to carry out work in relation to a tree on the land.)

14 DIRECTIONS UNDER PART 3A

(Information is provided in this section only if there is a direction by the Minister in force under section 75P(2)(c1) of the Act (repealed on 1st October 2011) that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect.)

PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

15 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS AFFECTING SENIORS HOUSING

(Information is provided in this section only if:

- (a) there is a current site compatibility certificate (seniors housing), of which the council is aware, issued under State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land; and/or
- (b) any terms of a kind referred to in clause 18(2) of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land.)

16 SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

(Information is provided in this section only if there is a valid site compatibility certificate (infrastructure), of which council is aware, in respect of proposed development on the land.)

17 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

(Information is provided in this section only if:

- (a) there is a current site compatibility certificate (affordable rental housing), of which the council is aware, in respect of proposed development on the land; and/or
- (b) any terms of a kind referred to in clause 17(1) or 37(1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 have been imposed as a condition of consent to a development application in respect of the land.)

18 PAPER SUBDIVISION INFORMATION

(Information is provided in this section only if a development plan adopted by a relevant authority applies to the land or is proposed to be subject to a consent ballot, or a subdivision order applies to the land.)

19 SITE VERIFICATION CERTIFICATES

(Information is provided in this section only if there is a current site verification certificate, of which council is aware, in respect of the land.)

NOTE: The following matters are prescribed by section 59(2) of the Contaminated Land Management Act 1997 as additional matters to be specified in a planning certificate

(a) (Information is provided in this section only if, as at the date of this certificate, the land (or part of the land) is significantly contaminated land within the meaning of the Contaminated Land Management Act 1997.)

(b) (Information is provided in this section only if, as at the date of this certificate, the land is subject to a management order within the meaning of the Contaminated Land Management Act 1997.)

PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

(c) (Information is provided in this section only if, as at the date of this certificate, the land is the subject of an approved voluntary management proposal within the meaning of the Contaminated Land Management Act 1997.)

(d) (Information is provided in this section only if, at the date of this certificate, the land subject to an ongoing maintenance order within the meaning of the Contaminated Land Management Act 1997.)

(e) (Information is provided in this section only if the land is the subject of a site audit statement within the meaning of the Contaminated Land Management Act 1997 - a copy of which has been provided to Council.)

Note: Section 10.7(5) information for this property may contain additional information regarding contamination issues.

20 LOOSE FILL ASBESTOS INSULATION

(Information is provided in this section only if there is a residential premises listed on the register of residential premises that contain or have contained loose-fill asbestos insulation (as required by Division 1A of Part 8 of the Home Building Act 1989))

21 AFFECTED BUILDING NOTICES AND BUILDING PRODUCT RECTIFICATION ORDERS

(Information is provided in this section only if Council is aware of any “affected building notice” and/or a “building product rectification order” in force for the land).

Note: The Environmental Planning and Assessment Amendment Act 2017 commenced operation on the 1 March 2018. As a consequence of this Act the information contained in this certificate needs to be read in conjunction with the provisions of the Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017, and Environmental Planning and Assessment Regulation 2000.

Information is provided only to the extent that Council has been notified by relevant government departments.

10.7(5) Certificate

**This Certificate is directed to the following
relevant matters affecting the land**

When information pursuant to section 10.7(5) is requested the Council is under no obligation to furnish any of the information supplied herein pursuant to that section. Council draws your attention to section 10.7(6) which states that a council shall not incur any liability in respect of any advice provided in good faith pursuant to sub-section (5). The absence of any reference to any matter affecting the land shall not imply that the land is not affected by any matter not referred to in this certificate.

Note:

- Council’s 10.7(5) information does not include development consent or easement information. Details of development consents may be obtained by making enquiries with Council’s Development Services Department pursuant to section 12 of the Local Government Act 1993 or (for development applications lodged after January

PLANNING CERTIFICATE UNDER SECTION 10.7
Environmental Planning and Assessment Act, 1979

2007) by viewing the Online Services area at www.penrithcity.nsw.gov.au. Details of any easements may be obtained from a Title Search at Land and Property Information New South Wales.

- This certificate does not contain information relating to Complying Development Certificates.
- This certificate may not provide full details of development rights over the land.

* Biodiversity Conservation Act 2016

When considering any development application Council must have regard to the Biodiversity Conservation Act 2016. Please note that this legislation may have application to any land throughout the city. Interested persons should make their own enquiries in regard to the impact that this legislation could have on this land.

* Slip or Subsidence

The land may be subject to slip or subsidence. The applicant is advised to make their own enquiries as to the potential for slip or subsidence damage adjacent to the Nepean River.

* Low Flood Island

The land has been identified as being on Low Flood Island. A Low Flood Island is defined as a locality which becomes isolated in a flood event and which can be completely inundated by larger floods up to the Probable Maximum Flood (PMF) level. The PMF is the largest flood that could conceivably occur at a particular location.

There are constraints on the evacuation of the area as evacuation routes can be cut early in a flood event. In accordance with the New South Wales Floodplain Development Manual, the site has been categorised as High Hazard. This hazard category also applies in relation to Penrith Development Control Plan 2014 Section C3.5 Flood Planning.

* Preservation of Trees and Vegetation

See Chapter C2 of Penrith Development Control Plan 2014 for specific controls relating to the preservation of trees and vegetation.

* Development Control Plan General Information

Penrith Development Control Plan 2014 which applies to the land, sets out requirements for a range of issues that apply across the Penrith Local Government Area, including:

- Site Planning and Design Principles
- Vegetation Management
- Water Management
- Land Management
- Waste Management
- Landscape Design
- Culture and Heritage
- Public Domain
- Advertising and Signage
- Transport, Access and Parking
- Subdivision
- Noise and Vibration, and
- Infrastructure and Services.

PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

The Development Control Plan also specifies requirements relating to various types of land uses including:

- Rural Land Uses
- Residential Development
- Commercial and Retail Development, and
- Industrial Development

as well as for a number of specific activities, including child care centres; health consulting rooms; educational establishments; parent friendly amenities; places of public worship; vehicle repair stations; cemeteries, crematoria and funeral homes; extractive industries; and telecommunication facilities.

The Development Control Plan also details requirements relating to key precincts within the Penrith Local Government Area, including:

- Caddens
- Claremont Meadows Stage 2
- Cranebrook
- Emu Heights
- Emu Plains
- Erskine Business Park
- Glenmore Park
- Kingswood
- Mulgoa Valley
- Orchard Hills
- Penrith
- Penrith Health and Education Precinct
- Riverlink Precinct
- St Clair,
- St Marys / St Marys North, and
- Sydney Science Park.

Penrith Development Control Plan 2014 may be accessed at <https://www.penrithcity.nsw.gov.au/Building-and-Development/Planning-and-Zoning/Planning-Controls/Development-Control-Plans/>

* Penrith City Centre Controls

See Part 8 of Penrith Local Environmental Plan 2010 and Chapter E11 of Penrith Development Control Plan 2014 for specific controls relating to Penrith City Centre (which includes the subject property).

* Active Street Frontage

The land is identified as an “Active Street Frontage” on the Penrith Local Environmental Plan 2010 (PLEP 2010) Active Street Frontages Map. See Clause 7.8 of PLEP 2010 for details.

* Serviced Apartment Controls

See Part 7.26 of Penrith Local Environmental Plan 2010 for specific controls relating to Serviced Apartments (which includes the subject property).

PLANNING CERTIFICATE UNDER SECTION 10.7
Environmental Planning and Assessment Act, 1979

Additional matters that consent authority must consider

Clause 92 (1)(f) of *Environmental Planning and Assessment Regulation 2000* (the Regulation) applies to the land. Relevantly this clause provides:

- (f) *in the case of a development application for development for the erection of a building for residential purposes on land in Penrith City Centre, the Development Assessment Guideline: An Adaptive Response to Flood Risk Management for Residential Development in the Penrith City Centre published by the Department of Planning and Environment on 28 June 2019.*

A copy of this Guideline is available on the website of the Department.

Clause 92(1)(a)-(e) of the Regulation may also apply to the land.

Warwick Winn
General Manager

PER



Please note:

Certain amendments to the Environmental Planning and Assessment Act 1979 No 203 (Act) commenced on 1 March 2018.

The Environmental Planning and Assessment (Amendment) Act 2017 No 60 makes structural changes to the Act and, as a consequence, the Act has been renumbered in a decimal format. For example, Section 149 Planning Certificates have become Section 10.7 Certificates. Some of the information in this certificate may refer to the previous version of the Act.

Council is committed to updating all relevant documents in a timely manner. This will include planning instruments, applications, approvals, orders, certificates, forms and other associated documents in both printed and electronic versions. Council is required to implement these changes and regrets any inconvenience caused to the local business, industry and the community.

From: [Frances Kuipers](#)
To: [Danda Sapkota](#)
Cc: [James Ngu](#)
Subject: 14578/3 Draft Report - Memorial Avenue, Penrith
Date: Tuesday, 31 March 2020 2:09:46 PM
Attachments: [image003.jpg](#)
[image001.jpg](#)

Hi Danda

I spoke to John Mullane of Penrith Council this morning regarding the GIPA application. He advised that Council are unable to provide this information at this time as Council has no staff to undertake this at the moment.

He advised that he had spoken to Peter Strait and we are to prepare our report without the Council Search including the limitation of why it is not included and that we will update at a later stage.

He said that FDP will be able to lodge the DA without the Council search at this stage.

Frances Kuipers
Office Assistant
cid: 135314501@13052011-3489



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From: Peter Stait [<mailto:peterst@fdcbuilding.com.au>]
Sent: Monday, 30 March 2020 1:50 PM
To: Frances Kuipers; jmullane@pnc.com.au
Cc: Chris Murray; James Ngu; John Atkins
Subject: RE: Draft Report - Memorial Avenue, Penrith

Frances,

I have CC'd John Mullane intentionally on this correspondence.

When was the GIPA Application submitted? We instructed Geotechnique to proceed on 12th March, so this should be along in the process already.

John, can you please confirm below course of action should council not be able to respond to GIPA application would be acceptable, or do we have the results of a previous GIPA application they can reference for the DA contamination report?

Thanks,

Peter Stait

Project Manager, Construction NSW

02 8117 5089 | 0466 149 090

peterst@fdcbuilding.com.au

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From: Frances Kuipers <frances@geotech.com.au>

Sent: Monday, 30 March 2020 12:51 PM

To: Peter Stait <peterst@fdcbuilding.com.au>

Cc: Chris Murray <chrismu@fdcbuilding.com.au>; James Ngu <james@geotech.com.au>

Subject: Draft Report - Memorial Avenue, Penrith

Hello Peter

Further to your telephone conversation with James today, this is to confirm that we are aiming to complete a Draft Report (excluding council information) and email it to you by next Monday 6 April, 2020.

The report will be finalised once Council information becomes available.

For you information we request information from Council under a GIPA application. This application requests to view any information / records held at Penrith Council for any of the possible following:

- Previous Zonings
- Development Application (DA) approval records
- Building Application (BA) approval records
- Council notices
- Council inspection records
- Neighbourhood complaints
- Registered activities
- Sewer and service plans
- Product spill
- Waste disposal practice
- Chemical storage and usage
- Underground storage tank(s), interceptor pit(s), sumps and decommissioned underground storage tanks
- Any other information that may be useful

Kind regards

Frances Kuipers

Office Assistant

cid:135314501@13052011-3489

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From: Peter Stait [<mailto:peterst@fdcbuilding.com.au>]
Sent: Monday, 30 March 2020 12:04 PM
To: Frances Kuipers; James Ngu
Cc: Chris Murray; John Atkins; jmullane@pnc.com.au
Subject: RE: Desktop study and preparation of the formal report - Memorial Avenue, Penrith

James, Frances,
As discussed, Penrith Council has now closed.
I would recommend you find an alternative way to qualify your report in the interim, noting that at time of submission and due to extenuating circumstances, some council inputs were not forthcoming. Please confirm exactly what you need from council, as we may have access to some of these documents ourselves / on file.
We will be submitting in a couple of weeks.
This approach is on request of Penrith Council.
Thanks,

Peter Stait
Project Manager, Construction NSW

02 8117 5089 | 0466 149 090
peterst@fdcbuilding.com.au
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From: Frances Kuipers <frances@geotech.com.au>
Sent: Monday, 30 March 2020 11:54 AM
To: Peter Stait <peterst@fdcbuilding.com.au>
Cc: Chris Murray <chrismu@fdcbuilding.com.au>; James Ngu <james@geotech.com.au>
Subject: Desktop study and preparation of the formal report - Memorial Avenue, Penrith

Hello Peter

As mentioned in our email attached it is common that the Council and the SafeWork NSW records would take more than 3 working weeks and 2 working weeks respectively to acquire.

Now that most government departments are working from home it becoming increasing difficult to source the information requested within that timeframe. Council informs me that the search of the site records will therefore take considerably longer than anticipated.

I have however been in touch with SafeWork. They have posted the letter with search outcome on 26 March 2020. I have requested that they email me the letter.

Due to the outstanding of the council records, we are unable to provide the report by COB on Wednesday 1 April 2020. However, we will endeavour to complete the report ASAP after receipt of the council records.

If you have any queries please contact james@geotech.com.au

Regards

Frances Kuipers

Office Assistant

cid:135314501@13052011-3489



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From: Peter Stait [<mailto:peterst@fdcbuilding.com.au>]

Sent: Monday, 30 March 2020 10:25 AM

To: Frances Kuipers

Cc: Chris Murray; Jack Rathborne; Ziauddin Ahmed; James Ngu

Subject: RE: fees for desktop study and preparation of the formal report

Frances,

Can you please confirm ETA on receipt of this report? We require no later than Wednesday COB this week.

Thanks,

Peter Stait

Project Manager, Construction NSW

02 8117 5089 | 0466 149 090

peterst@fdcbuilding.com.au

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From: Jack Rathborne <jackr@fdcbuilding.com.au>

Sent: Thursday, 12 March 2020 3:54 PM

To: 'Frances Kuipers' <frances@geotech.com.au>
Cc: Peter Stait <peterst@fdcbuilding.com.au>; Chris Murray <chrismu@fdcbuilding.com.au>
Subject: fees for desktop study and preparation of the formal report

Hi Frances,

Please see attached a letter of authority to undertake searches and confirmation of engagement.

Regards,

Jack Rathborne
Cadet, Construction NSW

02 8117 5289
jackr@fdcbuilding.com.au
22 - 24 Junction Street, Forest Lodge, NSW 2037



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APPENDIX E

NSW EPA RECORD OF NOTICES & ENVIRONMENT PROTECTION LICENCES

Search results

Your search for: LGA: PENRITH CITY COUNCIL

Matched 42 notices
relating to 8 sites.

[Search Again](#)

[Refine Search](#)

Suburb	Address	Site Name	Notices related to this site
BERKSHIRE PARK	(Northern end of Compartment 5) The Northern ROAD	Castlereagh State Forest	6 former
COLYTON	86-88 Great Western HIGHWAY	Coles Express (former Ampol) Service Station	2 current
JAMISONTOWN	92 Mulgoa ROAD	7-Eleven Service Station	2 current and 3 former
LUDDENHAM	Lot 4 The Northern ROAD	Elura Liquid Waste Disposal Site	1 former
MULGOA	Mulgoa ROAD	Penrith Waste Services	2 former
PENRITH	Castlereagh ROAD	Crane Enfield Metals	1 current and 10 former
ST MARYS	Vallance STREET	Drum Recycler	5 former
ST MARYS	38 LINKS ROAD	Solveco	3 current and 7 former

Page 1 of 1

31 March 2020

For business and industry

For local government

Contact us

- 131 555 (tel:131555)
- info@epa.nsw.gov.au (mailto:info@epa.nsw.gov.au)
- EPA Office Locations (<https://www.epa.nsw.gov.au/about-us/contact-us/locations>)

[Accessibility \(https://www.epa.nsw.gov.au/about-us/contact-us/website-service-standards/help-index\)](https://www.epa.nsw.gov.au/about-us/contact-us/website-service-standards/help-index)

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 <https://www.youtube.com/channel/UC1WV...>

Search results

Your search for: Suburb: PENRITH

Matched 11 notices relating to 1 site.

[Search Again](#)

[Refine Search](#)

Suburb	Address	Site Name	Notices related to this site
PENRITH	Castlereagh ROAD	Crane Enfield Metals	1 current and 10 former

Page 1 of 1

31 March 2020

For business and industry

For local government

Contact us

- 131 555 (tel:131555)
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Number	Name	Location	Type	Status	Issued date
1584282		Jane Street and Mulgoa Road Infrastructure Upgrade , PENRITH, NSW 2740	s.80 Surrender of a Licence	Issued	03 Nov 2019
21071	5R Solutions Pty Ltd	2115-2131 Castlereagh Road , PENRITH, NSW 2750	POEO licence	Issued	29 Mar 2019
1042219	A.C.N. 098 953 336 PTY LTD	182-184 Andrews Road, PENRITH, NSW 2750	s.58 Licence Variation	Issued	10 Nov 2004
247	BORAL RESOURCES (NSW) PTY LTD	PEACHTREE ROAD, PENRITH, NSW 2750	POEO licence	No longer in force	22 Aug 2000
12405	CAPRAL LIMITED	2115 CASTLEREAGH ROAD, PENRITH, NSW 2750	POEO licence	Issued	09 Mar 2006
1070974	CAPRAL LIMITED	2115 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	30 Jul 2007
1077652	CAPRAL LIMITED	2115 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	31 Aug 2007
1109988	CAPRAL LIMITED	2115 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	19 Apr 2010
1525967	CAPRAL LIMITED	2115 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	31 Oct 2014
1526072	CAPRAL LIMITED	2115 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	11 Nov 2014
1098	CRANE ENFIELD METALS PTY. LIMITED	2115 CASTLEREAGH ROAD, PENRITH, NSW 2750	POEO licence	Issued	26 Jun 2000
1004546	CRANE ENFIELD METALS PTY. LIMITED	2115 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	20 Mar 2001
1017498	CRANE ENFIELD METALS PTY. LIMITED	2115 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	24 Nov 2003
1056426	CRANE ENFIELD METALS PTY. LIMITED	2115 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	09 Mar 2006
1072470	CRANE ENFIELD METALS PTY. LIMITED	2115 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	20 Sep 2007
1104995	CRANE ENFIELD METALS PTY. LIMITED	2115 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	04 Nov 2009
1510672	CRANE ENFIELD METALS PTY. LIMITED	2115 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	04 Feb 2013
1512789	CRANE ENFIELD METALS PTY. LIMITED	2115 CASTLEREAGH ROAD, PENRITH, NSW 2750	Compliance Audit	Complete	13 Mar 2013
1512775	CRANE ENFIELD METALS PTY. LIMITED	2115 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	19 Mar 2013
1515690	CRANE ENFIELD METALS PTY. LIMITED	2115 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	26 Jul 2013

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1525217	CRANE ENFIELD METALS PTY. LIMITED	2115 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	26 Sep 2014
1592772	CRANE ENFIELD METALS PTY. LIMITED	2115 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.80 Surrender of a Licence	Pending	10 Mar 2020
10945	CUMMINS SOUTH PACIFIC PTY. LTD.	7 Andrews Road, PENRITH, NSW 2750	POEO licence	Surrendered	19 Jun 2000
1035208	CUMMINS SOUTH PACIFIC PTY. LTD.	7 Andrews Road, PENRITH, NSW 2750	s.58 Licence Variation	Issued	08 Mar 2004
1038290	CUMMINS SOUTH PACIFIC PTY. LTD.	7 Andrews Road, PENRITH, NSW 2750	s.80 Surrender of a Licence	Issued	28 Jun 2004
308	DORF CLARK INDUSTRIES LIMITED	2101 CASTLEREAGH ROAD, PENRITH, NSW 2750	POEO licence	Surrendered	17 Jan 2000
1024084	DORF CLARK INDUSTRIES LIMITED	2101 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	06 Jan 2003
1044228	DORF CLARK INDUSTRIES LIMITED	2101 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	08 Feb 2005
1062634	DORF CLARK INDUSTRIES LIMITED	2101 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.80 Surrender of a Licence	Issued	04 Jul 2006
11290	ENDEAVOUR ENERGY	96-120 Blaikie Road, PENRITH, NSW 2750	POEO licence	No longer in force	08 Jan 2001
1035197	ENDEAVOUR ENERGY	96-120 Blaikie Road, PENRITH, NSW 2750	s.58 Licence Variation	Issued	08 Mar 2004
1017070	FORT DODGE AUSTRALIA PTY LIMITED	2152 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	13 May 2002
1029829	FORT DODGE AUSTRALIA PTY LIMITED	2152 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	27 Aug 2003
1038827	FORT DODGE AUSTRALIA PTY LIMITED	2152 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	28 Jul 2004
1046584	FORT DODGE AUSTRALIA PTY LIMITED	2152 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	28 Apr 2005
1066270	FORT DODGE AUSTRALIA PTY LIMITED	2152 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	15 Dec 2006
1072508	FORT DODGE AUSTRALIA PTY LIMITED	2152 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	23 Jul 2007
1100623	FORT DODGE AUSTRALIA PTY LIMITED	2152 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	07 Oct 2009
1526441	Glass Recovery Services Pty Ltd	126 Andrews Road, PENRITH, NSW 2740	s.91 Clean Up Notice	Issued	27 Jan 2015
1535765	Glass Recovery Services Pty Ltd	126 Andrews Road, PENRITH, NSW 2740	s.91 Clean Up Notice	Issued	23 Aug 2016

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3085780565	Glass Recovery Services Pty Ltd	126 Andrews Road, PENRITH, NSW 2740	Penalty Notice	Issued	28 Oct 2016
3173525960	Glass Recovery Services Pty Ltd	126 Andrews Road, PENRITH, NSW 2740	Penalty Notice	Issued	13 Aug 2018
3173525970	Glass Recovery Services Pty Ltd	126 Andrews Road, PENRITH, NSW 2740	Penalty Notice	Issued	13 Aug 2018
3173526281	Glass Recovery Services Pty Ltd	126 Andrews Road, PENRITH, NSW 2740	Penalty Notice	Issued	04 Oct 2018
3173526034	Glass Recovery Services Pty Ltd	126 Andrews Road, PENRITH, NSW 2740	Penalty Notice	Issued	06 Nov 2018
1584627	Glass Recovery Services Pty Ltd	126 Andrews Road, PENRITH, NSW 2740	s.79 Suspension of a Licence	Issued	15 Nov 2019
12132	GULF WESTERN PREMIUM QUALITY LUBRICATING OILS (MANUFACTURING) PTY LIMITED	1 COOMBES DRIVE, PENRITH, NSW 2750	POEO licence	Surrendered	01 Oct 2004
1097227	GULF WESTERN PREMIUM QUALITY LUBRICATING OILS (MANUFACTURING) PTY LIMITED	1 COOMBES DRIVE, PENRITH, NSW 2750	s.58 Licence Variation	Issued	02 Feb 2009
1104874	GULF WESTERN PREMIUM QUALITY LUBRICATING OILS (MANUFACTURING) PTY LIMITED	1 COOMBES DRIVE, PENRITH, NSW 2750	s.58 Licence Variation	Issued	17 Aug 2009
1109128	GULF WESTERN PREMIUM QUALITY LUBRICATING OILS (MANUFACTURING) PTY LIMITED	1 COOMBES DRIVE, PENRITH, NSW 2750	s.58 Licence Variation	Issued	20 Nov 2009
1522908	GULF WESTERN PREMIUM QUALITY LUBRICATING OILS (MANUFACTURING) PTY LIMITED	1 COOMBES DRIVE, PENRITH, NSW 2750	s.80 Surrender of a Licence	Issued	23 Jul 2014
6472	JAMES KEITH COSGROVE	8 HOYLE PLACE, PENRITH, NSW 2750	POEO licence	Surrendered	21 Jun 2000
1044521	JAMES KEITH COSGROVE	8 HOYLE PLACE, PENRITH, NSW 2750	s.58 Licence Variation	Issued	16 Feb 2005
1057715	JAMES KEITH COSGROVE	8 HOYLE PLACE, PENRITH, NSW 2750	s.80 Surrender of a Licence	Issued	18 May 2006
7019	JAMISON PRIVATE HOSPITAL PROPERTY PTY LTD	366 JAMISON ROAD, PENRITH, NSW 2750	POEO licence	Surrendered	20 Mar 2001
1006127	JAMISON PRIVATE HOSPITAL PROPERTY PTY LTD	366 JAMISON ROAD, PENRITH, NSW 2750	s.80 Surrender of a Licence	Issued	12 Apr 2001
2869	LD&D MILK PTY LTD	2257 - 2265 CASTLEREAGH ROAD, PENRITH, NSW 2750	POEO licence	Issued	05 Jun 2000
1012903	LD&D MILK PTY LTD	2257 - 2265 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	18 Feb 2002
1525246	LD&D MILK PTY LTD	2257 - 2265 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	02 Oct 2014
1556498	LD&D MILK PTY LTD	2257 - 2265 CASTLEREAGH	s.96 Prevention Notice	Issued	08 Sep 2017

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21135	MCCONNELL DOWELL CONSTRUCTORS (AUST) PTY LTD	Jane Street and Mulgoa Road Infrastructure Upgrade , PENRITH, NSW 2740	POEO licence	Surrendered	26 Sep 2018
1579384	MCCONNELL DOWELL CONSTRUCTORS (AUST) PTY LTD	Jane Street and Mulgoa Road Infrastructure Upgrade , PENRITH, NSW 2740	s.58 Licence Variation	Issued	15 Jul 2019
21087	MEYER TIMBER N.S.W. PTY LTD	2101-2113 Castlereagh Road, PENRITH, NSW 2750	POEO licence	Issued	06 Apr 2018
3741	NAREX AUSTRALIA PTY LTD	LOT D FROGMORE ROAD, PENRITH, NSW 2750	POEO licence	Surrendered	31 Jan 2001
1007235	NAREX AUSTRALIA PTY LTD	LOT D FROGMORE ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	10 May 2001
1008444	NAREX AUSTRALIA PTY LTD	LOT D FROGMORE ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	20 Aug 2001
1019295	NAREX AUSTRALIA PTY LTD	LOT D FROGMORE ROAD, PENRITH, NSW 2750	s.80 Surrender of a Licence	Issued	23 Jul 2002
6357	O-I OPERATIONS (AUSTRALIA) PTY LTD	130-172 ANDREW ROAD, PENRITH, NSW 2750	POEO licence	Issued	07 Jun 2000
1007008	O-I OPERATIONS (AUSTRALIA) PTY LTD	130-172 ANDREW ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	05 Jul 2002
1020003	O-I OPERATIONS (AUSTRALIA) PTY LTD	130-172 ANDREW ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	09 Sep 2002
1072516	O-I OPERATIONS (AUSTRALIA) PTY LTD	130-172 ANDREW ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	20 Aug 2007
1085783	O-I OPERATIONS (AUSTRALIA) PTY LTD	130-172 ANDREW ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	21 Oct 2008
1104746	O-I OPERATIONS (AUSTRALIA) PTY LTD	130-172 ANDREW ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	06 Aug 2009
1109805	O-I OPERATIONS (AUSTRALIA) PTY LTD	130-172 ANDREW ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	26 Feb 2010
1511632	O-I OPERATIONS (AUSTRALIA) PTY LTD	130-172 ANDREW ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	22 Feb 2013
1512576	O-I OPERATIONS (AUSTRALIA) PTY LTD	130-172 ANDREW ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	12 Aug 2014
2818	PANASONIC AVC NETWORKS AUSTRALIA PTY LTD	164 STATION STREET, PENRITH, NSW 2750	POEO licence	Surrendered	24 Mar 2000
1015398	PANASONIC AVC NETWORKS AUSTRALIA PTY LTD	164 STATION STREET, PENRITH, NSW 2750	s.58 Licence Variation	Issued	04 Mar 2002
1048338	PANASONIC AVC NETWORKS AUSTRALIA PTY LTD	164 STATION STREET, PENRITH, NSW 2750	s.58 Licence Variation	Issued	31 May 2005
1057191	PANASONIC AVC NETWORKS AUSTRALIA PTY LTD	164 STATION STREET, PENRITH, NSW 2750	s.80 Surrender of a Licence	Issued	10 Apr 2006

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20381	PH PENRITH OPERATIONS PTY LTD	126 Andrews Road, PENRITH, NSW 2740	POEO licence	Issued	07 Nov 2017
10349	SYDNEY OLYMPIC PARK AUTHORITY	CASTLEREAGH ROAD, PENRITH, NSW 2750	POEO licence	Surrendered	06 Jan 2000
1009237	SYDNEY OLYMPIC PARK AUTHORITY	CASTLEREAGH ROAD, PENRITH, NSW 2750	s.80 Surrender of a Licence	Issued	13 Aug 2001
1409	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, PENRITH, NSW 2750	POEO licence	Issued	25 May 2000
1005313	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	22 Oct 2001
1017898	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	26 Jun 2002
1018895	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	23 Dec 2002
1028330	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	08 Jul 2003
1032690	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	25 Nov 2003
1032982	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	19 Mar 2004
1047700	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	30 Jun 2005
1061410	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	29 Jun 2006
1070089	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	15 Mar 2007
1074754	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	27 Jun 2007
1092452	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	19 Nov 2008
1116048	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	02 Jul 2010
1129012	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	27 Jun 2011
1504851	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	28 Jun 2012
1526090	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	08 Jan 2015
1528922	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	23 Mar 2015

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1538189	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, s.58 PENRITH, NSW 2750	Licence Variation	Issued	19 Feb 2016
1539414	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, s.58 PENRITH, NSW 2750	Licence Variation	Issued	14 Apr 2016
1542270	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, s.58 PENRITH, NSW 2750	Licence Variation	Issued	28 Jul 2016
1552585	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, s.58 PENRITH, NSW 2750	Licence Variation	Issued	01 Jun 2017
1572463	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, s.58 PENRITH, NSW 2750	Licence Variation	Issued	30 Nov 2018
1577311	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, s.58 PENRITH, NSW 2750	Licence Variation	Issued	25 Mar 2019
1580188	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, s.58 PENRITH, NSW 2750	Licence Variation	Issued	01 Jul 2019
1586318	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, s.58 PENRITH, NSW 2750	Licence Variation	Issued	04 Oct 2019
1587664	SYDNEY WATER CORPORATION	CASTLEREAGH ROAD, s.58 PENRITH, NSW 2750	Licence Variation	Issued	31 Oct 2019
11461	TOTAL CONCRETE SOLUTIONS PTY LIMITED	261 COOMBES DRIVE, PENRITH, NSW 2750	POEO licence	No longer in force	19 Oct 2001
1294	VICARY CORPORATION PTY LIMITED	60-62 REGENTVILLE ROAD, PENRITH, NSW 2750	POEO licence	Surrendered	22 Aug 2000
1018540	VICARY CORPORATION PTY LIMITED	60-62 REGENTVILLE ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	27 Jun 2002
1039098	VICARY CORPORATION PTY LIMITED	60-62 REGENTVILLE ROAD, PENRITH, NSW 2750	s.80 Licence Surrender of	Issued	19 Jul 2004
12106	VIP STEEL PACKAGING PTY LTD	182-184 Andrews Road, PENRITH, NSW 2750	POEO licence	Surrendered	28 Apr 2004
1065654	VIP STEEL PACKAGING PTY LTD	182-184 Andrews Road, PENRITH, NSW 2750	s.58 Licence Variation	Issued	25 Oct 2006
1093267	VIP STEEL PACKAGING PTY LTD	182-184 Andrews Road, PENRITH, NSW 2750	s.58 Licence Variation	Issued	10 Nov 2008
1127751	VIP STEEL PACKAGING PTY LTD	182-184 Andrews Road, PENRITH, NSW 2750	s.58 Licence Variation	Issued	03 Jun 2011
1511942	VIP STEEL PACKAGING PTY LTD	182-184 Andrews Road, PENRITH, NSW 2750	s.80 Licence Surrender of	Issued	04 Mar 2013
5269	VIRBAC (AUSTRALIA) PTY LTD	2152 CASTLEREAGH ROAD, PENRITH, NSW 2750	POEO licence	Issued	10 Aug 2000
1526064	VIRBAC (AUSTRALIA) PTY LTD	2152 CASTLEREAGH ROAD, PENRITH, NSW 2750	s.58 Licence Variation	Issued	11 Nov 2014

[123456](#)

31 March 2020

For business and industry

For local government

Contact us

- 131 555 (tel:131555)
- info@epa.nsw.gov.au (mailto:info@epa.nsw.gov.au)
- EPA Office Locations (<https://www.epa.nsw.gov.au/about-us/contact-us/locations>)

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Background

A strategy to systematically prioritise, assess and respond to notifications under Section 60 of the *Contaminated Land Management Act 1997* (CLM Act) has been developed by the EPA. This strategy acknowledges the EPA's obligations to make information available to the public under *Government Information (Public Access) Act 2009*.

When a site is notified to the EPA, it may be accompanied by detailed site reports where the owner has been proactive in addressing the contamination and its source. However, often there is minimal information on the nature or extent of the contamination.

After receiving a report, the first step is to confirm that the report does not relate to a pollution incident. The Protection of the Environment Operations Act 1997 (POEO Act) deals with pollution incidents, waste stockpiling or dumping. The EPA also has an incident management process to manage significant incidents (<https://www.epa.nsw.gov.au/reporting-and-incidents/incident-management>).

In many cases, the information indicates the contamination is securely immobilised within the site, such as under a building or carpark, and is not currently causing any significant risks for the community or environment. Such sites may still need to be cleaned up, but this can be done in conjunction with any subsequent building or redevelopment of the land. These sites do not require intervention under the CLM Act, and are dealt with through the planning and development consent process. In these cases, the EPA informs the local council or other planning authority, so that the information can be recorded and considered at the appropriate time (<https://www.epa.nsw.gov.au/your-environment/contaminated-land/managing-contaminated-land/role-of-planning-authorities>).

Where indications are that the contamination could cause actual harm to the environment or an unacceptable offsite impact (i.e. the land is 'significantly contaminated'), the EPA would apply the regulatory provisions of the CLM Act to have the responsible polluter and/or landowner investigate and remediate the site. If the reported contamination could present an immediate or long-term threat to human health NSW Health will be consulted. SafeWork NSW and Water NSW can also be consulted if there appear to be occupational health and safety risks or an impact on groundwater quality.

As such, the sites notified to the EPA and presented in the list of contaminated sites notified to the EPA are at various stages of the assessment and remediation process. Understanding the nature of the underlying contamination, its implications and implementing a remediation program where required, can take a considerable period of time. The list provides an indication, in relation to each nominated site, as to the management status of that particular site. Further detailed information may be available from the EPA or the person who notified the site.

The following questions and answers may assist those interested in this issue.

Frequently asked questions

Why does my land appear on the list of notified sites?

Your land may appear on the list because:

- the site owner and/or the polluter has notified the EPA under section 60 of the CLM Act
- the EPA has been notified via other means and is satisfied that the site is or was contaminated.

If a site is on the list, it does not necessarily mean the contamination is significant enough to regulate under the CLM Act.

Does the list contain all contaminated sites in NSW?

No. The list only contains contaminated sites that EPA is aware of. If a site is not on the list, it does not necessarily mean the site is not contaminated.

The EPA relies on responsible parties and the public to notify contaminated sites.

How are notified contaminated sites managed by the EPA?

There are different ways the EPA can manage notified contaminated sites. Options include:

- regulation under the CLM Act, POEO Act, or both
- notifying the relevant planning authority for management under the planning and development process
- managing the site under the Protection of the Environment Operation (Underground Petroleum Storage Systems) Regulation 2014.

There are specific cases where contamination is managed under a tailored program operated by another agency (for example, the Resources & Geoscience's Legacy Mines Program).

What should I do if I am a potential buyer of a site that appears on the list?

You should seek advice from the seller to understand the contamination issue. You may need to seek independent contamination or legal advice.

The information provided in the list is indicative only and a starting point for your own assessment. Land contamination from past site uses is common, mainly in urban environments. If the site is properly remediated or managed, it may not affect the intended future use of the site.

Who can I contact if I need more information about a site?

You can contact the Environment Line at any time by calling 131 555 or by emailing info@environment.nsw.gov.au.

List of NSW Contaminated Sites Notified to the EPA

Disclaimer

The EPA has taken all reasonable care to ensure that the information in the list of contaminated sites notified to the EPA (the list) is complete and correct. The EPA does not, however, warrant or represent that the list is free from errors or omissions or that it is exhaustive.

The EPA may, without notice, change any or all of the information in the list at any time.

You should obtain independent advice before you make any decision based on the information in the list.

The list is made available on the understanding that the EPA, its servants and agents, to the extent permitted by law, accept no responsibility for any damage, cost, loss or expense incurred by you as a result of:

1. any information in the list; or
2. any error, omission or misrepresentation in the list; or
3. any malfunction or failure to function of the list;
4. without limiting (2) or (3) above, any delay, failure or error in recording, displaying or updating information.

Site Status	Explanation
Under assessment	The contamination is being assessed by the EPA to determine whether regulation is required. The EPA may require further information to complete the assessment. For example, the completion of management actions regulated under the planning process or <i>Protection of the Environment Operations Act 1997</i> .
Under Preliminary Investigation Order	The EPA has issued a Preliminary Investigation Order under s10 of the <i>Contaminated Land Management Act 1997</i> , to obtain additional information needed to complete the assessment.

Regulation under CLM Act not required	The EPA has completed an assessment of the contamination and decided that regulation under the <i>Contaminated Land Management Act 1997</i> is not required.
Regulation being finalised	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the <i>Contaminated Land Management Act 1997</i> . A regulatory approach is being finalised.
Contamination currently regulated under CLM Act	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the Contaminated Land Management Act 1997 (CLM Act). Management of the contamination is regulated by the EPA under the CLM Act. Regulatory notices are available on the EPA's Contaminated Land Public Record.
Contamination currently regulated under POEO Act	Contamination is currently regulated under the Protection of the Environment Operations Act 1997 (POEO Act). The EPA as the appropriate regulatory authority reasonably suspects that a pollution incident is occurring/ has occurred and that it requires regulation under the POEO Act. The EPA may use environment protection notices, such as clean up notices, to require clean up action to be taken. Such regulatory notices are available on the POEO public register.
Contamination being managed via the planning process (EP&A Act)	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation. The contamination of this site is managed by the consent authority under the <i>Environmental Planning and Assessment Act 1979</i> (EP&A Act) planning approval process, with EPA involvement as necessary to ensure significant contamination is adequately addressed. The consent authority is typically a local council or the Department of Planning and Environment.

Contamination formerly regulated under the CLM Act	The EPA has determined that the contamination is no longer significant enough to warrant regulation under the <i>Contaminated Land Management Act 1997</i> (CLM Act). The contamination was addressed under the CLM Act.
Contamination formerly regulated under the POEO Act	The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed under the <i>Protection of the Environment Operations Act 1997</i> (POEO Act).
Contamination was addressed via the planning process (EP&A Act)	The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed by the appropriate consent authority via the planning process under the <i>Environmental Planning and Assessment Act 1979</i> (EP&A Act).
Ongoing maintenance required to manage residual contamination (CLM Act)	The EPA has determined that ongoing maintenance, under the <i>Contaminated Land Management Act 1997</i> (CLM Act), is required to manage the residual contamination. Regulatory notices under the CLM Act are available on the EPA's Contaminated Land Public Record.

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
ABBOTSFORD	Former Gasworks	83 Wymston PARADE	Gasworks	Contamination formerly regulated under the CLM Act	-33.85288351	151.1265979
ABBOTSFORD	Former Gasworks	82, 83, 84 Wymston Pde, & 37, 39, 43, 45 St Albans STREET	Gasworks	Contamination formerly regulated under the CLM Act	-33.85288316	151.1267729
ABBOTSFORD	Former Gasworks	85 Wymston PARADE	Gasworks	Regulation under CLM Act not required	-33.85265214	151.1266277
ABBOTSFORD	Former Gasworks	80-81 Wymston Pde and 35 and 41 St Albans STREET	Gasworks	Regulation under CLM Act not required	-33.85306653	151.1268142
ABBOTSFORD	Former Gasworks	43 St Albans STREET	Gasworks	Contamination formerly regulated under the CLM Act	-33.85270604	151.126976
ABERDEEN	Former Transport Depot	87-89 St Andrew STREET	Other Industry	Regulation under CLM Act not required	-32.17160931	150.8972859
ALBION PARK	Caltex Albion Park Service Station	1 Calderwood ROAD	Service Station	Regulation under CLM Act not required	-34.57131362	150.7647971
ALBION PARK RAIL	Caltex Service Station	174 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.56134097	150.7953663
ALBION PARK RAIL	Caltex Service Station	31 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.55162786	150.7880626
ALBION PARK RAIL	Former Timber Storage Area	36 Rivulet CRESCENT	Other Industry	Regulation under CLM Act not required	-34.54872597	150.7899351
ALBURY	Mobil Depot, Railway Place Albury	1 Railway PLACE	Other Petroleum	Regulation under CLM Act not required	-36.08526805	146.9236999
ALBURY	Woolworths Petrol	515 Young STREET	Service Station	Regulation under CLM Act not required	-36.08073723	146.92351
ALBURY	Former Caltex Service Station	842 David STREET	Service Station	Regulation under CLM Act not required	-36.06398743	146.9252143
ALBURY	SRA Land, 514 to 526 Young Street	514 to 526 Young STREET	Other Petroleum	Regulation under CLM Act not required	-36.08084123	146.9241682
ALBURY	Former Gasworks and surrounding commercial land.	441 Kiewa STREET	Gasworks	Contamination currently regulated under CLM Act	-36.08357983	146.9137004

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
ALBURY	Coles Express Albury	465 Guinea STREET	Service Station	Regulation under CLM Act not required	-36.07513665	146.9213077
ALBURY	Former Thales Australia site, Albury	161 Fallon STREET	Other Industry	Contamination formerly regulated under the CLM Act	-36.064966	146.9434831
ALBURY	Xpress Service Station	616-624 Young STREET	Service Station	Contamination formerly regulated under the CLM Act	-36.07555262	146.9256466
ALBURY	Albury Plaza	Cnr Smollett Street and Townsend STREET	Other Industry	Regulation under CLM Act not required	-36.08112933	146.9135719
ALBURY	Mobil Albury Aviation Fuel Depot	Hangar 8 (Albury Airport), Ogden PLACE	Other Petroleum	Regulation under CLM Act not required	-36.07178139	146.9530165
ALBURY	SRA Land	448 and 452 Young STREET	Unclassified	Regulation under CLM Act not required	-36.08438605	146.9235454
ALBURY	Caltex Service Station	Dean Street, Corner Creek STREET	Service Station	Regulation under CLM Act not required	-36.07978937	146.9110825
ALEXANDRIA	Former Mobil Service Station	20 O'Riordan STREET	Service Station	Regulation under CLM Act not required	-33.9075539	151.2014811
ALEXANDRIA	Caltex Alexandria Service Station	133 Wyndham St, cnr McEvoy STREET	Service Station	Regulation under CLM Act not required	-33.90220927	151.2000425
ALEXANDRIA	Former Cadbury Schweppes	49-59 O'Riordan STREET	Other Industry	Contamination formerly regulated under the CLM Act	-33.91406619	151.195067
ALEXANDRIA	Formerly Gas N Go Alexandria (fully redeveloped into residential apartment as of September 2016)	10-20 Botany ROAD	Service Station	Regulation under CLM Act not required	-33.89536227	151.1987818
ALEXANDRIA	Mascot Developments	494-504 Gardeners ROAD	Other Industry	Regulation under CLM Act not required	-33.9198218	151.191282
ALEXANDRIA	Alexandria GoGas	562 Botany ROAD	Service Station	Regulation under CLM Act not required	-33.91577222	151.2000753
ALEXANDRIA	Australian Refined Alloys	202-212 Euston ROAD	Metal Industry	Regulation under CLM Act not required	-33.91505136	151.185872
ALEXANDRIA	Alexandria Canal Sediments	Off Huntley STREET	Other Industry	Contamination currently regulated under CLM Act	-33.92204213	151.1770009

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
ALEXANDRIA	Australia Post	10-24 Ralph STREET	Other Industry	Contamination was addressed via the planning process (EP&A Act)	-33.91583041	151.197997
ALEXANDRIA	Perry Park	1B Maddox STREET	Landfill	Regulation under CLM Act not required	-33.90809949	151.1962945
ALEXANDRIA	Alexandria Gardens	146-156 Wyndham Street & 146-156 Botany ROAD	Unclassified	Regulation under CLM Act not required	-33.89956961	151.1997377
ALEXANDRIA	Sydney Park	Sydney Park ROAD	Landfill	Contamination currently regulated under CLM Act	-33.91163421	151.1840827
ALEXANDRIA	Former Industrial Site (now Value Suites)	16 O'Riordan STREET	Other Industry	Regulation under CLM Act not required	-33.9069796	151.201902
ALEXANDRIA	The Gentry Alexandria - 31 to 41 William St.	31-41 William STREET	Unclassified	Regulation under CLM Act not required	-33.91288033	151.1980106
ALSTONVILLE	Caltex Service Station Alstonville	73 Main STREET	Service Station	Regulation under CLM Act not required	-28.84115994	153.4388699
AMBARVALE	Caltex Service Station	37 Woodhouse DRIVE	Service Station	Regulation under CLM Act not required	-34.08438034	150.8019168
ANNANDALE	7-Eleven (former Mobil) Annandale Service Station	198 Parramatta ROAD	Service Station	Regulation under CLM Act not required	-33.88706434	151.1741135
ANNANDALE	Shell Coles Express Service Station	124-126 Johnston STREET	Service Station	Regulation under CLM Act not required	-33.88085651	151.1704805
APPIN	Elladale Creek Aqueduct Upper Canal	Macquariedale ROAD	Unclassified	Regulation under CLM Act not required	-34.18867067	150.7539597
APPIN	West Cliff Colliery	Wedderburn ROAD	Other Petroleum	Regulation under CLM Act not required	-34.21970612	150.8217522
ARDLETHAN	Landmark Fertiliser Storage Facility	18 & 24-26 Ariah STREET	Chemical Industry	Regulation under CLM Act not required	-34.35696645	146.9007084
ARGENTON	NSW Mines Rescue Services - Argenton	533 Lake ROAD	Other Industry	Regulation under CLM Act not required	-32.93807208	151.6269664
ARMIDALE	Former Mobil Depot	132 Niagara STREET	Other Petroleum	Contamination formerly regulated under the CLM Act	-30.51115918	151.6490343

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
ARMIDALE	Caltex Service Station	146 Miller STREET	Service Station	Regulation under CLM Act not required	-30.51362759	151.6481123
ARMIDALE	RTA land adjoining Martin Street estate	Martin STREET	Other Industry	Contamination formerly regulated under the CLM Act	-30.5045	151.6433
ARMIDALE	Shell Service Station	93 Marsh STREET	Service Station	Regulation under CLM Act not required	-30.51299824	151.6697557
ARMIDALE	Parklands near the former gasworks	Beardy Street and Allingham STREET	Gasworks	Regulation under CLM Act not required	-30.51013465	151.6652722
ARMIDALE	Gasworks and portion of Harris Park	Corner of Beardy Street and Allingham STREET	Gasworks	Contamination currently regulated under CLM Act	-30.51157406	151.6623073
ARMIDALE	Martin Street Estate, Lot 3	Lot 3 Martin STREET	Other Industry	Regulation under CLM Act not required	-30.5066659	151.6453692
ARMIDALE	Martin Street Estate	Martin STREET	Other Industry	Regulation under CLM Act not required	-30.50559024	151.6431854
ARMIDALE	Caltex Armidale Girraween Service Station	6-8 Queen Elizabeth DRIVE	Service Station	Regulation under CLM Act not required	-30.50348872	151.6510748
ARMIDALE	Martin Street, Crown Land	Martin STREET	Other Industry	Contamination formerly regulated under the CLM Act	-30.50414076	151.6429516
ARMIDALE	Former Shell Depot	134 Niagara STREET	Other Petroleum	Regulation under CLM Act not required	-30.51180178	151.6488634
ARMIDALE	Caltex Service Station	144 Marsh STREET	Service Station	Regulation under CLM Act not required	-30.51709925	151.6675802
ARMIDALE	Caltex North Hill Service Station	2-4 Marsh STREET	Service Station	Regulation under CLM Act not required	-30.50320439	151.6727051
ARMIDALE	Mobil Armidale Service Station and Former Depot	10-12 McLennan STREET	Service Station	Regulation under CLM Act not required	-30.51107573	151.648242
ARMIDALE	Caltex Service Station	19/10541 New England HIGHWAY	Service Station	Regulation under CLM Act not required	-30.53210764	151.6160492
ARMIDALE	Armidale Dumaresq Council Grafton Road Depot	15-25 Grafton ROAD	Other Petroleum	Regulation under CLM Act not required	-30.52058076	151.6815261

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
ARNCLIFFE	7-Eleven Arncliffe	28 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-33.93428397	151.1525438
ARNCLIFFE	Combined Projects Arncliffe	104-128 Princess HIGHWAY	Other Industry	Under assessment	-33.934009	151.152135
ARTARMON	7-Eleven (former Mobil) Artarmon Service Station	477 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.81053826	151.1774248
ASHBY	Ashby Dry Dock	via Clarence STREET	Other Industry	Contamination formerly regulated under the CLM Act	-29.44158377	153.1972304
ASHFIELD	Vehicle Workshop	445-449 Liverpool ROAD	Service Station	Regulation under CLM Act not required	-33.88826829	151.1167477
ASQUITH	BP Service Station	462 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.68982678	151.106156
ATTUNGA	Attunga Limestone Mine (Waste Oil Site)	Garthowen ROAD	Other Industry	Regulation under CLM Act not required	-30.92920627	150.8579435
AUBURN	DIC Australia	323 Chisholm ROAD	Other Industry	Regulation under CLM Act not required	-33.87228962	151.0157032
AUBURN	Former Ajax chemical factory	9 Short STREET	Other Industry	Contamination currently regulated under CLM Act	-33.83671601	151.0292071
AUBURN	Janyon	Manchester ROAD	Other Industry	Regulation under CLM Act not required	-33.84467826	151.020745
AUBURN	Maintrain Facility - Sydney Trains Auburn	Manchester ROAD	Other Industry	Regulation under CLM Act not required	-33.84410947	151.0242502
AUBURN	Department of Corrective Services land adjacent to the former Auburn Landfill	Jamieson STREET	Landfill	Contamination formerly regulated under the CLM Act	-33.82928257	151.0590653
AWABA	Awaba Colliery	Wilton ROAD	Other Industry	Regulation under CLM Act not required	-33.02098186	151.5383612
BALGOWLAH	BP Service Station	Cnr Sydney Road and Maretimo STREET	Service Station	Regulation under CLM Act not required	-33.79546175	151.2559309
BALGOWLAH	Part of Manly Council Maintenance Depot	8-10 Roseberry STREET	Other Petroleum	Regulation under CLM Act not required	-33.78928907	151.2679557

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BALGOWNIE	Fuel Power Plus	99 Balgownie ROAD	Service Station	Contamination currently regulated under POEO Act	-34.38925632	150.8808544
BALLINA	Former Mobil Service Station	37-41 Cherry STREET	Service Station	Regulation under CLM Act not required	-28.86952673	153.5624436
BALLINA	Ballina Shell	273 River STREET	Service Station	Regulation under CLM Act not required	-28.86809272	153.5552789
BALLINA	Woolworths Petrol	Kerr STREET	Service Station	Regulation under CLM Act not required	-28.85824461	153.5605439
BALLINA	Ballina Mays Motors	River STREET	Other Petroleum	Regulation under CLM Act not required	-28.86935402	153.5585931
BALRANALD	Caltex Service Station	Sturt HIGHWAY	Service Station	Regulation under CLM Act not required	-34.66747746	143.5662034
BANKSIA	Woolworths Petrol Service Station Banksia	314 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-33.94567308	151.1416884
BANKSIA	Cooks Cove Development	Cooks Cove PARK	Landfill	Regulation under CLM Act not required	-33.948464	151.153128
BANKSMEADOW	Orica Botany Groundwater Project	16-20 Beauchamp ROAD	Chemical Industry	Contamination currently regulated under CLM Act	-33.9552673	151.2151954
BANKSMEADOW	Discovery Cove, Former Ampol Rail Terminal	1801 Botany ROAD	Other Petroleum	Regulation being finalised	-33.96162178	151.2184122
BANKSMEADOW	Caltex Terminal	1-3 Penrhyn ROAD	Other Petroleum	Contamination currently regulated under POEO Act	-33.96335328	151.2171062
BANKSMEADOW	Orica Botany (Pre-2003 Regulation)	Port Feeder ROAD	Chemical Industry	Contamination currently regulated under CLM Act	-33.9516159	151.2195804
BANKSMEADOW	Veolia Waste Transfer Terminal (former Keith Engineering site)	34-36 McPherson STREET	Other Industry	Regulation under CLM Act not required	-33.95811039	151.2195225
BANKSMEADOW	Orica Former Chlor Alkali Plant (same site as Orica Botany Groundwater Project)	Botany Industrial Park, off Denison STREET	Chemical Industry	Contamination currently regulated under CLM Act	-33.95664283	151.221685
BANKSMEADOW	Former Pipeline	Corish CIRCLE	Other Petroleum	Regulation being finalised	-33.94705787	151.2209919

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BANKSMEADOW	Pacific National Rail Siding	1 Beauchamp ROAD	Chemical Industry	Contamination currently regulated under CLM Act	-33.95757712	151.2204974
BANKSMEADOW	Former Mobil Banksmeadow Terminal	Coal Pier ROAD	Other Petroleum	Regulation under CLM Act not required	-33.95405624	151.2142048
BANKSMEADOW	Orica Car Park Waste Encapsulation	Corish CIRCLE	Landfill	Contamination formerly regulated under the POEO Act	-33.94703665	151.22083
BANKSTOWN	7-Eleven Service Station	689 Henry Lawson DRIVE	Service Station	Regulation under CLM Act not required	-33.92749953	150.9804784
BANORA POINT	Caltex Service Station	Corner Leisure Drive and Darlington DRIVE	Service Station	Regulation under CLM Act not required	-28.21390712	153.5417434
BARGO	Tahmoor Colliery	Remembrance DRIVE	Other Industry	Regulation under CLM Act not required	-34.25090795	150.5793631
BARMEDMAN	Caltex - Barmedman	Corner Watson Street and Star STREET	Other Petroleum	Regulation under CLM Act not required	-34.14351302	147.3824934
BARRACK HEIGHTS	Caltex Service Station	332-336 Shellharbour ROAD	Service Station	Regulation under CLM Act not required	-34.56489171	150.8597814
BASS HILL	Woolworths Caltex Bass Hill	862 Hume HIGHWAY	Service Station	Under assessment	-33.9008648	150.9991181
BATEAU BAY	Former landfill	The Entrance ROAD	Landfill	Contamination currently regulated under CLM Act	-33.3938305	151.4699046
BATEAU BAY	Woolworths Service Station Bateau Bay	9 Bay Village ROAD	Service Station	Regulation under CLM Act not required	-33.37316432	151.4737125
BATEHAVEN	Caltex Service Station	264 Beach ROAD	Service Station	Regulation under CLM Act not required	-35.73255166	150.1997536
BATEHAVEN	Coles Express Service Station Batehaven	198 Beach ROAD	Service Station	Regulation under CLM Act not required	-35.72671807	150.1944931
BATEMANS BAY	Caltex Service Station	87-89 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-35.71940701	150.1762788
BATHURST	Shell Coles Express Service Station	(Cnr Stewart and Rocket Street) 298 Stewart STREET	Service Station	Regulation under CLM Act not required	-33.41910999	149.5677773

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BATHURST	Former Shell Depot Bathurst	56 Bant STREET	Other Petroleum	Regulation under CLM Act not required	-33.43471575	149.5774595
BATHURST	Bathurst Rail Fabrication Centre	34 Alpha STREET	Other Industry	Regulation under CLM Act not required	-33.42805153	149.5829156
BATHURST	Bathurst - Former Caltex Depot	114 Howick STREET	Other Petroleum	Regulation under CLM Act not required	-33.42296963	149.5862574
BATHURST	Caltex Bathurst Service Station	53 Durham STREET	Service Station	Regulation under CLM Act not required	-33.41689545	149.5848527
BATHURST	Former Police Station	Corner of William Street and Durham STREET	Other Petroleum	Contamination formerly regulated under the CLM Act	-33.41592424	149.5842233
BATHURST	Former Mobil Depot	1 Lambert STREET	Other Petroleum	Regulation under CLM Act not required	-33.42875534	149.5806344
BATHURST	Crago Mill site	Piper STREET	Other Industry	Regulation under CLM Act not required	-33.42777602	149.5809428
BATHURST	Former Mobil Depot	Lower Russell STREET	Other Petroleum	Regulation under CLM Act not required	-33.42497876	149.585128
BATHURST	Shell Coles Express Bathurst Service Station	59 Durham STREET	Service Station	Regulation under CLM Act not required	-33.41639415	149.5843243
BATHURST	Former Gasworks	71 Russell STREET	Gasworks	Contamination formerly regulated under the CLM Act	-33.42420302	149.5864517
BATHURST	Devro Cattle Hide Processing Plant	46 Vale ROAD	Other Industry	Regulation under CLM Act not required	-33.43926137	149.5803563
BAULKHAM HILLS	Caltex Baulkham Hills Service Station	117 Seven Hills ROAD	Service Station	Regulation under CLM Act not required	-33.76139872	150.9750767
BAULKHAM HILLS	Caltex Service Station	130 Seven Hills ROAD	Service Station	Regulation under CLM Act not required	-33.76180431	150.9746297
BAULKHAM HILLS	Shell Coles Express Service Station	363 Windsor ROAD	Service Station	Regulation under CLM Act not required	-33.7601819	150.9916224
BEACON HILL	Caltex Service Station	176 Warringah ROAD	Service Station	Contamination currently regulated under CLM Act	-33.75381485	151.2602617

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BEACON HILL	Former 7-Eleven Service Station, Beacon Hill	312 Warringah ROAD	Service Station	Regulation under CLM Act not required	-33.75129647	151.2469656
BEACONSFIELD	63-85 Victoria St, Beaconsfield	63-85 Victoria STREET	Other Industry	Regulation under CLM Act not required	-33.9102929	151.2016275
BEGA	Coles Express (former Caltex) Service Station	2-6 Swan (Corner Carp) STREET	Service Station	Regulation under CLM Act not required	-36.67388263	149.838163
BEGA	Former BP Service Station	100 - 102 Gipps STREET	Service Station	Regulation under CLM Act not required	-36.67563094	149.8433291
BEGA	Former Bega Gasworks	19-29 Upper STREET	Gasworks	Under preliminary investigation order	-36.67710613	149.8480253
BEGA	Caltex Service Station	36-40 Lagoon STREET	Service Station	Regulation under CLM Act not required	-36.66832965	149.8289048
BEGA	Lands Adjoining the Former Bega Gasworks	Part of Upper, East, Gordon & Gloucester STREET	Gasworks	Under preliminary investigation order	-36.67710613	149.8480253
BEGA	Spenco Site - owned by Bega Spotlight Property 2 Pty Ltd	53-65 Bega Street STREET	Other Industry	Regulation under CLM Act not required	-36.67135539	149.8450828
BELMONT	Coles Express Belmont Service Station	502 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.03317155	151.6605194
BELMONT	Former Ampol Service Station	467-469 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.0299728	151.6613301
BELMONT NORTH	Woolworths Service Station Belmont North	399 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.02454211	151.6634893
BELMONT NORTH	Caltex Belmont North Service Station	406 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.02476876	151.6623655
BELMONT NORTH	Belmont Bus Depot	2 Floraville ROAD	Other Petroleum	Regulation under CLM Act not required	-33.02476269	151.6606657
BELMORE	SRA Land	348 Burwood ROAD	Unclassified	Regulation under CLM Act not required	-33.91753611	151.0859487
BELMORE	7-Eleven Service Station	792-794 Canterbury ROAD	Service Station	Regulation under CLM Act not required	-33.92567992	151.0873469

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BELROSE	Glenrose Shopping Centre	56-58 Glen STREET	Unclassified	Contamination currently regulated under CLM Act	-33.73917996	151.2101029
BELROSE	Woolworths Petrol	60 Glen STREET	Service Station	Regulation under CLM Act not required	-33.74009002	151.2091045
BELROSE	Caltex Service Station	157 Forest WAY	Service Station	Regulation under CLM Act not required	-33.7347675	151.2212004
BENNETTS GREEN	Former Windale Wastewater Treatment Works	8 Templar PLACE	Other Industry	Regulation under CLM Act not required	-33.00317523	151.6936636
BERESFIELD	BP Beresfield Truckstop	2 Kinta Drive, corner John Renshaw DRIVE	Service Station	Regulation under CLM Act not required	-32.81122768	151.6393427
BERESFIELD	Former Koppers Timber Treatment Site	53 Weakleys DRIVE	Other Industry	Regulation under CLM Act not required	-32.79902937	151.6358846
BERKELEY VALE	Former Berkeley Vale Service Station	121-123 Lakedge AVENUE	Service Station	Regulation under CLM Act not required	-33.34899186	151.4423109
BERKSHIRE PARK	Shell Coles Express Berkshire Park	746 - 752 Richmond ROAD	Service Station	Regulation under CLM Act not required	-33.66508654	150.7990243
BEROWRA	Caltex Berowra Service Station	12-14 Berowra Waters ROAD	Service Station	Regulation under CLM Act not required	-33.6233827	151.1505554
BEROWRA	7-Eleven Berowra Service Station	965-969 Pacific (Cnr Waratah Rd) HIGHWAY	Service Station	Regulation under CLM Act not required	-33.62673163	151.1479171
BEROWRA	Shell Coles Express Berowra	955 Pacific (Cnr Yallambee Rd) HIGHWAY	Service Station	Regulation under CLM Act not required	-33.62818015	151.1475736
BEROWRA	42 Berowra Waters Road	42 Berowra Waters ROAD	Unclassified	Regulation under CLM Act not required	-33.6203211	151.1482454
BERRIGAN	Caltex Service Station Berrigan	155-165 Chanter STREET	Service Station	Regulation under CLM Act not required	-35.6557616	145.8015557
BERRY	Berry Service Centre - Shell Branded	88 Queen STREET	Service Station	Regulation under CLM Act not required	-34.77571634	150.6961713
BERRY	BP branded service station Berry (Formerly Shell)	75 Queen STREET	Service Station	Contamination currently regulated under POEO Act	-34.77500516	150.695167

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BEXLEY	7-Eleven Bexley	474 Forest ROAD	Service Station	Regulation under CLM Act not required	-33.95160096	151.1252355
BEXLEY	7-Eleven (former Mobil) Service Station Bexley	613 Forest ROAD	Service Station	Regulation under CLM Act not required	-33.95539246	151.118447
BILLINUDGEL	CSR Readymix	Mogo PLACE	Other Industry	Regulation under CLM Act not required	-28.50210255	153.5278161
BILLINUDGEL	Billinudgel General Store	2A Wilfred STREET	Service Station	Under assessment	-28.50435	153.52701
BLACKMANS FLAT	Mount Piper Extension Development Site	2847 Boulder ROAD	Other Industry	Regulation under CLM Act not required	-33.35619968	150.0279881
BLACKMANS FLAT	Western Coal Services (former Lamberts Gully Mine)	Castlereagh HIGHWAY	Other Industry	Regulation under CLM Act not required	-33.36713827	150.0483236
BLACKTOWN	Former Caltex Service Station	131 Richmond ROAD	Service Station	Regulation under CLM Act not required	-33.75866104	150.8962614
BLACKTOWN	Valspar Blacktown	4 Steel STREET	Chemical Industry	Regulation under CLM Act not required	-33.75425018	150.9127714
BLACKTOWN	Land at Reservoir Road	Reservoir ROAD	Unclassified	Regulation under CLM Act not required	-33.79119448	150.8967838
BLACKTOWN	7-Eleven Service Station	60 Walters ROAD	Service Station	Regulation under CLM Act not required	-33.77599783	150.8948926
BLAKEHURST	Woolworths Service Station Blakehurst	390 Princes HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-33.99019694	151.1135663
BLAKEHURST	The Bay Nursing Home	392 & 394 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-33.99030465	151.1140293
BLAXLAND	7-Eleven (former Mobil) Service Station	137 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.74627	150.6137669
BOAMBEE	Lindsay Bros transport depot site	542 Pacific HIGHWAY	Other Petroleum	Regulation under CLM Act not required	-30.33106848	153.0802985
BOAMBEE	BP-branded (former Mobil) Boambee Service Station	601 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-30.33544287	153.0817266

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BOBS FARM	Bob's Farm	15 Fenningham Island ROAD	Other Industry	Regulation under CLM Act not required	-32.74867207	152.0316217
BOGGABILLA	Former Caltex Service Station	90 Simpson Street, corner Newell HIGHWAY	Service Station	Regulation under CLM Act not required	-28.60654029	150.3571056
BOGGABILLA	Lowes (Former Mobil) Depot	Newell HIGHWAY	Other Petroleum	Regulation under CLM Act not required	-28.61023985	150.3529156
BOMADERRY	Caltex Service Station	341 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.84561952	150.5946978
BOMADERRY	Caltex Service Station Bomaderry	246 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.83833824	150.5958799
BOMADERRY	Former Mobil Emoleum Depot	7 Victa WAY	Other Petroleum	Regulation under CLM Act not required	-34.84454618	150.6139462
BOMADERRY	Former Shell Depot	44 Railway STREET	Other Petroleum	Regulation under CLM Act not required	-34.85193621	150.6117038
BOMADERRY	SRA Land	Lot 2 Meroo STREET	Unclassified	Regulation under CLM Act not required	-34.85314813	150.6099573
BOMADERRY	Bomaderry Works Depot	10 McIntyre WAY	Other Petroleum	Regulation under CLM Act not required	-34.84576748	150.6131411
BOMADERRY	Commercial Land	320 Princes HIGHWAY	Other Industry	Contamination currently regulated under CLM Act	-34.84424073	150.5958149
BOMBALA	Caltex Service Station Bombala	159-161 Maybe STREET	Service Station	Regulation under CLM Act not required	-36.91234945	149.2374622
BOMBALA	Former Bright Street Timber Mill	Bright STREET	Other Industry	Regulation under CLM Act not required	-36.91547645	149.2302454
BOMBALA	Caltex Bombala Service Station	High Street corner Stephen STREET	Service Station	Regulation under CLM Act not required	-36.90447935	149.241292
BOMBALA	Prime Pine site	Sandy LANE	Other Industry	Regulation under CLM Act not required	-36.9315425	149.2110959
BOMEN	Caltex Terminal	34 Lewington STREET	Other Petroleum	Regulation under CLM Act not required	-35.0700202	147.4121955

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BONDI	BP-branded Service Station	185 Bondi ROAD	Service Station	Regulation under CLM Act not required	-33.89432208	151.2647671
BONDI	Caltex Service Station Bondi	51 Bondi ROAD	Service Station	Regulation under CLM Act not required	-33.8936307	151.260001
BONDI JUNCTION	Waverley Bus Depot	1-15 Oxford STREET	Other Industry	Regulation under CLM Act not required	-33.89165341	151.2421246
BONNY HILLS	Bonny View Store	923 Ocean DRIVE	Service Station	Regulation under CLM Act not required	-31.59075636	152.8392935
BONNYRIGG	Metro (Formerly United & AP SAVER) Service Station Bonnyrigg	709 Cabramatta (W) ROAD	Service Station	Regulation under CLM Act not required	-33.89297085	150.8925935
BONNYRIGG HEIGHTS	BP-Branded Service Station Bonnyrigg	451 North Liverpool ROAD	Service Station	Regulation under CLM Act not required	-33.89416327	150.8578378
BOOLAROO	Cardiff West Estate - Pasminco Cockle Creek	Adjacent to PCC Smelter at 13A Main ROAD	Metal Industry	Regulation under CLM Act not required	-32.93950137	151.6349183
BOOLAROO	Cockle Creek and Cockle Bay Sediments	Off Creek Reserve ROAD	Metal Industry	Contamination currently regulated under CLM Act	-32.96079541	151.6141327
BOOLAROO	Pasminco Cockle Creek Smelter	Lake ROAD	Metal Industry	Contamination currently regulated under CLM Act	-32.94434593	151.6307345
BOOLAROO	Incitec Pivot	13 Main STREET	Other Industry	Contamination formerly regulated under the CLM Act	-32.94803538	151.6302187
BOOLAROO	Bunnings Site - Pasminco Cockle Creek	13a Main ROAD	Metal Industry	Contamination formerly regulated under the CLM Act	-32.94364503	151.6252316
BOOLAROO	Part Lot 2 DP1127713 (proposed Lot G) - Pasminco Cockle Creek Smelter site	13a Main ROAD	Metal Industry	Contamination formerly regulated under the CLM Act	-32.94364503	151.6252316
BOOLAROO	Lot 2 DP1127713 & proposed 'Lot D') - Pasminco Cockle Creek Smelter site	Main ROAD	Metal Industry	Contamination formerly regulated under the CLM Act	-32.944397	151.626397
BOOROWA	Former Mobil Depot	14-16 Brial STREET	Other Petroleum	Regulation under CLM Act not required	-34.43673234	148.7300821
BOOROWA	Mobil Service Station	63-69 Marsden STREET	Service Station	Contamination formerly regulated under the CLM Act	-34.44157331	148.7162391

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BOTANY	Former Aerosols of Australia	1617 Botany ROAD	Chemical Industry	Regulation under CLM Act not required	-33.9529386	151.2037468
BOTANY	Allnex	49-61 Stephen ROAD	Chemical Industry	Contamination currently regulated under CLM Act	-33.952588	151.21101
BOTANY	Former Tannery	2 Daniel STREET	Other Industry	Regulation under CLM Act not required	-33.94126194	151.1991087
BOTANY	Botany, Underwood	14a Underwood AVENUE	Unclassified	Contamination being managed via the planning process (EP&A Act)	-33.94508532	151.1947626
BOTANY	Roads and Maritime Service	5 - 9 Lord STREET	Other Industry	Regulation under CLM Act not required	-33.94100279	151.1968763
BOTANY	Former Industrial Site	28 Folkestone PARADE	Unclassified	Contamination being managed via the planning process (EP&A Act)	-33.95187539	151.1960537
BOURKE	Caltex Service Station	82-86 Anson STREET	Service Station	Regulation under CLM Act not required	-30.09500388	145.9414388
BOURKE	Former Shell Bourke Depot	94-106 Anson STREET	Service Station	Regulation under CLM Act not required	-30.09548497	145.9436745
BOWENFELS	Bowenfels Field Support Centre	9-13 Coerwull ROAD	Other Petroleum	Regulation under CLM Act not required	-33.47514572	150.1323899
BOWRAL	Shell Coles Express Bowral Service Station	430 Bong Bong STREET	Service Station	Regulation under CLM Act not required	-34.48269596	150.417389
BOWRAL	Former Gasworks	Merrigang STREET	Gasworks	Contamination currently regulated under CLM Act	-34.4783957	150.4255053
BOX HILL	Former Waste Management Facility	25 Terry ROAD	Landfill	Regulation under CLM Act not required	-33.65559259	150.8977986
BOX HILL	Former Poultry Farm	27-33 Boundary ROAD	Other Industry	Regulation under CLM Act not required	-33.64866563	150.8815467
BOX HILL	Former Poultry Farm	19-25 Boundary ROAD	Other Industry	Under assessment	-33.65087576	150.88063
BRANXTON	Former Service Station Branxton	Part of 70 Maitland STREET	Service Station	Contamination currently regulated under CLM Act	-32.65647051	151.3516199

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BRANXTON	Branxton Wastewater Treatment Works	2151 New England HIGHWAY	Other Industry	Regulation under CLM Act not required	-32.66069944	151.3625572
BREWARRINA	Dowell's Fuel	39 Doyle STREET	Service Station	Regulation under CLM Act not required	-29.96152786	146.8612561
BRIGHTON-LE-SANDS	Shell Service Station Brighton Le Sands & adjacent land	2 General Holmes DRIVE	Service Station	Contamination formerly regulated under the CLM Act	-33.9579214	151.1578665
BRIGHTON-LE-SANDS	Cook Park	General Holmes DRIVE	Service Station	Contamination formerly regulated under the CLM Act	-33.9581072	151.1579572
BROADMEADOW	Former Industrial Site	16 Broadmeadow ROAD	Service Station	Regulation under CLM Act not required	-32.91444096	151.7300112
BROADMEADOW	Nineways Broadmeadow Coles Express SS	Corner Bruncker Road and Lambton ROAD	Service Station	Regulation under CLM Act not required	-32.92511185	151.7364247
BROKEN HEAD	South Byron Sewage Treatment Works	Broken Head ROAD	Other Industry	Regulation under CLM Act not required	-28.67233626	153.6148974
BROKEN HILL	Former Caltex Depot	3 Kanandah ROAD	Service Station	Regulation under CLM Act not required	-31.98341823	141.4332211
BROKEN HILL	Former Caltex Service Station	167-173 Argent STREET	Service Station	Regulation under CLM Act not required	-31.96066663	141.4624175
BROKEN HILL	Caltex Service Station	535 Argent STREET	Service Station	Regulation under CLM Act not required	-31.95311924	141.4745274
BROKEN HILL	Tasco Petroleum (Former Mobil) Depot	5 Kanandah ROAD	Other Petroleum	Regulation under CLM Act not required	-31.9843986	141.4329127
BROKEN HILL	Former Mobil Aviation Refuelling Facility, Broken Hill Airport	Airport ROAD	Other Petroleum	Regulation under CLM Act not required	-31.99928312	141.4685759
BROKEN HILL	Caltex Service Station	73-87 Oxide STREET	Service Station	Contamination formerly regulated under the CLM Act	-31.95519591	141.4658647
BROKEN HILL	Former Mobil Depot	Corner Of Talc Street and Gossan STREET	Other Petroleum	Regulation under CLM Act not required	-31.96018102	141.4514752
BROKEN HILL	Former Gasworks	Cornish STREET	Gasworks	Contamination formerly regulated under the CLM Act	-31.96330562	141.4470611

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BROOKLYN	Former Oyster Farm	139 Brooklyn (Off Government) ROAD	Unclassified	Regulation under CLM Act not required	-33.54716867	151.2229744
BROOKVALE	Coles Express Service Station Brookvale	198 Harbord ROAD	Service Station	Regulation under CLM Act not required	-33.76332299	151.2794028
BROOKVALE	Woolworths Petrol Brookvale	756 Pittwater ROAD	Service Station	Regulation under CLM Act not required	-33.76170587	151.2762411
BROOKVALE	Caltex Service Station Brookvale	740-742 Pittwater ROAD	Service Station	Regulation under CLM Act not required	-33.76146721	151.2745358
BROOKVALE	Harrison Manufacturing	75 Old Pittwater ROAD	Other Industry	Regulation under CLM Act not required	-33.76497282	151.2637961
BROOKVALE	Brookvale Bus Depot	630-636 Pittwater ROAD	Other Petroleum	Regulation under CLM Act not required	-33.76641698	151.2705659
BROOKVALE	Warringah Mall	Cnr Condamine Street, Old Pittwater Rd & Cross STREET	Other Industry	Regulation under CLM Act not required	-33.76729923	151.2657272
BROOKVALE	Littles Dry Cleaning	123 Old Pittwater ROAD	Other Industry	Regulation under CLM Act not required	-33.76759121	151.2625932
BROWNSVILLE	Caltex Service Station	342 Kanahooka ROAD	Service Station	Regulation under CLM Act not required	-34.48591734	150.8064373
BRUNSWICK HEADS	Caltex Service Station	5 Tweed STREET	Service Station	Regulation under CLM Act not required	-28.5381619	153.5487135
BUDGEWOI	Colongra Power Station	Off Scenic DRIVE	Other Industry	Under assessment	-33.21463137	151.5529338
BULAHDELAH	Caltex Service Station	8 Red Gum Road, Corner Mahogany STREET	Service Station	Regulation under CLM Act not required	-32.39837094	152.2106015
BULAHDELAH	Former Caltex Service Station	53-59 Bulahdelah WAY	Service Station	Regulation under CLM Act not required	-32.40721638	152.2110291
BULAHDELAH	BP-branded (former Mobil) Service Station	73-75 Bulahdelah WAY	Service Station	Regulation under CLM Act not required	-32.40971018	152.2105785
BULLABURRA	Former Burmah Bullaburra Service Station	367 - 369 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.72482995	150.4124537

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BULLI	Scrap Yard	7 Molloy STREET	Other Industry	Contamination formerly regulated under the CLM Act	-34.33663195	150.9131154
BULLI	Bulli Brickworks	Quilkey PLACE	Other Industry	Regulation under CLM Act not required	-34.33263113	150.9086247
BUNGALORA	Former landfill area	Part of 840 Terranora ROAD	Other Industry	Regulation under CLM Act not required	-28.245029	153.476206
BUNGENDORE	Former Timber Treatment Plant	Corner King Street and Butmaroo STREET	Other Industry	Contamination formerly regulated under the CLM Act	-35.26151273	149.4434907
BURONGA	Caltex Service Station	Sturt Hwy Cnr Silver City HIGHWAY	Service Station	Regulation under CLM Act not required	-34.17056496	142.1813847
BURWOOD	Burwood STA Depot	Cnr Shaftesbury and Parramatta ROADS	Other Industry	Contamination formerly regulated under the CLM Act	-33.86982934	151.1089057
BYRON BAY	Residential Development	Lot 15 Seaview STREET	Unclassified	Regulation under CLM Act not required	-28.65214464	153.6165573
BYRON BAY	Butler Street Reserve Byron Bay	Butler STREET	Landfill	Under assessment	-28.6434329	153.6101099
CABARITA	Dulux (Orica Australia)	Cabarita ROAD	Chemical Industry	Contamination formerly regulated under the CLM Act	-33.84643972	151.1157115
CABARITA	Wellcome Soil Containment Cells Cabarita	47 and 48 Phillips STREET	Other Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.85250251	151.1176366
CABRAMATTA	Caltex (former Mobil) Landsvale Service Station	141 Hume HIGHWAY	Service Station	Contamination formerly regulated under the CLM Act	-33.89442261	150.9571507
CABRAMATTA	Caltex Service Station Cabramatta	168 John STREET	Service Station	Regulation under CLM Act not required	-33.89422314	150.9279279
CABRAMATTA	Cabramatta Creek	17 A and 19A Liverpool Street STREET	Unclassified	Regulation under CLM Act not required	-33.90282	150.941563
CABRAMATTA WEST	BP Lansvale	115-119 Hume HIGHWAY	Service Station	Under assessment	-33.894709	150.960511
CALGA	Former service station	101 Peats Ridge ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.37592138	151.2254951

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
CALLALA BEACH	Callala Beach General Store	(formerly 1 Quay Rd) 114A Quay ROAD	Service Station	Regulation under CLM Act not required	-35.0101817	150.6964322
CAMBRIDGE GARDENS	Caltex Cambridge Park	1 Boomerang PLACE	Service Station	Regulation under CLM Act not required	-33.74068794	150.717174
CAMDEN	Camden High School (former)	John STREET	Gasworks	Regulation under CLM Act not required	-34.05114079	150.6951285
CAMDEN	Caltex Camden Service Station	21 Barsden STREET	Service Station	Regulation under CLM Act not required	-34.05808413	150.6914744
CAMDEN SOUTH	Coles Express Service Station Camden South	273 Old Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-34.08660995	150.6945444
CAMELLIA	Hymix Concrete	14 Grand AVENUE	Metal Industry	Contamination currently regulated under CLM Act	-33.82243454	151.044789
CAMELLIA	Mauri Foods	15 Grand AVENUE	Other Industry	Regulation being finalised	-33.81996985	151.0335725
CAMELLIA	James Hardie Factory (former, eastern portion)	1 Grand AVENUE	Other Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.8182384	151.0261019
CAMELLIA	Bitumen Manufacturer	12 Grand AVENUE	Other Industry	Contamination currently regulated under CLM Act	-33.82189695	151.0429251
CAMELLIA	Hambear	14 Thackeray STREET	Metal Industry	Regulation under CLM Act not required	-33.81920482	151.0419394
CAMELLIA	Former Asciano Properties	39 Grand AVENUE	Chemical Industry	Contamination currently regulated under CLM Act	-33.82056014	151.0443331
CAMELLIA	Railway Land	27 Grand AVENUE	Other Industry	Regulation under CLM Act not required	-33.81910822	151.0382483
CAMELLIA	Wrigg	13 Grand AVENUE	Metal Industry	Under preliminary investigation order	-33.81971361	151.0321525
CAMELLIA	Former Akzo Nobel site	6 Grand AVENUE	Chemical Industry	Contamination currently regulated under CLM Act	-33.82238826	151.0319264
CAMELLIA	Former Shell Clyde Refinery	Durham STREET	Other Industry	Contamination currently regulated under POEO Act	-33.82804924	151.0378966

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
CAMELLIA	Council Reserve	11B Grand AVENUE	Metal Industry	Regulation under CLM Act not required	-33.81850502	151.0302425
CAMELLIA	Veolia	37 Grand AVENUE	Chemical Industry	Contamination currently regulated under CLM Act	-33.81980027	151.0430689
CAMELLIA	Sydney Water	41 Grand AVENUE	Chemical Industry	Contamination formerly regulated under the CLM Act	-33.8217493	151.0453367
CAMELLIA	Maritime Services Board	33A Grand AVENUE	Metal Industry	Regulation under CLM Act not required	-33.81836086	151.0401249
CAMMERAY	Tunks Park	Brothers AVENUE	Landfill	Contamination formerly regulated under the CLM Act	-33.81734704	151.2113338
CAMMERAY	Coles Express Cammeray	477-483 Miller STREET	Service Station	Regulation under CLM Act not required	-33.82141124	151.2108658
CAMPBELLTOWN	Mobil Service Station	96-98 Queen STREET	Service Station	Regulation under CLM Act not required	-34.06407588	150.8170082
CAMPBELLTOWN	BP Macarthur Service Station	Cnr Blaxland ROAD and Campbelltown ROAD	Service Station	Regulation under CLM Act not required	-34.05312872	150.8234349
CAMPBELLTOWN	Former vehicle wrecking yard	38 Blaxland ROAD	Other Industry	Regulation under CLM Act not required	-34.06055735	150.8130598
CAMPERDOWN	Former Gee Graphics	27 Church STREET	Other Industry	Regulation under CLM Act not required	-33.88737747	151.1773616
CAMPERDOWN	O'Dea Reserve	Salisbury LANE	Landfill	Contamination formerly regulated under the CLM Act	-33.89072786	151.1736948
CAMPERDOWN	The Spruce	12-14 Marsden STREET	Other Industry	Regulation under CLM Act not required	-33.88720632	151.1784514
CAMPSIE	Budget Petroleum and adjacent property	403 Canterbury Road and 1 Una STREET	Service Station	Contamination currently regulated under CLM Act	-33.91605617	151.1086596
CAMPSIE	Former Sunbeam factory	60 Charlotte STREET	Other Industry	Contamination formerly regulated under the CLM Act	-33.92254225	151.1025796
CANLEY HEIGHTS	Former Caltex Canley Heights	368 Canley Vale ROAD	Service Station	Regulation under CLM Act not required	-33.88271081	150.9154176

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
CANLEY HEIGHTS	Caltex Canley Heights Service Station	280-286 Canley Vale ROAD	Service Station	Regulation under CLM Act not required	-33.88393501	150.9241656
CANLEY VALE	Coles Express Lansvale	99 Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-33.89295753	150.9606136
CANLEY VALE	Former Mobil Service Station	96 Canley Vale ROAD	Service Station	Regulation under CLM Act not required	-33.88591573	150.9369801
CANOWINDRA	BP-branded Jasbe Service Station	76 Rodd STREET	Service Station	Regulation under CLM Act not required	-33.56131773	148.6682805
CANTERBURY	Metro Petroleum Service Station	13-19 Canterbury ROAD	Service Station	Contamination currently regulated under CLM Act	-33.90783455	151.125207
CARDIFF	7-Eleven Service Station	399 Main ROAD	Service Station	Regulation under CLM Act not required	-32.93391137	151.6562111
CARDIFF	Former Caltex Service Station	367 Main ROAD	Service Station	Regulation under CLM Act not required	-32.93761223	151.6577781
CARDIFF	Maneela Oval	Main ROAD	Other Industry	Regulation under CLM Act not required	-32.93018443	151.6435559
CARDIFF	Former Mobil Depot	7 Ranton STREET	Other Petroleum	Regulation under CLM Act not required	-32.94516764	151.6470387
CARDIFF	BP Service Station (Reliance Petroleum)	Corner Sturt and Main ROADS	Service Station	Regulation under CLM Act not required	-32.93792229	151.6569905
CARDIFF	Woolworths (former Mobil) Cardiff Service Station	43 Macquarie ROAD	Service Station	Regulation under CLM Act not required	-32.94118246	151.6578195
CARINGBAH	Adjacent to Spirent Australia	101-103 Cawarra ROAD	Other Industry	Contamination formerly regulated under the CLM Act	-34.03360747	151.1245577
CARINGBAH	Former Consumer Health Products Manufacturer	32-40 Cawarra ROAD	Other Industry	Regulation under CLM Act not required	-34.03024369	151.1277755
CARINGBAH	Caltex Lilli Pilli Service Station	477-481 Port Hacking ROAD	Service Station	Regulation under CLM Act not required	-34.05243807	151.1216353
CARINGBAH	7-Eleven Service Station	367 The KINGSWAY	Service Station	Regulation under CLM Act not required	-34.03948677	151.1203268

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
CARINGBAH	Spirent Australia	105 Cawarra ROAD	Other Industry	Contamination formerly regulated under the CLM Act	-34.03425343	151.1245092
CARINGBAH	BP Caringbah	54 Captain Cook DRIVE	Service Station	Under assessment	-34.032986	151.1250656
CARLINGFORD	Caltex Service Station Carlingford	131 Pennant Hills ROAD	Service Station	Regulation under CLM Act not required	-33.78762398	151.0279422
CARLINGFORD	Caltex Service Station	797 Pennant Hills ROAD	Service Station	Regulation under CLM Act not required	-33.7757819	151.0516532
CARLTON	Shell Coles Express Service Station	277 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-33.9748579	151.1272732
CARRINGTON	Commercial Metals Company (CMC) Australia Pty Ltd	117-121 Bourke STREET	Other Industry	Regulation under CLM Act not required	-32.9148832	151.7677193
CARRINGTON	Carrington redevelopment site	11 Howden STREET	Other Industry	Regulation under CLM Act not required	-32.91309509	151.7625341
CARRINGTON	Forgacs Dockyard	81 Denison STREET	Other Industry	Regulation under CLM Act not required	-32.9207441	151.764816
CARRINGTON	NAT vacant land	Bourke STREET	Unclassified	Regulation under CLM Act not required	-32.91276029	151.7685894
CARRINGTON	Dyke Point Containment Cell	Dyke ROAD	Other Industry	Regulation under CLM Act not required	-32.91763422	151.7727101
CARRINGTON	Carrington Coal Tar Pavements	Bourke Street to Dyke ROAD	Other Industry	Regulation under CLM Act not required	-32.91441348	151.770271
CARRINGTON	Pasminco Ship Loader	Dyke Berth 2 (off Bourke Street) OTHER	Metal Industry	Regulation under CLM Act not required	-32.9148698	151.7716837
CARSS PARK	Vacant Property	334 Princes HIGHWAY	Other Industry	Regulation under CLM Act not required	-33.98628486	151.1133908
CARWELL	Cement Australia Carwell Creek Quarries	Quarry ROAD	Other Industry	Regulation under CLM Act not required	-32.85570277	149.9170908
CASINO	Caltex Service Station and Depot Casino	28 & 32 Dyraaba STREET	Service Station	Regulation under CLM Act not required	-28.85488567	153.044806

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
CASINO	Caltex Service Station	96 Centre STREET	Service Station	Regulation under CLM Act not required	-28.86539567	153.0450654
CASINO	Former Gasworks	134-136 North STREET	Gasworks	Regulation under CLM Act not required	-28.86080712	153.0526043
CASINO	Woolworths Service Station Casino	130 Canterbury STREET	Service Station	Regulation under CLM Act not required	-28.86231341	153.0464642
CASINO	18 Beith Street, Casino	18 Beith STREET	Unclassified	Regulation under CLM Act not required	-28.84951426	153.0446585
CASINO	Corner Store	30 Barker STREET	Service Station	Regulation under CLM Act not required	-28.86316792	153.0389124
CASINO	Casino Roadhouse	86 Johnston STREET	Service Station	Contamination currently regulated under CLM Act	-28.85960698	153.0562429
CASULA	Caltex Casula Service Station	646 Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-33.95641262	150.8934783
CATHERINE HILL BAY	Catherine Hill Bay Coal Handling and Preparation Plant	1A Keene STREET	Other Industry	Regulation under CLM Act not required	-33.16120556	151.6302456
CESSNOCK	Caltex Cessnock Service Station	103-105 Wollombi (Cnr James Street) ROAD	Service Station	Regulation under CLM Act not required	-32.83936243	151.3430078
CESSNOCK	Former Mobil Service Station	102 Wollombi ROAD	Service Station	Regulation under CLM Act not required	-32.83844074	151.3436022
CESSNOCK	Former Service Station	2-4 Allandale ROAD	Service Station	Regulation under CLM Act not required	-32.83118911	151.3560677
CHARBON	Charbon Colliery	Charbon ROAD	Other Industry	Regulation under CLM Act not required	-32.92390131	149.9839098
CHARLESTOWN	7-Eleven Charlestown	273 Charlestown ROAD	Service Station	Under preliminary investigation order	-32.95802555	151.6897931
CHARLESTOWN	Caltex Service Station	81 Pacific HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-32.96708479	151.6955919
CHARLESTOWN	Caltex Woolworths (Former BP)	91-93 Pacific HIGHWAY	Service Station	Contamination formerly regulated under the CLM Act	-32.96633569	151.6959051

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
CHARLESTOWN	Ausgrid Powell Street Depot	8 Powell STREET	Other Industry	Regulation under CLM Act not required	-32.95912375	151.6944136
CHARMHAVEN	Caltex Charmhaven Service Station	13-15 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.21655768	151.5091452
CHATSWOOD	Former Caltex Chatswood Service Station	607 Pacific HIGHWAY	Service Station	Contamination formerly regulated under the CLM Act	-33.80396472	151.1795766
CHATSWOOD	Woolworths Chatswood	364-366 Eastern Valley WAY	Service Station	Regulation under CLM Act not required	-33.78667419	151.2010828
CHATSWOOD	Caltex Service Station Chatswood	572 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.80381271	151.1789656
CHATSWOOD	Auto Repairs	2 Devonshire STREET	Service Station	Regulation under CLM Act not required	-33.8015482	151.1859632
CHATSWOOD	Coles Express Service Station Chatswood	877-879 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.79182176	151.1804867
CHATSWOOD WEST	Chatswood Toyota	728 Pacific HIGHWAY	Service Station	Contamination formerly regulated under the CLM Act	-33.79654247	151.1776136
CHERRYBROOK	Caltex Service Station	67 Shepherds DRIVE	Service Station	Regulation under CLM Act not required	-33.72069183	151.0451415
CHESTER HILL	Former Orica, Chester Hill	127 Orchard ROAD	Chemical Industry	Contamination formerly regulated under the CLM Act	-33.8869823	150.9952873
CHIPPENDALE	Frasers Development	Wellington STREET	Chemical Industry	Under preliminary investigation order	-33.88669108	151.2015805
CHIPPING NORTON	Former Solchem (Mobil) Depot Chipping Norton	49-51 Riverside ROAD	Other Petroleum	Regulation under CLM Act not required	-33.91621314	150.9696948
CHIPPING NORTON	Former ACR	85-107 Alfred STREET	Chemical Industry	Contamination currently regulated under CLM Act	-33.92226795	150.9586496
CHISWICK	Former Sydney Wiremills (BHP) site	Blackwall Point ROAD	Other Industry	Regulation under CLM Act not required	-33.85131849	151.1369131
CHITTAWAY BAY	Former Caltex Chittaway Point	100 Chittaway ROAD	Service Station	Regulation under CLM Act not required	-33.32707555	151.4293546

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
CHULLORA	Chullora Railway Workshops	Worth STREET	Other Industry	Regulation under CLM Act not required	-33.88639388	151.0598201
CLARENCE	Clarence Colliery	Chifley ROAD	Other Industry	Regulation under CLM Act not required	-33.46450217	150.2522729
CLARENDON	Coles Express Clarendon Service Station	244 Hawkesbury Valley WAY	Service Station	Regulation under CLM Act not required	-33.6083729	150.7890956
CLEARFIELD	Former Pamplings Dip Site	Off Clearfield ROAD	Cattle Dip	Regulation under CLM Act not required	-29.16287185	152.882974
CLYBUCCA	BP Service Station	2171 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-30.93845014	152.9422791
CLYDE	7-Eleven Clyde	3 Parramatta Road, corner Harbord STREET	Service Station	Regulation under CLM Act not required	-33.83494433	151.0222628
COBAR	Former Caltex (Bogas) Service Station Cobar	56-58 Marshall STREET	Service Station	Regulation under CLM Act not required	-31.49793339	145.8346684
COBAR	Mckinnons Gold Mine	Cobar ROAD	Metal Industry	Regulation under CLM Act not required	-31.78179755	145.693
COBAR	Caltex Service Station Cobar	99 Marshall (formerly Cnr Barrier Highway and Bathurst Street) STREET	Service Station	Regulation under CLM Act not required	-31.49631924	145.8275727
COBAR	Caltex Service Station	Lot 10 Railway PARADE	Service Station	Regulation under CLM Act not required	-31.49350124	145.8442372
COFFS HARBOUR	BP Service Station	134-136 Pacific HIGHWAY	Service Station	Contamination formerly regulated under the CLM Act	-30.29187037	153.1182106
COFFS HARBOUR	Dan Murphy's Coffs Harbour	10 Elbow STREET	Service Station	Regulation under CLM Act not required	-30.29439262	153.115069
COFFS HARBOUR	Mobil Service Station	314-316 Harbour DRIVE	Service Station	Contamination formerly regulated under the CLM Act	-30.3056983	153.131966
COFFS HARBOUR	Mobil Coffs Harbour Airport	Aviation DRIVE	Other Petroleum	Contamination formerly regulated under the CLM Act	-30.313385	153.1175018
COFFS HARBOUR	Woolworths Petrol	Park Beach Plaza, Arthur STREET	Service Station	Regulation under CLM Act not required	-30.28101154	153.132027

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
COFFS HARBOUR	Caltex Service Station	157 Orlando STREET	Service Station	Regulation under CLM Act not required	-30.28975334	153.1306354
COFFS HARBOUR	Coffs Harbour Slipway	38 Marina DRIVE	Other Industry	Regulation under CLM Act not required	-30.30325637	153.1441437
COFFS HARBOUR	Aussitel Backpackers Hostel	312 Harbour DRIVE	Service Station	Contamination formerly regulated under the CLM Act	-30.30585731	153.131645
COLEAMBALLY	Former Mobil Coleambally Depot	19 Bencubbin AVENUE	Other Petroleum	Regulation under CLM Act not required	-34.80279552	145.8945239
COLLARENEBRI	Former Shell Depot	Corner Narran Street and Queen STREET	Other Petroleum	Regulation under CLM Act not required	-29.54114772	148.5789365
COLONGRA	Munmorah Colliery	Scenic DRIVE	Other Industry	Regulation under CLM Act not required	-33.21297737	151.5416882
COLONGRA	Endeavour Colliery	Scenic DRIVE	Other Industry	Regulation under CLM Act not required	-33.21297737	151.5416882
COLYTON	Coles Express (former Ampol) Service Station	86-88 Great Western HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-33.77552363	150.7953105
CONCORD	Caltex Service Station	89 Parramatta ROAD	Service Station	Regulation under CLM Act not required	-33.86785624	151.0993769
CONCORD WEST	Caltex Service Station	369-375 Concord ROAD	Service Station	Regulation under CLM Act not required	-33.84113835	151.0888843
CONDOBOLIN	BP-Branded Service Station	38 Denison Street, corner Molong STREET	Service Station	Regulation under CLM Act not required	-33.08520378	147.1524976
CONDOBOLIN	Former Mobil Depot	6 Burnett STREET	Other Petroleum	Contamination formerly regulated under the CLM Act	-33.08010515	147.1642972
CONDOBOLIN	Former Ampol Depot	Cnr Parkes Road and Goobang STREET	Service Station	Regulation under CLM Act not required	-33.08034753	147.1642436
CONDOBOLIN	Former Caltex Depot	Parkes ROAD	Service Station	Regulation under CLM Act not required	-33.08255593	147.1585922
CONDOBOLIN	Mobil Condobolin Depot Railway Siding	Railway Siding behind 6 Burnett STREET	Other Petroleum	Regulation under CLM Act not required	-33.08058612	147.164225

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
CONSTITUTION HILL	Sydney Water Land	Caloola ROAD	Unclassified	Regulation under CLM Act not required	-33.79776636	150.9697715
COOGEE	Caltex Coogee Service Station	146-148 Coogee Bay (Cnr Mount St) ROAD	Service Station	Regulation under CLM Act not required	-33.91989232	151.2517454
COOKS HILL	Former Council Depot Cooks Hill	152 Bruce Street and 115 Corlette STREET	Other Industry	Regulation under CLM Act not required	-32.93525537	151.7641074
COOLAC	Coolac Service Station	Corner Hume Highway and Coleman STREET	Service Station	Regulation under CLM Act not required	-34.95435052	148.1595525
COOLAH	BP Depot (Reliance Petroleum)	72 (formerly 17-23) Cunningham STREET	Other Petroleum	Regulation under CLM Act not required	-31.82275896	149.7243171
COOLONGOLOOK	Caltex Service Station	Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-32.21648325	152.322813
COOMA	Caltex Cooma Service Station	44 Sharp (Cnr Baron St) STREET	Service Station	Regulation under CLM Act not required	-36.23323489	149.1304134
COOMA	Former Mobil Cooma Depot	2 Commissioner STREET	Other Petroleum	Regulation under CLM Act not required	-36.23267537	149.1346338
COOMA	Former Caltex Cooma Depot	2 Short STREET	Service Station	Regulation under CLM Act not required	-36.2338672	149.1348862
COOMA	Loves Petroleum Cooma Depot and Service Station (Former BP Reliance Petroleum)	2-4 Sharp STREET	Other Petroleum	Regulation under CLM Act not required	-36.22862603	149.1356483
COOMA	Woolworths Caltex Cooma Service Station	Bombala Street Cnr Massie STREET	Service Station	Regulation under CLM Act not required	-36.23364626	149.1267469
COOMA	Former Shell Depot	48-50 Bradley STREET	Other Petroleum	Regulation under CLM Act not required	-36.23448955	149.1347987
COOMA	Former Shell Service Station	48-52 Sharp STREET	Service Station	Contamination formerly regulated under the CLM Act	-36.23350402	149.1299514
COONABARABRAN	Former Mobil Depot	49 Cowper STREET	Other Petroleum	Regulation under CLM Act not required	-31.27096226	149.2818461
COONABARABRAN	Shell Coles Express Service Station	2-6 John STREET	Service Station	Regulation under CLM Act not required	-31.27706775	149.27836

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
COONABARABRAN	Former Shell Coonabarabran CVRO	Corner Cowper St and Dawson St, formerly 51 Cowper STREET	Other Petroleum	Regulation under CLM Act not required	-31.27003745	149.281788
COONABARABRAN	Caltex Service Station	Cnr Dawson & Drummond STREET	Service Station	Regulation under CLM Act not required	-31.26994941	149.28183
COONABARABRAN	Caltex Service Station	85-87 John STREET	Service Station	Regulation under CLM Act not required	-31.27231215	149.2771297
COONAMBLE	Former Shell Coonamble Depot	Corner Aberford Street and Quambone ROAD	Other Petroleum	Regulation under CLM Act not required	-30.95349182	148.3793432
COONAMBLE	Caltex Service Station	Quambone ROAD	Service Station	Regulation under CLM Act not required	-30.95410067	148.3792167
COORANBONG	Former Poultry Farm - 91 Alton Road, Cooranbong	64 - 98 Alton ROAD	Unclassified	Regulation under CLM Act not required	-33.06860138	151.4512156
COORANBONG	Avondale Auto Centre	677 Freemans DRIVE	Service Station	Regulation under CLM Act not required	-33.06968809	151.4636293
COOTAMUNDRA	Former BP Depot	1-5 Murray STREET	Other Petroleum	Regulation under CLM Act not required	-34.62915841	148.0306962
COOTAMUNDRA	Caltex Service Station	26-34 Hovell STREET	Service Station	Regulation under CLM Act not required	-34.63624703	148.0347479
COOTAMUNDRA	Former Caltex Depot	219 Sutton STREET	Other Petroleum	Regulation under CLM Act not required	-34.65126548	148.0145283
COOTAMUNDRA	Former Ampol Service Station	72 Parker STREET	Service Station	Regulation under CLM Act not required	-34.63471008	148.0296112
COOTAMUNDRA	Cootamundra Gasworks	140-146 Hovell STREET	Gasworks	Contamination currently regulated under CLM Act	-34.64572841	148.0255049
COOTAMUNDRA	Former Amoco Depot	68-72 Hovell STREET	Other Petroleum	Contamination currently regulated under CLM Act	-34.63871124	148.0321134
COOTAMUNDRA	Former Ampol Cootamundra Rail Siding	Back Brawlin ROAD	Other Petroleum	Regulation under CLM Act not required	-34.65326425	148.0143068
CORAMBA	Martin Street	End of Martin Street and adjacent car park OTHER	Service Station	Ongoing maintenance required to manage residual contamination (CLM Act)	-30.22125208	153.0156997

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
CORNWALLIS	532 & 562 Cornwallis Road, Cornwallis	532 & 562 Cornwallis ROAD	Other Industry	Under assessment	-33.57506633	150.7803943
COROWA	Corowa Shire Council Works Depot	24 Poseidon ROAD	Other Petroleum	Regulation under CLM Act not required	-35.98807923	146.3652266
COROWA	Former Ampol Corowa	10 Bow STREET	Service Station	Regulation under CLM Act not required	-35.99364786	146.3901259
COROWA	Cignall Corowa	280 Hume STREET	Service Station	Under preliminary investigation order	-36.00996015	146.3760437
CORRIMAL	Woolworths Petrol - Corrimal	275 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.37527426	150.8962637
CORRIMAL	7-Eleven Corrimal	138-146 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.36986818	150.8978241
COWRA	Landmark Fertiliser Storage Facility	Corner Young Road & Waratah STREET	Chemical Industry	Regulation under CLM Act not required	-33.84321832	148.6722578
COWRA	Lowes Petroleum (former BP Cowra Depot)	12 Campbell STREET	Other Petroleum	Regulation under CLM Act not required	-33.83803706	148.6977873
COWRA	Former Gasworks	30 Brougham STREET	Gasworks	Contamination currently regulated under CLM Act	-33.8389659	148.6963482
COWRA	Shell Depot	34 Brougham STREET	Other Petroleum	Contamination formerly regulated under the CLM Act	-33.83932421	148.6976295
CRANGAN BAY	Big T Roadhouse	555 and 565 Pacific HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-33.17326538	151.6083864
CREMORNE	Shell Coles Express Service Station	225 Military ROAD	Service Station	Regulation under CLM Act not required	-33.83063306	151.226223
CRESTWOOD	Former Caltex Depot Queanbeyan	36 Kendall (Cnr Stephens Rd) AVENUE	Other Petroleum	Regulation under CLM Act not required	-35.34615546	149.207807
CRESTWOOD	Former BP Queanbeyan	64 Uriarra ROAD	Service Station	Regulation under CLM Act not required	-35.34646177	149.2246263
CRONULLA	Breen Holdings	Bate Bay ROAD	Other Industry	Regulation under CLM Act not required	-34.03861737	151.1614114

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
CROWS NEST	Caltex Service Station	111-121 Falcon STREET	Service Station	Regulation under CLM Act not required	-33.82868236	151.2060317
CROYDON	Caltex Service Station	404-410 Liverpool ROAD	Service Station	Regulation under CLM Act not required	-33.88853994	151.115879
CROYDON	BP Ashfield	584 Parramatta ROAD	Service Station	Regulation under CLM Act not required	-33.87399409	151.1267296
CROYDON PARK	Mobil Service Station	334 Georges River ROAD	Service Station	Regulation under CLM Act not required	-33.89771626	151.0999194
CULCAIRN	Caltex Service Station	2883 Olympic HIGHWAY	Service Station	Regulation under CLM Act not required	-35.67441635	147.0356845
CULLEN BULLEN	Baal Bone Colliery	Castlereagh HIGHWAY	Other Industry	Regulation under CLM Act not required	-33.27193875	150.0587194
CUNDELTOWN	Caltex Service Station (1 Manning River Drive)	Old Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-31.89329598	152.5068225
CURL CURL	John Fisher Park	Corner Harbord and Abbott ROADS	Landfill	Regulation under CLM Act not required	-33.76622613	151.2860705
DACEYVILLE	Astrolabe Park	Cook AVENUE	Landfill	Regulation under CLM Act not required	-33.92963704	151.221773
DAPTO	RailCorp Dapto	(Rear of property) 12-14 Hamilton STREET	Other Industry	Regulation under CLM Act not required	-34.50045405	150.787353
DARLINGHURST	Proposed Retail Unit	139-155 Palmer STREET	Unclassified	Regulation under CLM Act not required	-33.87504688	151.2168106
DARLINGHURST	Cross City Tunnel	Riley Street and William STREET	Service Station	Contamination was addressed via the planning process (EP&A Act)	-33.87424636	151.2158305
DARLINGHURST	18-28 Neild Avenue, Darlinghurst	18-28 Neild AVENUE	Landfill	Regulation under CLM Act not required	-33.87876581	151.2276546
DEE WHY	United Dee Why	148 Pacific Parade STREET	Service Station	Contamination currently regulated under POEO Act	-33.75569207	151.2959451
DEE WHY	Caltex Service Station	793-797 Pittwater ROAD	Service Station	Regulation under CLM Act not required	-33.74566596	151.2920719

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
DEE WHY	Dee Why Town Centre	Pittwater ROAD	Other Industry	Regulation under CLM Act not required	-33.753169	151.2875805
DEE WHY	Roche Products Dee Why Facility	Inman ROAD	Other Industry	Contamination currently regulated under CLM Act	-33.73834964	151.2876392
DENHAM COURT	Denham Court Caravan Park and Service Station	505 Campbelltown ROAD	Service Station	Regulation being finalised	-33.98208395	150.8459471
DENILIQVIN	Shell Coles Express Service Station	336 Victoria STREET	Service Station	Contamination formerly regulated under the CLM Act	-35.52373613	144.9807345
DENILIQVIN	Former Deniliquin Gasworks	365, 369 and 329-331 George and 380 and 386 Charlotte STREET	Gasworks	Under assessment	-35.52663588	144.9634994
DENILIQVIN	Landmark Fertiliser Storage Facility	99-101 Davidson STREET	Chemical Industry	Regulation under CLM Act not required	-35.52534735	144.975142
DENILIQVIN	Former Deniliquin Caltex Depot	116-118 Hardinge (Cnr Wood St) STREET	Service Station	Regulation under CLM Act not required	-35.53196985	144.9544597
DENILIQVIN	BP Depot (Reliance Petroleum)	125 - 127 Hardinge STREET	Service Station	Regulation under CLM Act not required	-35.53222124	144.9517397
DENILIQVIN	Former Shell Depot	143-147 Napier STREET	Other Petroleum	Regulation under CLM Act not required	-35.5342355	144.953169
DENMAN	Former Industrial Site	10 Fontana WAY	Metal Industry	Regulation under CLM Act not required	-32.37945456	150.6868239
DENMAN	Former Industrial Site	9 Fontana WAY	Metal Industry	Regulation under CLM Act not required	-32.37911159	150.6869866
DORA CREEK	Former Service Station	4 Doree PLACE	Service Station	Regulation under CLM Act not required	-33.08452746	151.502415
DOYALSON	Part Lot 3 DP 259306	Off David STREET	Other Industry	Regulation under CLM Act not required	-33.20436131	151.5232558
DOYALSON	Munmorah Power Station	(Central Coast Highway) Scenic DRIVE	Unclassified	Regulation under CLM Act not required	-33.20678347	151.540795
DOYALSON	Mannerling Colliery (formerly Wyee)	Rutleys ROAD	Other Industry	Regulation under CLM Act not required	-33.17179576	151.5419248

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
DOYALSON NORTH	Caltex Service Station	235 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.18501024	151.5526114
DOYALSON NORTH	Shell Coles Express Service Station	260-270 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.18636608	151.5482399
DRUMMOYNE	Coles Express Service Station Drummoyne (Eastbound)	36-46 Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.85576628	151.1593519
DRUMMOYNE	Former Dry Cleaners	225 Victoria ROAD	Chemical Industry	Regulation under CLM Act not required	-33.8507152	151.1537113
DRUMMOYNE	Coles Express Service Station Drummoyne South (Westbound)	39-45 Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.85606575	151.1589061
DRUMMOYNE	Caltex Service Station	191-195 Lyons ROAD	Service Station	Regulation under CLM Act not required	-33.85699216	151.1460356
DUBBO	BP Reliance Petroleum Service Station (Former Mobil Depot)	107 Erskine STREET	Other Petroleum	Regulation under CLM Act not required	-32.24441287	148.6111704
DUBBO	Dubbo Police Station	143 Brisbane STREET	Other Petroleum	Regulation under CLM Act not required	-32.24652288	148.6034702
DUBBO	Shell Coles Express Service Station	131-133 Cobra STREET	Service Station	Regulation under CLM Act not required	-32.25511317	148.6126147
DUBBO	Shell Coles Express Service Station	45-49 Whylandra STREET	Service Station	Regulation under CLM Act not required	-32.2474598	148.5932769
DUBBO	Former Mobil depot	40-44 Morgan STREET	Other Petroleum	Regulation under CLM Act not required	-32.23912277	148.6182711
DUBBO	Caltex Service Station, Dubbo	60 Windsor PARADE	Service Station	Regulation under CLM Act not required	-32.25459322	148.6318
DUBBO	BP-Branded Service Station Dubbo West	51-63 Whylandra STREET	Service Station	Regulation under CLM Act not required	-32.24827657	148.5927084
DUBBO	Lowes Petroleum (BP-Branded) Depot, Dubbo	105 Erskine STREET	Service Station	Regulation under CLM Act not required	-32.24423247	148.6101676
DUBBO	Inland Petroleum (Former Shell) Depot	109 Erskine STREET	Other Petroleum	Regulation under CLM Act not required	-32.24470512	148.6124108

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
DUBBO	Former Caltex Depot	Phillip (corner Fitzroy) STREET	Service Station	Regulation under CLM Act not required	-32.24534863	148.6150144
DUBBO	Caltex Service Station	119 Bourke STREET	Service Station	Regulation under CLM Act not required	-32.24336464	148.6091931
DUBBO	Former Ambulance Station	165 Brisbane STREET	Other Petroleum	Contamination formerly regulated under the CLM Act	-32.24850755	148.6031749
DUBBO	United (former Volume Plus) Service Station	219-223 Cobra STREET	Service Station	Regulation under CLM Act not required	-32.2565155	148.6228586
DUBBO	Caltex Service Station, Dubbo	Cnr Brisbane Street and Cobra STREET	Service Station	Contamination currently regulated under CLM Act	-32.25322183	148.603164
DULWICH HILL	Former Tyre Recapping	115-117 Constitution ROAD	Other Industry	Regulation under CLM Act not required	-33.90300876	151.1387724
DULWICH HILL	Denison Road Playground	194 Denison ROAD	Landfill	Regulation under CLM Act not required	-33.90121956	151.1404637
DUNEDOO	Former Shell Depot Dunedoo	Cnr Bolaro and Redbank STREET	Other Petroleum	Regulation under CLM Act not required	-32.01565761	149.3922418
DUNGOG	Lot 54 Common Rd	54 Common ROAD	Unclassified	Regulation under CLM Act not required	-32.39490989	151.739821
DUNGOG	Former HWC Maintenance Depot for Civil Engineering Works	86 Abelard STREET	Other Industry	Regulation under CLM Act not required	-32.40429396	151.7514073
DUNMORE	Equestrian Centre	71 Fig Hill LANE	Unclassified	Regulation under CLM Act not required	-34.62313393	150.8421544
DURAL	Caltex Dural Service Station	917-923 Old Northern ROAD	Service Station	Regulation under CLM Act not required	-33.68312075	151.0287519
DURAL	BP Dural Service Station	580 Old Northern ROAD	Service Station	Regulation under CLM Act not required	-33.69569985	151.0283357
DURAL	Caltex Service Station	530 Old Northern ROAD	Service Station	Regulation under CLM Act not required	-33.69348472	151.0202716
DURAL	Woolworths Service Station	532 Old Northern ROAD	Service Station	Regulation under CLM Act not required	-33.69348472	151.0202716

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
DURI	Duri Store	13 Railway AVENUE	Service Station	Under assessment	-31.21710021	150.8183675
EAGLE VALE	BP Service Station	Corner Eagle Vale Drive and Gould ROAD	Service Station	Regulation under CLM Act not required	-34.03128043	150.816363
EARLWOOD	RTA Land	3 Jackson PLACE	Unclassified	Contamination being managed via the planning process (EP&A Act)	-33.9272087	151.1432854
EARLWOOD	Wolli Creek Aqueduct	Unwin STREET	Unclassified	Regulation under CLM Act not required	-33.92788788	151.1480807
EARLWOOD	2, 4 & 6 Unwin Street Earlwood	2, 4 & 6 Unwin STREET	Landfill	Regulation under CLM Act not required	-33.92683423	151.1495176
EAST BALLINA	Caltex East Ballina Service Station	34 Links AVENUE	Service Station	Regulation under CLM Act not required	-28.85009113	153.5829246
EAST GOSFORD	Presbyterian Aged Care Facility	8-18 Enid CRESCENT	Landfill	Regulation under CLM Act not required	-33.4376675	151.3577947
EAST GOSFORD	Mobil Service Station	44 Victoria STREET	Service Station	Contamination formerly regulated under the CLM Act	-33.43804781	151.353303
EAST GOSFORD	Hylton Moore Park	Althrop STREET	Landfill	Contamination currently regulated under CLM Act	-33.43521607	151.3600229
EAST MAITLAND	United Service Station East Maitland	164 (also known as 250) Newcastle STREET	Service Station	Regulation under CLM Act not required	-32.75248998	151.5869338
EAST MAITLAND	Woolworths Caltex Green Hills	14 Mitchell DRIVE	Service Station	Regulation under CLM Act not required	-32.76182386	151.5927863
EAST MAITLAND	Former Gasworks Site	Corner Melbourne Street and Brisbane STREET	Gasworks	Regulation under CLM Act not required	-32.74939199	151.5788783
EAST MAITLAND	Caltex East Maitland Service Station	Newcastle Road, Corner William STREET	Service Station	Regulation under CLM Act not required	-32.74883712	151.5829296
EAST TAMWORTH	Caltex Service Station	350-362 Armidale ROAD	Service Station	Regulation under CLM Act not required	-31.11401974	150.9613327
EASTERN CREEK	Caltex Service Station	M4 (Eastbound) MOTORWAY	Service Station	Regulation under CLM Act not required	-33.801607	150.8857989

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
EASTERN CREEK	Caltex Service Station M4 Motorway Westbound	M4 (Westbound) MOTORWAY	Service Station	Regulation under CLM Act not required	-33.80255701	150.8829211
EASTERN CREEK	Fulton Hogan Industries (formerly Pioneer Road Services)	Honeycomb DRIVE	Other Industry	Regulation under CLM Act not required	-33.80231274	150.8288299
EASTGARDENS	130-150 Bunnerong Road Eastgardens	130 - 150 Bunnerong ROAD	Other Industry	Regulation under CLM Act not required	-33.94230414	151.2248138
EASTLAKES	Former Shell Rosebery service station and adjacent land	275-279 Gardeners ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.92470279	151.2100722
EASTLAKES	Eastlakes Reserve	Evans AVENUE	Service Station	Contamination formerly regulated under the CLM Act	-33.92497291	151.2102725
EASTLAKES	Budget Petroleum Eastlakes	102 Maloney STREET	Service Station	Contamination formerly regulated under the CLM Act	-33.93096702	151.2056606
EASTLAKES	Budget Petroleum Eastlakes	102 Maloney STREET	Service Station	Contamination formerly regulated under the CLM Act	-33.93120382	151.2054267
EASTLAKES	73 Gardeners Road	73 Gardeners ROAD	Unclassified	Regulation under CLM Act not required	-33.92541594	151.2182856
EASTWOOD	Former Mobil Service Station Eastwood	3-5 Trelawney (Cnr Rutledge St) STREET	Service Station	Regulation under CLM Act not required	-33.79273381	151.079584
EDEN	Caltex Service Station	159 Imlay STREET	Service Station	Regulation under CLM Act not required	-37.06324099	149.9044022
EDEN	Former Caltex Eden Depot	80-82 Imlay STREET	Service Station	Contamination currently regulated under CLM Act	-37.0570984	149.9038538
EDENSOR PARK	Caltex Bonnyrigg Service Station, Edensor Park	549 Elizabeth DRIVE	Service Station	Regulation under CLM Act not required	-33.88840816	150.8822609
EDENSOR PARK	7-Eleven (former Mobil) Service Station	615-621 Cowpasture Road (Cnr Elizabeth) DRIVE	Service Station	Regulation under CLM Act not required	-33.88326139	150.865591
EDGECLIFF	BP-branded (former Coles Express) Service Station	73-85A New South Head ROAD	Service Station	Regulation under CLM Act not required	-33.8769602	151.2311617
EDGEWORTH	Caltex Service Station	662 Main ROAD	Service Station	Regulation under CLM Act not required	-32.92566329	151.6278888

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
EDGEWORTH	Caltex-Woolworths Branded Service Station Edgeworth	738-742 Main ROAD	Service Station	Under assessment	-32.92455492	151.6202897
EMERALD BEACH	Shell Coles Express Woolgoolga Service Station	1850 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-30.16450856	153.1826673
EMERTON	7-Eleven Emerton	135-137 Popondetta ROAD	Service Station	Regulation under CLM Act not required	-33.74463908	150.8102251
EMU HEIGHTS	7-Eleven Service Station	126 Old Bathurst ROAD	Service Station	Regulation under CLM Act not required	-33.74299098	150.6547098
EMU HEIGHTS	Woolworths Service Station	132 Old Bathurst ROAD	Service Station	Regulation under CLM Act not required	-33.7429739	150.6559655
EMU PLAINS	Woolworths Service Station	283 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.75371349	150.6530165
ENGADINE	Former Caltex Service Station	995 Old Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.06413459	151.0155734
ENGADINE	BP Service Station	1234 Princes HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-34.07735416	151.01121
ENGADINE	BP Branded Service Station	963 Old Princes HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-34.06428454	151.0167121
EPPING	7-Eleven (former Mobil) Service Station	246 Beecroft ROAD	Service Station	Regulation under CLM Act not required	-33.77073552	151.080581
ERINA	Coles Express Service Station Erina	211 The Entrance ROAD	Service Station	Regulation under CLM Act not required	-33.43547804	151.3850522
ERINA	7-Eleven Erina	214 The Entrance ROAD	Service Station	Regulation under CLM Act not required	-33.43494257	151.3879511
ERINA	7-Eleven Service Station	96 The Entrance ROAD	Service Station	Regulation under CLM Act not required	-33.43786868	151.3729331
ERINA	Former Frozen Food Distribution Depot	1 Aston ROAD	Other Petroleum	Contamination currently regulated under CLM Act	-33.434878	151.3845431
ERINA	Caltex Service Station	155 The Entrance ROAD	Service Station	Regulation under CLM Act not required	-33.43824871	151.3801096

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
ERMINGTON	Blue Star Ermington	700 Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.80859566	151.0660133
ERMINGTON	Caltex Service Station	562 Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.81392814	151.0547543
ERSKINE PARK	Western Sydney Service Centre	25-55 Templar ROAD	Other Industry	Regulation under CLM Act not required	-33.81897822	150.7937394
ERSKINEVILLE	Redevelopment Site (Former Industrial Park) Erskineville	36/1A Coulson STREET	Other Industry	Regulation under CLM Act not required	-33.90325501	151.1855668
ERSKINEVILLE	Department of Housing	52 John STREET	Other Industry	Regulation under CLM Act not required	-33.8982925	151.1840284
ERSKINEVILLE	RailCorp land	Coulson STREET	Other Industry	Regulation under CLM Act not required	-33.90279502	151.1846827
ERSKINEVILLE	Lot 4/1A Coulson Street	Coulson STREET	Other Industry	Regulation under CLM Act not required	-33.90316549	151.1867963
ERSKINEVILLE	Area B - Public Domain / The Roadway	1A Coulson STREET	Other Petroleum	Regulation under CLM Act not required	-33.90479634	151.1871194
EUABALONG WEST	BP Euabalong West Depot (Reliance Petroleum)	12 Illewong STREET	Other Petroleum	Regulation under CLM Act not required	-33.05720426	146.3946386
EVANS HEAD	Evans Head Aerodrome	Memorial Airport DRIVE	Other Industry	Regulation under CLM Act not required	-29.10389976	153.4216791
EVANS HEAD	Bundjalung National Park	The Gap ROAD	Unclassified	Regulation under CLM Act not required	-29.24433977	153.3626472
EVANS HEAD	Evans Head Residential subdivision	Bounded by Currajong, Woodburn, Carrabeen Streets and Tuckeroo CRESCENT	Unclassified	Regulation under CLM Act not required	-29.1080969	153.4243577
EVELEIGH	Macdonaldtown Triangle	Burren STREET	Gasworks	Contamination being managed via the planning process (EP&A Act)	-33.89803492	151.186059
EVELEIGH	Australian Technology Park	Henderson ROAD	Other Industry	Regulation under CLM Act not required	-33.89634136	151.1944915
FAIRFIELD	Endeavour Energy Fairfield Zone Substation	22 Hedges STREET	Other Industry	Regulation under CLM Act not required	-33.86133019	150.9555899

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
FAIRFIELD EAST	Speedway-Branded Service Station Fairfield	251 The Horsley DRIVE	Service Station	Regulation under CLM Act not required	-33.8711661	150.9630077
FAIRFIELD HEIGHTS	7-Eleven Fairfield Heights	234 Hamilton (Cnr The Boulevard) ROAD	Service Station	Regulation under CLM Act not required	-33.87208474	150.9373134
FAIRY MEADOW	Woolworths Petrol Service Station	47 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.39399705	150.8925369
FAIRY MEADOW	Caltex Fuel Depot and adjoining land	46 Montague STREET	Service Station	Contamination formerly regulated under the CLM Act	-34.40050499	150.8953125
FAIRY MEADOW	Deynal (Seeman)	51-59 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.39437085	150.8924666
FARLEY	Farley Wastewater Treatment Works	Owlpn LANE	Other Industry	Regulation under CLM Act not required	-32.74431314	151.5194217
FASSIFERN	Newstan Colliery	Fassifern ROAD	Other Industry	Regulation under CLM Act not required	-32.97942521	151.5660046
FASSIFERN	Former Arsenic Smelter	Fassifern ROAD	Other Industry	Regulation under CLM Act not required	-32.99649819	151.5618283
FEDERAL	Federal General Store	3-6 Federal DRIVE	Service Station	Contamination formerly regulated under the CLM Act	-28.65190728	153.4552976
FERN BAY	Former service station	37 Fullerton (1006 Nelson Bay Road) STREET	Service Station	Regulation under CLM Act not required	-32.87245004	151.7939904
FIVE DOCK	7-Eleven Five Dock Service Station	231-235 Great North ROAD	Service Station	Regulation under CLM Act not required	-33.86488376	151.130002
FIVE DOCK	Caltex Five Dock Service Station	47 Ramsay Road, corner Fairlight STREET	Service Station	Regulation under CLM Act not required	-33.87002804	151.1301835
FORBES	BP (Former Mobil) Depot Forbes	3-15 Union STREET	Other Petroleum	Regulation under CLM Act not required	-33.37751977	148.0101422
FORBES	Former Gasworks	24-26 Union STREET	Gasworks	Contamination currently regulated under CLM Act	-33.37752036	148.0090064
FORBES	Woolworths (Former Save on Fuel) Service Station	26 Dowling STREET	Service Station	Regulation under CLM Act not required	-33.38148764	148.0109845

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
FORBES	BP Service Station Forbes	29 Dowling STREET	Other Petroleum	Regulation under CLM Act not required	-33.38121776	148.0100351
FORBES	Former Shell Depot	Stephen STREET	Other Petroleum	Regulation under CLM Act not required	-33.37704755	148.0103001
FORBES	Caltex Service Station Forbes	Parkes ROAD	Service Station	Regulation under CLM Act not required	-33.36333714	148.0223727
FORESTVILLE	BP Service Station	632 Warringah ROAD	Service Station	Contamination currently regulated under CLM Act	-33.75997969	151.2142944
FORESTVILLE	Shell Service Station	667 Warringah ROAD	Service Station	Regulation under CLM Act not required	-33.76035336	151.2184929
FORRESTERS BEACH	Caltex Service Station	The Entrance Rd Cnr Bellevue ROAD	Service Station	Regulation under CLM Act not required	-33.40057818	151.4687631
FORSTER	Caltex Service Station	16-18 Lake STREET	Service Station	Regulation under CLM Act not required	-32.18306967	152.5162492
FORSTER	Shell (Kneebone's) Service Station	2-6 The Lakes WAY	Service Station	Regulation under CLM Act not required	-32.1946108	152.5145662
FORSTER	Enhance (Former Mobil) Service Station	86-88 Macintosh STREET	Service Station	Regulation under CLM Act not required	-32.19079468	152.5154847
FREDERICKTON	Former Service station	2-4 Great North ROAD	Service Station	Regulation under CLM Act not required	-31.03513998	152.8794105
FRENCHS FOREST	Former BP Service Station	Russell AVENUE	Service Station	Regulation under CLM Act not required	-33.75018093	151.2245005
FRENCHS FOREST	Former 7-Eleven / Mobil Beacon Hill Service Station, Frenchs Forest	312 Warringah ROAD	Service Station	Regulation under CLM Act not required	-33.75129647	151.2469656
FRESHWATER	Prime Service Station Freshwater	117 Harbord ROAD	Service Station	Regulation under CLM Act not required	-33.77286748	151.2794354
GEORGETOWN	Former Caltex Service Station	4 Georgetown ROAD	Service Station	Regulation under CLM Act not required	-32.91121105	151.7319693
GERRINGONG	Gerringong Cooperative	18 Belinda STREET	Other Petroleum	Regulation under CLM Act not required	-34.74518835	150.8181054

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
GILGANDRA	United (Former Mobil) Service Station	13 Castlereagh STREET	Service Station	Regulation under CLM Act not required	-31.71715641	148.6581574
GILGANDRA	Former Mobil Depot	2 Federation STREET	Other Petroleum	Regulation under CLM Act not required	-31.70937362	148.6522102
GILGANDRA	Former Mobil Depot	20 Federation STREET	Other Petroleum	Regulation under CLM Act not required	-31.70771744	148.6514198
GILGANDRA	Caltex Service Station Gilgandra	6425 Newell HIGHWAY	Service Station	Regulation under CLM Act not required	-31.72545524	148.65281
GILLENBAH	Caltex (Former Mobil) Narrandera Service Station	16321 - 16335 Newell HIGHWAY	Service Station	Regulation under CLM Act not required	-34.76124219	146.5398604
GIRRAWEEEN	Industrial Galvanizers site	20-22 Amax AVENUE	Metal Industry	Contamination currently regulated under POEO Act	-33.80500693	150.9396743
GIRRAWEEEN	Caltex Pendle Hill Service Station Girraween	602 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.80827518	150.9421511
GLADESVILLE	Caltex Service Station	287-295 Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.8285374	151.1268639
GLADESVILLE	Road Reserve	Pittwater ROAD	Other Industry	Regulation under CLM Act not required	-33.81603924	151.1355085
GLADESVILLE	Caltex Service Station	116 Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.83575319	151.1277863
GLADESVILLE	Glade View Business Park	436-484 Victoria ROAD	Other Industry	Under assessment	-33.82382382	151.1223941
GLEBE	The Hill and Jubilee Embankment	12 Maxwell ROAD	Other Industry	Regulation under CLM Act not required	-33.87573032	151.1776027
GLEN INNES	Ambulance Station	106 Bourke STREET	Unclassified	Regulation under CLM Act not required	-29.73805854	151.7313138
GLEN INNES	Telstra Depot Glen Innes	126 Lambeth STREET	Unclassified	Regulation under CLM Act not required	-29.73565341	151.7278271
GLEN INNES	Caltex Glen Innes Service Station	Meade Street, corner Church STREET	Service Station	Regulation under CLM Act not required	-29.73699014	151.7379335

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
GLEN INNES	Former Shell Depot	Lambeth STREET	Other Petroleum	Regulation under CLM Act not required	-29.7376309	151.7276309
GLEN INNES	Former Caltex Depot, Glen Innes	Lot 1 DP785636 Lambeth STREET	Other Petroleum	Regulation under CLM Act not required	-29.73525485	151.7279167
GLEN INNES	Council-owned Laneway	Lot 2 Lang STREET	Gasworks	Regulation under CLM Act not required	-29.74385432	151.7323049
GLEN INNES	Caltex Service Station	Cnr Taylor Street & Church STREET	Service Station	Regulation under CLM Act not required	-29.73289036	151.739653
GLEN INNES	Caltex Glen Innes Paddock	9979 New England HIGHWAY	Service Station	Regulation under CLM Act not required	-29.75608853	151.7344106
GLENBROOK	Caltex Service Station Glenbrook	78 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.76545234	150.6215447
GLENDALE	Coles Express Glendale	593 Main ROAD	Service Station	Regulation under CLM Act not required	-32.92709242	151.637946
GLENDALE	Settlement Pond	65 Glendale DRIVE	Unclassified	Regulation under CLM Act not required	-32.93411399	151.6483695
GLENDALE	Former Service Station	334-342 Lake ROAD	Unclassified	Regulation under CLM Act not required	-32.92775076	151.6433463
GLENDALE	Woolworths Service Station	Stockland DRIVE	Service Station	Regulation under CLM Act not required	-32.93250548	151.6404097
GLENDENNING	7-Eleven Plumpton Service Station Glendenning	1 Dublin Street, corner Richmond ROAD	Service Station	Regulation under CLM Act not required	-33.73988232	150.8603323
GLENORIE	Caltex Glenorie Service Station	912 Old Northern ROAD	Service Station	Regulation under CLM Act not required	-33.60550946	151.0126731
GLENTHORNE	Caltex Taree Service Station	Manning River DRIVE	Service Station	Regulation under CLM Act not required	-31.94415251	152.4703511
GLOUCESTER	Caltex Service Station	141 Church STREET	Service Station	Regulation under CLM Act not required	-32.01222514	151.9579521
GOOLMANGAR	Goolmangar General Store	851 Nimbin ROAD	Service Station	Regulation under CLM Act not required	-28.74694441	153.225401

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
GOONELLABAH	Former Invercauld Road Cattle Dip	161 Invercauld ROAD	Cattle Dip	Contamination formerly regulated under the CLM Act	-28.8308417	153.3098878
GOSFORD	United (former Mobil) Depot	Corner Merinee Road and Bowen CRESCENT	Other Petroleum	Regulation under CLM Act not required	-33.41523225	151.3257069
GOULBURN	Former Goulburn Gasworks	1 Blackshaw ROAD	Gasworks	Contamination currently regulated under CLM Act	-34.75237525	149.725507
GOULBURN	Goulburn Tannery	13 Gibson STREET	Other Industry	Regulation under CLM Act not required	-34.73756525	149.72059
GOULBURN	Caltex Depot	13 Sloane STREET	Other Petroleum	Regulation under CLM Act not required	-34.77423152	149.7088626
GOULBURN	Metro Goulburn Depot	23 Braidwood ROAD	Other Petroleum	Regulation under CLM Act not required	-34.76217302	149.7170897
GOULBURN	Caltex Service Station	72-74 Clinton STREET	Service Station	Regulation under CLM Act not required	-34.75728157	149.7135824
GOULBURN	Caltex Service Station	68 Goldsmith STREET	Service Station	Regulation under CLM Act not required	-34.75054432	149.7192098
GOULBURN	Former Shell Autoport Service Station	Corner Bruce Street and Lagoon STREET	Service Station	Regulation under CLM Act not required	-34.74807885	149.7266246
GOULBURN	Coles Express Service Station	90 Cowper (Corner Clinton Street) STREET	Service Station	Regulation under CLM Act not required	-34.75566648	149.7107831
GOULBURN	Mobil Service Station	129 Lagoon STREET	Service Station	Contamination formerly regulated under the CLM Act	-34.74618793	149.7330484
GOULBURN	Caltex Service Station	315 Auburn, corner Bradley STREET	Service Station	Regulation under CLM Act not required	-34.74942293	149.7232692
GOULBURN	Former Mobil Service Station Goulburn	422-426 Auburn STREET	Service Station	Regulation under CLM Act not required	-34.74869879	149.7229392
GRAFTON	Former General Store and Service Station Grafton	161 Turf STREET	Service Station	Regulation under CLM Act not required	-29.67412811	152.9336609
GRAFTON	Lowes Petroleum (BP-Branded) Depot, Grafton	13 Orara STREET	Other Petroleum	Regulation under CLM Act not required	-29.67016421	152.918161

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
GRAFTON	Former Shell Depot	2 Milton STREET	Other Petroleum	Regulation under CLM Act not required	-29.67723019	152.9205374
GRAFTON	Grafton Works Depot	26-28 Bruce STREET	Other Petroleum	Regulation under CLM Act not required	-29.67975507	152.9249357
GRAFTON	Former BP Service Station (Reliance Petroleum)	202 Queen STREET	Service Station	Regulation under CLM Act not required	-29.67645469	152.9423977
GRAFTON	Woolworths Petrol	75 - 77 Fitzroy Street Cnr of Duke STREET	Service Station	Regulation under CLM Act not required	-29.69221713	152.9343562
GRAFTON	Caltex Service Station	Corner Villiers St and Fitzroy STREET	Service Station	Regulation under CLM Act not required	-29.69296308	152.9366431
GRAFTON	BP Service Station (Reliance Petroleum)	14 Villiers (Cnr Fitzroy) STREET	Service Station	Regulation under CLM Act not required	-29.69345456	152.9373123
GRAFTON	Former Mobil Depot Grafton	2-16 Bruce STREET	Other Petroleum	Regulation under CLM Act not required	-29.68093591	152.9231289
GRAFTON	Caltex Service Station	179 Prince STREET	Service Station	Regulation under CLM Act not required	-29.68600117	152.9371093
GRANVILLE	Caltex Service Station	144 Parramatta ROAD	Service Station	Regulation under CLM Act not required	-33.83039605	151.0109216
GRANVILLE	Australand	15-17 Berry STREET	Other Industry	Regulation under CLM Act not required	-33.83600073	151.0211988
GRANVILLE	Woolworths Service Station Granville	158 Clyde STREET	Service Station	Regulation under CLM Act not required	-33.84623338	151.0124885
GRANVILLE	Commercial Property	2B Factory STREET	Other Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.84173556	151.0165687
GRANVILLE	Old Granville Depot	23 Elizabeth STREET	Unclassified	Regulation under CLM Act not required	-33.83765925	151.008528
GRANVILLE	7-Eleven Service Station	154-160 Parramatta ROAD	Service Station	Regulation under CLM Act not required	-33.83022685	151.0101322
GRANVILLE	A'Becketts Creek	Albert STREET	Unclassified	Under assessment	-33.82735397	151.0113643

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
GREENACRE	Former Plating Works	12 Claremont STREET	Unclassified	Regulation under CLM Act not required	-33.89992254	151.0386128
GREENACRE	7-Eleven (former Mobil) Service Station	301-305 Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-33.90524488	151.0419971
GREENACRE	Caltex Service Station	87 - 91 Roberts ROAD	Service Station	Regulation under CLM Act not required	-33.90461089	151.0648581
GREENACRE	Coles Greenacre	13-19 Boronia ROAD	Other Industry	Regulation under CLM Act not required	-33.9061123	151.0561759
GREENWICH	Gore Creek Reserve - Drainage Line	St Vincents ROAD	Other Industry	Regulation under CLM Act not required	-33.82888693	151.1819101
GRENFELL	Former SRA Fuel Depot	Grafton STREET	Other Petroleum	Regulation under CLM Act not required	-33.89351237	148.1560188
GRENFELL	Grenfell Gasworks	Corner Gooloogong Road & Bourke STREET	Gasworks	Regulation under CLM Act not required	-33.89006016	148.1615443
GRETA	Coles Express Greta	122 New England HIGHWAY	Service Station	Regulation under CLM Act not required	-32.67656357	151.3872818
GRETA	redevelopment site	112-114 High STREET	Other Industry	Regulation under CLM Act not required	-32.67706709	151.3876682
GRETA	Former landfill	Hollingshed ROAD	Landfill	Regulation under CLM Act not required	-32.66705287	151.3923474
GREYSTANES	Metro Branded (former Mobil) Service Station	73 Ettalong ROAD	Service Station	Regulation under CLM Act not required	-33.81822648	150.9513946
GRIFFITH	Liberty Depot (former Shell CVRO) Griffith	6-10 Mackay AVENUE	Other Petroleum	Regulation under CLM Act not required	-34.2910045	146.063824
GRIFFITH	Former Murrumbidgee Irrigation Depot	55-77 Banna AVENUE	Other Industry	Regulation under CLM Act not required	-34.28858242	146.0567509
GRIFFITH	Mobil Depot - Griffith Airport	Off Remembrance DRIVE	Other Petroleum	Regulation under CLM Act not required	-34.25618872	146.0620449
GRIFFITH	Former Ampol Depot	32-34 Mackay AVENUE	Other Petroleum	Regulation under CLM Act not required	-34.2933331	146.0679503

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
GRIFFITH	Caltex Service Station and Depot	2-4 Mackay AVENUE	Service Station	Regulation under CLM Act not required	-34.2908766	146.0630815
GRIFFITH	Former Landmark Fertiliser Storage Facility	2-8 Jensen ROAD	Chemical Industry	Regulation under CLM Act not required	-34.29365599	146.0536413
GRIFFITH	Belford Petroleum (former Mobil) Depot	30 Banna AVENUE	Service Station	Regulation under CLM Act not required	-34.29042827	146.0595497
GRIFFITH	Former BP Service Station (Reliance Petroleum)	81 Banna AVENUE	Service Station	Regulation under CLM Act not required	-34.28851251	146.0540815
GUILDFORD	7-Eleven Service Station Guildford West	176 Fowler ROAD	Service Station	Regulation under CLM Act not required	-33.85149493	150.9722491
GULGONG	Lowes Petroleum (former BP) Depot Gulgong	6 Railway STREET	Other Petroleum	Regulation under CLM Act not required	-32.35950625	149.5461499
GULGONG	The Oval Site	Queen STREET	Unclassified	Regulation under CLM Act not required	-32.36169815	149.531075
GULMARRAD	BP Service Station Maclean	3976 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-29.48537407	153.2004311
GUMLY GUMLY	Caltex Service Station	3723 Sturt HIGHWAY	Service Station	Regulation under CLM Act not required	-35.13590309	147.4424551
GUMLY GUMLY	Brick Kiln Reserve	Eunony Bridge ROAD	Landfill	Regulation under CLM Act not required	-35.12098411	147.4196309
GUNDAGAI	Former Mobil Depot	98 Mount STREET	Other Petroleum	Regulation under CLM Act not required	-35.08206783	148.096221
GUNNEDAH	Caltex Service Station	21 Abbott STREET	Service Station	Regulation under CLM Act not required	-30.98021001	150.2561856
GUNNEDAH	Former Shell Depot Gunnedah	85-89 Barber STREET	Other Petroleum	Regulation under CLM Act not required	-30.97949284	150.2507401
GUNNEDAH	Mobil Gunnedah Depot	16-24 Wentworth STREET	Other Petroleum	Regulation under CLM Act not required	-30.98428725	150.260609
GUNNEDAH	BP Depot Gunnedah	103 Mathias ROAD	Other Petroleum	Contamination currently regulated under CLM Act	-30.96665001	150.2326526

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
GUNNEDAH	BP Service Station	Corner Conadilly Street & Henry STREET	Service Station	Contamination formerly regulated under the CLM Act	-30.98116266	150.2583066
GUNNEDAH	Mobil Service Station	341 Conadilly STREET	Service Station	Contamination formerly regulated under the CLM Act	-30.9807394	150.2578428
GUNNEDAH	Property NSW Site	35-37 Abbott STREET	Other Petroleum	Regulation under CLM Act not required	-30.9789841	150.25737
GUNNEDAH	Former Telstra Line Depot	81 Barber STREET	Other Petroleum	Regulation under CLM Act not required	-30.97933809	150.2503121
GUNNEDAH	Adjacent to Service Station	Intersection of Henry Street and Conadilly STREET	Service Station	Contamination formerly regulated under the CLM Act	-30.98072588	150.2582802
GUNNEDAH	Former Caltex Depot	61 Railway AVENUE	Other Petroleum	Contamination formerly regulated under the CLM Act	-30.97953242	150.2494457
GUNNING	Gunning Motors	56 Yass STREET	Service Station	Regulation under CLM Act not required	-34.78159326	149.2684791
GUYRA	Guyra Fourways Service Centre	87-89 Bradley STREET	Service Station	Regulation under CLM Act not required	-30.24580085	151.6701156
GUYRA	Caltex-branded Service Station	4352 New England HIGHWAY	Service Station	Regulation under CLM Act not required	-30.20601937	151.6757291
GUYRA	StateRail land leased to Incitec	Starr ROAD	Other Industry	Regulation under CLM Act not required	-30.23157011	151.6707135
GWANDALAN	Metro Petroleum Gwandalan (Formerly Gwandalan Auto Care)	47 Orana ROAD	Service Station	Regulation under CLM Act not required	-33.13632941	151.5813396
GWANDALAN	Former Gwandalan Landfill	Kanangra DRIVE	Landfill	Regulation under CLM Act not required	-33.17497722	151.5917107
GYMEA	7-Eleven (former Mobil) Gynea Service Station	110 Gynea Bay ROAD	Service Station	Regulation under CLM Act not required	-34.03745848	151.0848547
GYMEA	Coles Express Kirrawee	470 Princes (Cnr The Boulevard) HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-34.02735302	151.0845079
GYMEA	Former Shell Service Station Gynea	Gynea Bay ROAD	Service Station	Regulation under CLM Act not required	-34.04129676	151.0841328

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
HABERFIELD	7-Eleven Haberfield	25-35 Parramatta ROAD	Service Station	Contamination currently regulated under CLM Act	-33.88794591	151.14287
HALEKULANI	Former Halekulani Landfill	Macleay DRIVE	Landfill	Regulation under CLM Act not required	-33.21446301	151.5527625
HAMILTON	SRA Land	10 Maitland ROAD	Unclassified	Regulation under CLM Act not required	-32.91994358	151.7512417
HAMILTON	Taxi Services	116 Tudor STREET	Service Station	Contamination formerly regulated under the CLM Act	-32.92351606	151.7454742
HAMILTON	Caltex Hamilton	59-63 Tudor STREET	Service Station	Regulation under CLM Act not required	-32.92498593	151.7509313
HAMILTON	Newcastle Toyota	65 Tudor STREET	Other Petroleum	Regulation under CLM Act not required	-32.925171	151.7504048
HAMILTON	Hamilton Bus Depot	Cnr Denison Street and Gordon AVENUE	Other Petroleum	Regulation under CLM Act not required	-32.92687413	151.7501743
HAMILTON NORTH	Shell Newcastle Terminal	5 Chatham ROAD	Other Petroleum	Contamination currently regulated under CLM Act	-32.91630469	151.7408712
HAMILTON NORTH	Former Black and Decker Site	56 Clyde STREET	Metal Industry	Contamination currently regulated under CLM Act	-32.91080413	151.7358236
HAMILTON NORTH	Hamilton Gasworks	1 Chatham ROAD	Gasworks	Contamination currently regulated under CLM Act	-32.91362741	151.7406241
HAMILTON NORTH	Former ELMA Site	54 Clyde STREET	Other Industry	Contamination currently regulated under CLM Act	-32.91145768	151.7367691
HARBORD	Former Dry Cleaners	121 Wyndora AVENUE	Other Industry	Regulation under CLM Act not required	-33.77425321	151.2821553
HARDEN	SRA Site	31 Aurvill ROAD	Unclassified	Regulation under CLM Act not required	-34.54998656	148.3689577
HARDEN	SRA Site	51 Whitton LANE	Unclassified	Contamination formerly regulated under the CLM Act	-34.55396035	148.3713349
HARDEN	South West Fuel Harden	294 Albury STREET	Service Station	Regulation under CLM Act not required	-34.55007021	148.3513821

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HARRIS PARK	Dalley Street Reserve	2A Dalley STREET	Other Industry	Regulation under CLM Act not required	-33.82749118	151.0097545
HARTLEY VALE	Former Shale Oil Refinery	Lot 52 Hartley Vale ROAD	Unclassified	Contamination currently regulated under CLM Act	-33.52925119	150.24216
HASTINGS POINT	Coles Express Hastings Point	99 Tweed Coast ROAD	Service Station	Regulation under CLM Act not required	-28.36914103	153.5725676
HAY	SRA Land	429, 431, 435, 437 & 439 Murray STREET	Other Industry	Regulation under CLM Act not required	-34.49965611	144.840976
HAY	SRA Land	443 Murray STREET	Other Industry	Contamination formerly regulated under the CLM Act	-34.49966753	144.8410778
HAY	Former Shell Hay Depot	391 Murray STREET	Other Petroleum	Regulation under CLM Act not required	-34.50028195	144.8463999
HAY	Former Mobil Depot Hay	397-399 Murray STREET	Other Petroleum	Regulation under CLM Act not required	-34.50019184	144.8456578
HAY SOUTH	Caltex Service Station	429-431 Moama STREET	Service Station	Regulation under CLM Act not required	-34.52001427	144.8380121
HAZELBROOK	Caltex Service Station Hazelbrook	198 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.72106175	150.4520976
HEATHCOTE	Caltex Service Station	1344 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.08841066	151.0072048
HEATHCOTE	Caltex Service Station	1403 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.09059834	151.003752
HEATHCOTE	Shell Coles Express Service Station	1355 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.08780042	151.0069741
HEATHERBRAE	Bogas (Former Caltex) Service Station	3 Speedy Lock LANE	Service Station	Regulation under CLM Act not required	-32.78057822	151.7372135
HEATHERBRAE	Shell Coles Express Motto Farm Service Station	2137 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-32.79835449	151.7176284
HEXHAM	QR National - Hexham Precinct	179 & 3/67 Maitland ROAD	Other Industry	Regulation under CLM Act not required	-32.83474038	151.6821895

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
HEXHAM	Caltex Diesel Stop	360 Maitland ROAD	Service Station	Regulation under CLM Act not required	-32.82844873	151.6851063
HEXHAM	Cummins Newcastle Facility Hexham	21 Gallegan STREET	Other Industry	Regulation under CLM Act not required	-32.83186739	151.686709
HEXHAM	BP Service Station (Reliance Petroleum)	Corner Pacific Highway and Old Maitland ROAD	Service Station	Regulation under CLM Act not required	-32.82756403	151.6846929
HEXHAM	Former Forgacs Site	21 Sparke STREET	Chemical Industry	Contamination currently regulated under CLM Act	-32.85464558	151.6988053
HEXHAM	Caltex-Bogas Warehouse	239 Old Maitland ROAD	Service Station	Regulation under CLM Act not required	-32.82899942	151.6861849
HEXHAM	Industrial Galvanizers	312 Pacific HIGHWAY	Metal Industry	Contamination currently regulated under POEO Act	-32.83457186	151.6884941
HEXHAM	14 Sparke St Hexham	14 Sparke STREET	Metal Industry	Under assessment	-32.85394328	151.6960863
HILLSTON	Former BP Depot Hillston	141-143 Cowper STREET	Other Petroleum	Regulation under CLM Act not required	-33.48823546	145.5381623
HOLBROOK	Caltex Truckstop	Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-35.71332625	147.3207237
HOME BUSH	Ausgrid Mason Park Substation	1 Underwood ROAD	Other Industry	Regulation under CLM Act not required	-33.85674677	151.0747044
HOME BUSH BAY	SUEZ Waste Recycling Centre (WRC) and Cleanaway Liquid Waste Treatment Plant (LWTP)	Corner Pondage Link and Hill ROAD	Landfill	Regulation under CLM Act not required	-33.84359299	151.0593656
HOME BUSH WEST	Caltex Service Station Homebush West	334-336 Parramatta ROAD	Service Station	Regulation under CLM Act not required	-33.8581543	151.0681261
HOME BUSH WEST	Former Ford Landfill	22 Mandemar AVENUE	Landfill	Under preliminary investigation order	-33.86180526	151.0635664
HORNSBY	Midas Car Care Centre Hornsby	2A Linda STREET	Unclassified	Regulation under CLM Act not required	-33.70052215	151.1004786
HORNSBY	Coles Express Hornsby	194- 206 Pacific HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-33.7071993	151.0991452

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
HORNSBY	Hornsby Train Maintenance Centre	1B Stephen STREET	Other Industry	Regulation under CLM Act not required	-33.69342449	151.1035295
HOXTON PARK	Endeavour Energy Hoxton Park	490 Hoxton Park ROAD	Other Industry	Regulation under CLM Act not required	-33.92766437	150.8689069
HUNTERS HILL	Coles Express Hunters Hill	4 Ryde ROAD	Service Station	Regulation under CLM Act not required	-33.8317985	151.141655
HUNTERS HILL	Foreshore Land	Rear of 7, 9 & 11 Nelson PARADE	Other Industry	Contamination currently regulated under CLM Act	-33.84248362	151.1649249
HUNTERS HILL	7, 9 and 11 Nelson Parade Hunters Hill	7, 9 and 11 Nelson PARADE	Other Industry	Regulation under CLM Act not required	-33.84218911	151.164968
HURLSTONE PARK	Former Telstra Depot	82 Canterbury ROAD	Service Station	Regulation under CLM Act not required	-33.90803171	151.1258121
HURLSTONE PARK	Former Speedway Petroleum Service Station	610 - 618 New Canterbury ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.90541228	151.1322009
HURLSTONE PARK	7-Eleven Hurlstone Park	670 New Canterbury ROAD	Service Station	Regulation under CLM Act not required	-33.90510388	151.1299825
HURSTVILLE GROVE	Moore Reserve	Morshead DRIVE	Landfill	Contamination currently regulated under CLM Act	-33.97920603	151.0873578
INGLEBURN	7-Eleven Ingleburn	72 Cumberland Road, corner Oxford ROAD	Service Station	Regulation under CLM Act not required	-34.00041505	150.8679742
INVERELL	Former Shell Depot	25 Edward STREET	Other Petroleum	Regulation under CLM Act not required	-29.76151684	151.1182033
INVERELL	Former Service Station	20 Oliver STREET	Service Station	Regulation under CLM Act not required	-29.77229743	151.1152692
INVERELL	Former Caltex Depot Inverell	4 Edward STREET	Service Station	Regulation under CLM Act not required	-29.76123104	151.1147983
INVERELL	Former Mobil Inverell Depot	29-33 Edward STREET	Other Petroleum	Regulation under CLM Act not required	-29.76135322	151.1171412
INVERELL	Caltex Service Station	55-59 Ring STREET	Service Station	Regulation under CLM Act not required	-29.76204512	151.1141737

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
INVERELL	Former Mobil Service Station	Corner Otho Street and Henderson STREET	Service Station	Regulation under CLM Act not required	-29.7786926	151.1149921
INVERELL	Former Caltex Service Station	141 Otho STREET	Service Station	Regulation under CLM Act not required	-29.77819403	151.1145699
ISLINGTON	Caltex Service Station	240 Maitland ROAD	Service Station	Regulation under CLM Act not required	-32.91138644	151.7457701
ISLINGTON	Shell Pipeline Easement (vacant land)	24 Fern STREET	Other Petroleum	Regulation under CLM Act not required	-32.91706254	151.7473809
JAMISONTOWN	BP Service Station Jamisontown	124 - 128 Mulgoa ROAD	Service Station	Regulation under CLM Act not required	-33.76978323	150.6764977
JAMISONTOWN	Former Caltex Jamisontown	229-231 Mulgoa ROAD	Service Station	Regulation under CLM Act not required	-33.76661447	150.6784735
JAMISONTOWN	7-Eleven Service Station	92 Mulgoa ROAD	Service Station	Contamination currently regulated under CLM Act	-33.7667231	150.6796488
JANNALI	Former Mobil Service Station	121 Georges River ROAD	Service Station	Regulation under CLM Act not required	-34.01614613	151.0681921
JANNALI	Former IGA	541 Box ROAD	Other Industry	Regulation under CLM Act not required	-34.01602134	151.0660384
JENNINGS	Jennings Former Arsenic Poison Factory	Duke Street, Manor Street, and Ballandean STREET	Chemical Industry	Contamination currently regulated under CLM Act	-28.929342	151.9298622
JENNINGS	United Jennings Service Station	1823 New England HIGHWAY	Service Station	Under assessment	-28.9323235	151.9260334
JESMOND	Caltex Service Station	27 Bluegum ROAD	Service Station	Regulation under CLM Act not required	-32.9029287	151.691164
JINDABYNE	BP Service Station (Reliance Petroleum)	8 Kosciuszko ROAD	Service Station	Regulation under CLM Act not required	-36.41478692	148.6178882
JINDABYNE	Caltex Service Station	50 Kosciuszko ROAD	Service Station	Regulation under CLM Act not required	-36.41395847	148.6225113
JINGELIC	Former Jingellic School	3179 River ROAD	Other Industry	Regulation under CLM Act not required	-35.926501	147.701011

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
JUNEE	Subdivision Proposal	5858 Gundagai ROAD	Unclassified	Regulation under CLM Act not required	-34.87783587	147.6067578
JUNEE	United Junee Service Station	No. 118-134 BROADWAY	Service Station	Regulation under CLM Act not required	-34.86805686	147.583483
KANAHOOKA	Former Dapto Smelter Site, Kanahooka (redeveloped)	Off Kanahooka ROAD	Metal Industry	Regulation under CLM Act not required	-34.4941348	150.8224482
KANDOS	Cement Australia Kandos Cement Works	1 Jamison STREET	Other Industry	Regulation under CLM Act not required	-32.86399912	149.9779259
KANWAL	Kanwal General Store and Fuel Supplies and Adjacent Land	68 and part of 70 Craigie AVENUE	Service Station	Contamination currently regulated under CLM Act	-33.263026	151.482125
KANWAL	Former Bus and Truck Rental Yard	645-647 Pacific Highway HIGHWAY	Other Petroleum	Regulation under CLM Act not required	-33.26233802	151.4825469
KARIONG	Coles Express Kariong	6 Central Coast HIGHWAY	Service Station	Regulation under CLM Act not required	-33.43443192	151.2963401
KARIONG	Caltex Service Station	Lot 2 Langford DRIVE	Service Station	Regulation under CLM Act not required	-33.43934827	151.2935447
KARUAH	BP Roadhouse Karuah	403 Tarean ROAD	Service Station	Regulation under CLM Act not required	-32.65371781	151.9629963
KATOOMBA	Aldi Stores	201 Katoomba STREET	Service Station	Regulation under CLM Act not required	-33.71756625	150.3101649
KATOOMBA	Former Katoomba/Leura Gasworks	Megalong STREET	Gasworks	Contamination currently regulated under CLM Act	-33.71318559	150.3187284
KELLYVILLE	Caltex Service Station	3-5 Windsor ROAD	Service Station	Regulation under CLM Act not required	-33.71436125	150.9602175
KELLYVILLE	BP Service Station Kellyville	19-23 Windsor ROAD	Service Station	Regulation under CLM Act not required	-33.71280997	150.9590756
KELSO	Caltex Service Station Kelso	19 Sydney ROAD	Service Station	Regulation under CLM Act not required	-33.41904247	149.6023985
KELSO	BP Service Station (Reliance Petroleum)	63 Sydney ROAD	Service Station	Regulation under CLM Act not required	-33.41925328	149.6076677

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
KEMBLA GRANGE	ShawCor Australia	66 West Dapto ROAD	Other Petroleum	Regulation under CLM Act not required	-34.46875328	150.8106326
KEMBLAWARRA	Griffins Bay, Lake Illawarra	Shellharbour ROAD	Landfill	Regulation under CLM Act not required	-34.49653984	150.8943776
KEMPS CREEK	Caltex-branded Service Station	1163 Mamre ROAD	Service Station	Regulation under CLM Act not required	-33.86972102	150.7966074
KEMPSEY	Kempsey Showground	19 Sea STREET	Unclassified	Contamination being managed via the planning process (EP&A Act)	-31.07334836	152.8308795
KEMPSEY	Former Shell Depot	43-51 Gladstone STREET	Other Petroleum	Regulation under CLM Act not required	-31.07500944	152.8346699
KEMPSEY	Former Mobil Depot	14 Hopetoun STREET	Other Petroleum	Regulation under CLM Act not required	-31.07603107	152.8350132
KEMPSEY	Shell Coles Express Service Station Kempsey	165 Smith STREET	Service Station	Regulation under CLM Act not required	-31.07036743	152.8461571
KEMPSEY	Mobil Depot	154 Belgrave STREET	Service Station	Regulation under CLM Act not required	-31.07965043	152.8326303
KEMPSEY	Liberty (Former Mobil) Service Station	108-112 Smith STREET	Service Station	Regulation under CLM Act not required	-31.07492508	152.8431945
KENSINGTON	7-Eleven Kensington	135 Anzac PARADE	Service Station	Regulation under CLM Act not required	-33.91035885	151.2228537
KENSINGTON	Former Ampol Service Station	76-82 Anzac PARADE	Service Station	Regulation under CLM Act not required	-33.9059246	151.2242891
KENSINGTON	Footpath adjacent to 10-20 Anzac Parade	10-20 Anzac PARADE	Service Station	Regulation under CLM Act not required	-33.9032124	151.2237836
KENSINGTON	Caltex Service Station	211-213 Anzac PARADE	Service Station	Regulation under CLM Act not required	-33.91460752	151.2251266
KENTHURST	Vacant Land	259 McCylmonts ROAD	Unclassified	Regulation under CLM Act not required	-33.61283529	150.9425303
KHANCOBAN	Khancoban Tip	Alpine WAY	Landfill	Regulation under CLM Act not required	-36.21994191	148.1542718

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
KIAMA	Former Gasworks	105 to 109 and 113 Shoalhaven STREET	Gasworks	Regulation under CLM Act not required	-34.67416881	150.8504143
KIAMA HEIGHTS	Former Mobil Service Station Kiama	7-9 South Kiama DRIVE	Service Station	Regulation under CLM Act not required	-34.69553931	150.8437977
KILLARA	7-Eleven Service Station (Former Mobil)	496 Pacific HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-33.77146554	151.1606903
KILLARA	Former Caltex Service Station	692B-694 Pacific HIGHWAY	Service Station	Contamination formerly regulated under the CLM Act	-33.76306802	151.1550109
KILLARA	Killara Garage	544 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.76974164	151.1599696
KILLARA	Former BP Service Station Lindfield	478 Pacific HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-33.7719298	151.1613874
KILLARA	Land Adjacent to Former Service Station Site	684-684a, 690, 692 and 696 Pacific HIGHWAY	Service Station	Contamination formerly regulated under the CLM Act	-33.76312226	151.1549237
KINCUMBER	Frost Reserve	Avoca DRIVE	Landfill	Contamination currently regulated under CLM Act	-33.47065695	151.3909044
KINGS PARK	Multi-Fill	14 Garling ROAD	Unclassified	Regulation being finalised	-33.74478046	150.9111964
KINGS PARK	Former Dow Corning Factory	21 Tattersall ROAD	Chemical Industry	Regulation under CLM Act not required	-33.75012653	150.9138477
KINGSFORD	Caltex Service Station	603-611 Anzac PARADE	Service Station	Regulation under CLM Act not required	-33.93435787	151.2371198
KINGSFORD	Coles Express Service Station Kingsford	58 Gardeners ROAD	Service Station	Regulation under CLM Act not required	-33.9250054	151.2257601
KINGSGROVE	Shell Coles Express Service Station	137 Kingsgrove ROAD	Service Station	Regulation under CLM Act not required	-33.93276948	151.099026
KINGSGROVE	Caltex Kingsgrove	351-357 Stoney Creek ROAD	Service Station	Regulation under CLM Act not required	-33.95132175	151.0926872
KINGSGROVE	State Transit Authority Depot	17-23 Richland STREET	Other Petroleum	Regulation under CLM Act not required	-33.93646086	151.0973617

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
KIRRAWEE	Ingal Civil Products	127-141 Bath ROAD	Metal Industry	Regulation under CLM Act not required	-34.03029516	151.0754469
KIRRAWEE	7-Eleven (former Mobil) Service Station	542-546 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.03238179	151.0758071
KIRRAWEE	Caltex-branded Kirrawee Service Station	(1-3 Waratah Street) 487 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.02915971	151.0808279
KOGARAH	Scarborough Park South	184R Production AVENUE	Landfill	Regulation being finalised	-33.97922253	151.140276
KOGARAH	Caltex Service Station	29 President AVENUE	Service Station	Regulation under CLM Act not required	-33.96516866	151.141145
KOGARAH	7-Eleven Service Station	736 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-33.96406472	151.1376011
KOGARAH	Woolworths Petrol Service Station	69 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-33.96330397	151.1371182
KOOLKHAN	Former Koolkhan Power Station	Summerland WAY	Other Industry	Regulation under CLM Act not required	-29.61688704	152.9300645
KOORAGANG	NPC, berths 2 and 3	Heron ROAD	Metal Industry	Regulation being finalised	-32.89260063	151.7742527
KOORAGANG	Kooragang Island Waste Facility	Off Cormorant ROAD	Metal Industry	Contamination currently regulated under POEO Act	-32.86901125	151.7377773
KOORAGANG	Orica Kooragang Island	15 Greenleaf ROAD	Chemical Industry	Contamination currently regulated under CLM Act	-32.89654619	151.7771372
KOORAGANG	Former Boral Timber Export Facility	16 Heron ROAD	Other Industry	Regulation under CLM Act not required	-32.89710295	151.7739966
KOORAGANG	Cleanaway Technical Services	19 Egret STREET	Other Industry	Regulation under CLM Act not required	-32.8812145	151.766282
KOORAGANG	Industrial Facility	39 Heron ROAD	Chemical Industry	Under assessment	-32.89106439	151.7784064
KOORAGANG	Vacant Land	Raven Street and Cormorant ROAD	Unclassified	Regulation under CLM Act not required	-32.88410199	151.7701334

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
KOORAGANG	Linx Logistics	240 Cormorant ROAD	Other Industry	Regulation under CLM Act not required	-32.87480951	151.7757352
KOORINGAL	Former Shell Wagga Depot	11-15 Lake Albert ROAD	Other Petroleum	Regulation under CLM Act not required	-35.12273113	147.3786005
KOORINGAL	Caltex Service Station	265-267 Lake Albert ROAD	Service Station	Regulation under CLM Act not required	-35.14078443	147.3755442
KOORINGAL	Caltex-branded (former Mobil) Service Station	24 Lake Albert ROAD	Service Station	Regulation under CLM Act not required	-35.12239591	147.3769936
KOSCIUSZKO	Smiggin Holes Snow Clearing Shed	Link ROAD	Landfill	Regulation under CLM Act not required	-36.39098211	148.4304981
KOSCIUSZKO	Khancoban Spoil Dump	Alpine WAY	Landfill	Regulation under CLM Act not required	-36.21982803	148.1527401
KOSCIUSZKO	Sawpit Creek landfill	13km from Jindabyne, off Kosciuszko ROAD	Landfill	Regulation under CLM Act not required	-36.34858097	148.5673374
KURMOND	BP Service Station	501 Bells Line of road ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.55096662	150.6911676
KURNELL	Former Phillips Imperial Chemicals site	260 Captain Cook DRIVE	Chemical Industry	Regulation under CLM Act not required	-34.02493837	151.1952149
KURNELL	Caltex Kurnell Terminal (refer also to ID23868)	2 Solander STREET	Other Petroleum	Contamination currently regulated under POEO Act	-34.0175214	151.2159572
KURNELL	Abbott Australasia	Captain Cook DRIVE	Chemical Industry	Contamination formerly regulated under the CLM Act	-34.02339937	151.19921
KURNELL	Former Caltex Kurnell Service Station	Corner Captain Cook Drive and Solander STREET	Service Station	Regulation under CLM Act not required	-34.01269846	151.2094347
KURRI KURRI	United Petroleum Service Station Kurri Kurri	279-281 Lang STREET	Service Station	Contamination currently regulated under CLM Act	-32.82047175	151.477646
KURRI KURRI	Kurri Kurri Smelter	Hart ROAD	Metal Industry	Regulation under CLM Act not required	-32.7873063	151.4828827
KYOGLE	Caltex Service Station	22-24 Summerland WAY	Service Station	Regulation under CLM Act not required	-28.61806766	153.003862

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
LAKE HAVEN	Caltex Service Station	Goobarabah Ave Cnr Gorokan DRIVE	Service Station	Regulation under CLM Act not required	-33.24337276	151.5065335
LAKEMBA	Former Lakemba Police Station	59 Quigg STREET	Unclassified	Regulation under CLM Act not required	-33.92199239	151.079412
LAKEMBA	Caltex Service Station - Corner Punchbowl Rd and Wangee Rd	81 Wangee ROAD	Service Station	Regulation under CLM Act not required	-33.91153044	151.073306
LAKEMBA	Caltex Service Station	961-967 Canterbury ROAD	Service Station	Regulation under CLM Act not required	-33.92671102	151.0814905
LAMBTON	Caltex Service Station	422 Newcastle ROAD	Service Station	Regulation under CLM Act not required	-32.9095592	151.7109684
LANE COVE	7-Eleven Service Station	203 Burns Bay ROAD	Service Station	Regulation under CLM Act not required	-33.81458334	151.1543844
LANE COVE	BP-branded Jasbe Service Station	62-70 Epping ROAD	Service Station	Regulation under CLM Act not required	-33.81108427	151.1641531
LANE COVE	Pacific Power	Sirius ROAD	Landfill	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.80701776	151.1449658
LANE COVE	Coles Express Service Station Burns Bay	254 Burns Bay ROAD	Service Station	Regulation under CLM Act not required	-33.81719214	151.1518774
LANE COVE NORTH	Former Caltex Service Station	428-432 Mowbray ROAD	Service Station	Regulation under CLM Act not required	-33.80804563	151.1721538
LANE COVE NORTH	BP Artarmon Service Station, Lane Cove North	432 Pacific HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-33.8112038	151.175547
LANE COVE WEST	Caltex Lane Cove West	235-245 Burns Bay ROAD	Service Station	Regulation under CLM Act not required	-33.81719214	151.1518774
LANE COVE WEST	Ventemans Reach Bushland	Off Mars ROAD	Unclassified	Regulation under CLM Act not required	-33.80615015	151.1451474
LANSVALE	Mobil Service Station	44 Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-33.89172416	150.9656537
LAURIE TON	Camden Haven Tyre and Brake Centre (Former Caltex Service Station)	461 Ocean DRIVE	Service Station	Regulation under CLM Act not required	-31.64367775	152.7977735

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
LAVENDER BAY	SRA Land	French STREET	Unclassified	Regulation under CLM Act not required	-33.84560621	151.2030148
LAVINGTON	Former Caltex Service Station	373-375 Wagga ROAD	Service Station	Regulation under CLM Act not required	-36.04797551	146.9385325
LAVINGTON	Caltex Service Station	436 Wagga (corner Dick Road) ROAD	Service Station	Regulation under CLM Act not required	-36.04500034	146.9444932
LAVINGTON	Former ERS liquid waste treatment and storage facility	819 Knights ROAD	Other Industry	Regulation under CLM Act not required	-36.06763885	146.942143
LEETON	Former Mobil Depot	108 Calrose STREET	Other Petroleum	Regulation under CLM Act not required	-34.55813326	146.3921296
LEETON	Caltex Service Station	1 Belah STREET	Service Station	Regulation under CLM Act not required	-34.55421752	146.3998431
LEETON	Yenda Producers (formerly Incitec) Leeton	1 - 2 Canal STREET	Other Petroleum	Regulation under CLM Act not required	-34.55184684	146.3862573
LEETON	Former Fuel Depot, Leeton	1-3 Short STREET	Other Petroleum	Regulation under CLM Act not required	-34.55253237	146.3864507
LEETON	United Leeton Service Station	110 Kurrajong AVENUE	Service Station	Under assessment	-34.55573364	146.4099077
LEICHHARDT	SRA Land	10-11 Balmain ROAD	Other Industry	Contamination formerly regulated under the CLM Act	-33.87774852	151.1590952
LEICHHARDT	Former Kolotex site	22 George STREET	Other Industry	Contamination currently regulated under CLM Act	-33.88855307	151.1482106
LEICHHARDT	Former Labelcraft Site	30-40 George STREET	Chemical Industry	Contamination currently regulated under CLM Act	-33.88778798	151.1484773
LEICHHARDT	Leichhardt Bus Depot Area E	240 Balmain Road, corner City West LINK	Other Industry	Regulation under CLM Act not required	-33.87589727	151.1598073
LEICHHARDT	RailCorp Leichhardt	7 Darley ROAD	Other Industry	Regulation under CLM Act not required	-33.87520846	151.1539012
LENNOX HEAD	Former Caltex Lennox Head	Byron STREET	Service Station	Regulation under CLM Act not required	-28.79189328	153.5883225

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
LENNOX HEAD	Spoons Dip	13 Fig Tree Hill DRIVE	Cattle Dip	Contamination formerly regulated under the CLM Act	-28.78258175	153.5752527
LEPPINGTON	Coles Express Leppington	1443 Camden Valley WAY	Service Station	Regulation under CLM Act not required	-33.96631609	150.8154793
LEUMEAH	Caltex Service Station	6 Rudd ROAD	Service Station	Regulation under CLM Act not required	-34.05398325	150.8299209
LEURA	Former Leura Garage	126-128 Leura MALL	Service Station	Regulation under CLM Act not required	-33.7125311	150.3315386
LIDCOMBE	Metro Lidcombe (former Liberty)	134 John STREET	Service Station	Contamination currently regulated under POEO Act	-33.85466534	151.04675
LIDDELL	Liddell Power Station	New England HIGHWAY	Other Industry	Regulation under CLM Act not required	-32.37393962	150.9756283
LIDSDALE	Angus Place Colliery	Wolgan ROAD	Other Industry	Regulation under CLM Act not required	-33.35274573	150.0996773
LIDSDALE	Kerosene Vale Colliery	Wolgan ROAD	Other Industry	Regulation under CLM Act not required	-33.38145755	150.0940097
LIGHTNING RIDGE	Former Ambulance Station	18 - 42 Pandora STREET	Other Industry	Regulation under CLM Act not required	-29.43133877	147.9812981
LIGHTNING RIDGE	Caltex Service Station	Onyx Street, corner Morilla STREET	Service Station	Regulation under CLM Act not required	-29.42922885	147.9747954
LILLIAN ROCK	Former 'Peters Dip' Cattle Tick Dip Site	427 Lillian Rock ROAD	Cattle Dip	Regulation under CLM Act not required	-28.5314327	153.1556392
LINDFIELD	7-Eleven (former Mobil) Service Station	238 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.7788603	151.1689594
LISAROW	OneSteel Recycling	902A Pacific HIGHWAY	Metal Industry	Regulation under CLM Act not required	-33.38420179	151.3655856
LISMORE	Caltex Lismore Service Station	136 Woodlark STREET	Service Station	Regulation under CLM Act not required	-28.80807597	153.2807591
LISMORE	Shell Coles Express Service Station	100 Dawson STREET	Service Station	Regulation under CLM Act not required	-28.81140865	153.2800472

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
LISMORE	Former Shell Depot	116 Wilson STREET	Other Petroleum	Regulation under CLM Act not required	-28.81070081	153.2621577
LISMORE	Caltex Service Station	73-75 Dawson STREET	Service Station	Regulation under CLM Act not required	-28.80894415	153.2809619
LISMORE	Lismore Gasworks	Cnr John Street & Keen STREET	Gasworks	Contamination formerly regulated under the CLM Act	-28.81764489	153.2710196
LISMORE	SRA Land	Norco LANE	Unclassified	Regulation under CLM Act not required	-28.810742	153.2702306
LISMORE HEIGHTS	Coles Express Lismore Heights	426 Ballina ROAD	Service Station	Contamination currently regulated under CLM Act	-28.81068067	153.3053065
LISMORE HEIGHTS	Beardow Street Road Reserve	22 New Ballina ROAD	Unclassified	Under assessment	-28.804051	153.291801
LITHGOW	Former Shell CVRO and Depot	77 Bridge Street and 6 Gas Works LANE	Other Petroleum	Regulation under CLM Act not required	-33.47995091	150.162216
LITHGOW	Lithgow Thales	4 Martini PARADE	Metal Industry	Contamination formerly regulated under the CLM Act	-33.49012248	150.1415389
LITHGOW	Former Mobil Depot	353 Main STREET	Other Petroleum	Regulation under CLM Act not required	-33.48235166	150.1383012
LITHGOW	Former Gasworks	Mort STREET	Gasworks	Regulation under CLM Act not required	-33.47995167	150.1635401
LITHGOW	Jasbe BP-branded Service Station (Former Reliance Petroleum)	1106 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.48426647	150.134992
LITHGOW	Caltex Lithgow (Quota Park)	Adjacent to 1131 Great Western HIGHWAY	Unclassified	Regulation under CLM Act not required	-33.47927554	150.1366238
LIVERPOOL	AC McGrath (Wholesale) Pty Ltd	20 Shepherd Street and 6A & 6B Atkinson STREET	Other Industry	Regulation under CLM Act not required	-33.9320192	150.9236862
LIVERPOOL	Former Car Park	4 - 6 Rose STREET	Unclassified	Regulation under CLM Act not required	-33.93258955	150.9157936
LIVERPOOL	Woolworths Service Station	59-67 Orange Grove ROAD	Service Station	Regulation under CLM Act not required	-33.90711248	150.9178855

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
LIVERPOOL	68 Speed Street, Liverpool NSW	68 Speed STREET	Gasworks	Under assessment	-33.929889	150.92243
LOFTUS	BP Freedom Fuel Service Station Loftus	127 Loftus AVENUE	Service Station	Regulation under CLM Act not required	-34.04570765	151.0508004
LONG JETTY	Metro Petroleum Service Station Long Jetty	326 The Entrance ROAD	Service Station	Under assessment	-33.35897356	151.4847709
LONG JETTY	Caltex Service Station	431 The Entrance ROAD	Service Station	Regulation under CLM Act not required	-33.36022468	151.4826553
LONG JETTY	Westside Petroleum Service Station	290-294 The Entrance ROAD	Service Station	Contamination currently regulated under CLM Act	-33.35688982	151.4862246
LONG JETTY	7-Eleven (former Mobil) Service Station	184-186 The Entrance ROAD	Service Station	Regulation under CLM Act not required	-33.35089363	151.4924904
LONGUEVILLE	Caltex Service Station	5 Northwood ROAD	Service Station	Regulation under CLM Act not required	-33.82427366	151.1724497
LUCAS HEIGHTS	Harringtons Quarry	access from Little Forest ROAD	Landfill	Contamination currently regulated under CLM Act	-34.03555347	150.9751826
LUCAS HEIGHTS	IWC landfill	Little Forest ROAD	Landfill	Contamination currently regulated under CLM Act	-34.03214889	150.9753474
LUDDENHAM	Caltex Service Station	3019-3035 The Northern ROAD	Service Station	Regulation under CLM Act not required	-33.87536093	150.6888872
MACKSVILLE	Caltex Service Station	Pacific (22-24 Cooper Street) HIGHWAY	Service Station	Regulation under CLM Act not required	-30.70977455	152.9198448
MACLEAN	MacLean Outdoors	255 River STREET	Service Station	Regulation under CLM Act not required	-29.45782683	153.1970725
MACQUARIE FIELDS	Caltex Service Station	68 Harold STREET	Service Station	Regulation under CLM Act not required	-33.98557276	150.8933681
MACQUARIE PARK	Caltex North Ryde Service Station	41-43 Epping ROAD	Service Station	Regulation under CLM Act not required	-33.79138236	151.1312248
MACQUARIE PARK	1-7 Waterloo Road, Macquarie Park	1-7 Waterloo ROAD	Other Petroleum	Regulation under CLM Act not required	-33.78806877	151.1332148

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MACQUARIE PARK	Porters Creek Depot - Proposed Operations Centre Site	160 Wicks ROAD	Landfill	Regulation under CLM Act not required	-33.785348	151.13663
MACQUARIE PARK	De Burghs Cycleway - Lane Cove National Park	Riverside DRIVE	Other Petroleum	Regulation under CLM Act not required	-33.77802854	151.1367529
MAITLAND	Maitland Gasworks	Charles STREET	Gasworks	Contamination currently regulated under CLM Act	-32.73603658	151.5578926
MAITLAND	Hannan and High Street	Hannan Street and High STREET	Service Station	Regulation under CLM Act not required	-32.72731682	151.5515673
MAITLAND	Coles Express Service Station	235 High STREET	Service Station	Regulation under CLM Act not required	-32.73923807	151.5620399
MALABAR	ANZAC Rifle Range former landfill	Franklin STREET	Landfill	Regulation being finalised	-33.95792671	151.2566373
MANDALONG	Mandalong Mine	Mandalong ROAD	Other Industry	Regulation under CLM Act not required	-33.11725583	151.4616452
MANGROVE MOUNTAIN	Poultry Litter Containment Pit site	258 Waratah ROAD	Unclassified	Regulation under CLM Act not required	-33.28917277	151.167235
MANILLA	Tamworth Regional Council Works Depot - Manilla	73 River STREET	Other Petroleum	Regulation under CLM Act not required	-30.74879943	150.7181011
MANLY	Caltex Service Station	86 Pittwater ROAD	Service Station	Regulation under CLM Act not required	-33.79306889	151.2858638
MANLY	Former Little Manly Point Gasworks	End of Stuart STREET	Gasworks	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.80842005	151.2877784
MANLY	St Patrick's Estate	151 Darley ROAD	Unclassified	Regulation under CLM Act not required	-33.8044568	151.2938595
MANLY	Little Manly Point	Stuart STREET	Gasworks	Contamination formerly regulated under the CLM Act	-33.80814626	151.2876245
MANLY VALE	Caltex Service Station Manly Vale	236-238 Condamine STREET	Service Station	Regulation under CLM Act not required	-33.78508231	151.2674386
MANLY VALE	Former Landfill Addiscombe Road	Addiscombe ROAD	Landfill	Contamination currently regulated under CLM Act	-33.78307439	151.2747846

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MANNERING PARK	Parkview General Store (a former service station)	2 Vales ROAD	Service Station	Regulation under CLM Act not required	-33.14753814	151.5387832
MANNERING PARK	Manning Park Mini Mart	70 Vales ROAD	Service Station	Regulation under CLM Act not required	-33.15236501	151.5371767
MARAYONG	7-Eleven (former Mobil Blacktown West) Service Station Marayong	173 Richmond ROAD	Service Station	Regulation under CLM Act not required	-33.75472796	150.8913605
MARAYONG	Woolworths Petrol Service Station Marayong	Corner Vardys Road and Turbo ROAD	Service Station	Regulation under CLM Act not required	-33.7452356	150.9041601
MARDI	Former Mardi Landfill	70-90 McPherson ROAD	Landfill	Regulation under CLM Act not required	-33.29273289	151.4100941
MARKS POINT	Former Mobil Service Station (now 7-Eleven)	770-772 Pacific HIGHWAY	Service Station	Contamination formerly regulated under the CLM Act	-33.05646268	151.6533795
MARKS POINT	Former Mobil Aviation Depot Belmont Airport	864 Pacific HIGHWAY	Other Petroleum	Regulation under CLM Act not required	-33.06657244	151.6497674
MAROUBRA	Coles Express Pagewood Service Station, Maroubra	299 Bunnerong PARADE	Service Station	Regulation under CLM Act not required	-33.94071282	151.2285063
MARRANGAROO	United (Former Mobil) Service Station Marrangaroo	394-398 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.45253322	150.1181023
MARRICKVILLE	Former Mobil Service Station	384 Illawarra ROAD	Service Station	Regulation under CLM Act not required	-33.91534969	151.1506717
MARRICKVILLE	TRW Steering and Suspension	22-28 Carrington ROAD	Other Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.92012667	151.1566181
MARRICKVILLE	Woolworths Petrol Service Station Marrickville	490 Illawarra ROAD	Service Station	Regulation under CLM Act not required	-33.91845177	151.1459951
MARRICKVILLE	RailCorp	361 Victoria ROAD	Other Industry	Regulation under CLM Act not required	-33.91404835	151.1557132
MARRICKVILLE	Mackey Park	Cnr Richardsons Crescent and Carrington ROAD	Landfill	Regulation under CLM Act not required	-33.9220263	151.1547903
MARRICKVILLE	Cooks River Aqueduct	Thornley STREET	Unclassified	Contamination formerly regulated under the CLM Act	-33.92204604	151.1480332

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MARRICKVILLE	2 Carrington Road	2 Carrington ROAD	Unclassified	Regulation under CLM Act not required	-33.91596071	151.1597199
MARRICKVILLE	Former Dry Cleaners and Loading Dock	Smidmore STREET	Other Industry	Contamination currently regulated under CLM Act	-33.90707592	151.171701
MARSDEN PARK	226 Grange Avenue	226 Grange AVENUE	Unclassified	Regulation under CLM Act not required	-33.70259609	150.83825
MARSFIELD	Coles Express Service Station Marsfield	189 Epping ROAD	Service Station	Regulation under CLM Act not required	-33.77519246	151.1053691
MARULAN	BP Express Marulan (Northbound)	(Northbound) Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-34.7188332	149.9949547
MARULAN	BP Service Station	(Southbound) Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-34.71932066	150.0014827
MARYVILLE	7-Eleven Service Station	184-188 Hannell STREET	Service Station	Contamination currently regulated under CLM Act	-32.91336028	151.7579315
MASCOT	Former Zinc Smelter and Paint Manufacturing Facility	163 O'Riordan STREET	Metal Industry	Regulation under CLM Act not required	-33.92526513	151.1892582
MASCOT	Caltex Service Station	125 O'Riordan STREET	Service Station	Regulation under CLM Act not required	-33.92309169	151.1911539
MASCOT	Mascot Pioneer Plating	25-29 Ricketty STREET	Metal Industry	Contamination currently regulated under CLM Act	-33.92075288	151.1824801
MASCOT	Heritage Business Centre	5-9 Ricketty STREET	Unclassified	Regulation under CLM Act not required	-33.92029202	151.1816656
MASCOT	Telstra Exchange	904-922 Botany ROAD	Other Industry	Regulation under CLM Act not required	-33.9293166	151.1942777
MASCOT	Former Shell Service Station Mascot	746 Botany ROAD	Service Station	Regulation under CLM Act not required	-33.92352295	151.1955852
MASCOT	ING Industrial Fund (unoccupied Land and General Parking)	19-33 Kent ROAD	Landfill	Regulation under CLM Act not required	-33.9227711	151.1854202
MASCOT	Former Mascot Galvanising	336-348 King STREET	Metal Industry	Contamination currently regulated under CLM Act	-33.92902126	151.185874

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MASCOT	Sokol Corporation	50-56 Robey STREET	Other Industry	Regulation under CLM Act not required	-33.93162265	151.1904955
MASCOT	Linear Park	Off O'Riordan STREET	Landfill	Regulation under CLM Act not required	-33.92278693	151.1904751
MATRAVILLE	Port Botany Bus Depot	7 Bumborah Point ROAD	Other Petroleum	Regulation under CLM Act not required	-33.96880413	151.2255889
MATRAVILLE	Former Golden Fleece Terminal No2	151 Beauchamp ROAD	Other Petroleum	Contamination formerly regulated under the CLM Act	-33.95719404	151.2259884
MATRAVILLE	Former Rieco Incinerator	Kain AVENUE	Other Industry	Contamination being managed via the planning process (EP&A Act)	-33.95980534	151.2423679
MATRAVILLE	7-Eleven Service Station Matraville	515 Bunnerong ROAD	Service Station	Contamination currently regulated under CLM Act	-33.95943536	151.2317598
MATRAVILLE	Former Golden Fleece Terminal No1	133 -149 Beauchamp ROAD	Other Petroleum	Contamination formerly regulated under the CLM Act	-33.95776666	151.2248518
MATRAVILLE	Vacant Lot	3 Wilkes AVENUE	Other Industry	Regulation under CLM Act not required	-33.96006406	151.2431087
MATRAVILLE	Eastern Suburbs Memorial Park	12 Military ROAD	Chemical Industry	Regulation under CLM Act not required	-33.9719906	151.2274386
MAYFIELD	7-Eleven (Former Mobil) Service Station	412-416 Maitland ROAD	Service Station	Regulation under CLM Act not required	-32.89292005	151.7300948
MAYFIELD	Shell Coles Express Service Station	63-69 Maud STREET	Service Station	Regulation under CLM Act not required	-32.89358962	151.7221298
MAYFIELD	BHP Closure Site (Hunter River Sediments)	Bed Sediments of the Hunter adjacent to Lot 221 DP1013964 RIVER	Metal Industry	Contamination formerly regulated under the CLM Act	-32.89203741	151.7646702
MAYFIELD	Australian Tube Mills Newcastle Site	Industrial DRIVE	Metal Industry	Under assessment	-32.88835767	151.7450751
MAYFIELD	BHP Steel River	directly adjacent to the Hunter River; near the Tourle Street Bridge STREET	Metal Industry	Contamination currently regulated under CLM Act	-32.8773556	151.7252427
MAYFIELD	BHPB Supply site	Lot 223 South and West - Industrial DRIVE	Metal Industry	Contamination currently regulated under CLM Act	-32.88583041	151.7388423

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MAYFIELD	Waratah Steel Mill	23 Frith STREET	Metal Industry	Regulation under CLM Act not required	-32.89426592	151.7257429
MAYFIELD	OneSteel (BHP)	Industrial DRIVE	Metal Industry	Contamination currently regulated under CLM Act	-32.88366987	151.7449491
MAYFIELD NORTH	OneSteel - Newcastle Wire, Rod and Bar Mills	141 & 151 Ingall STREET	Metal Industry	Under assessment	-32.89008485	151.752949
MAYFIELD WEST	Stevenson Park landfill	2/559 Maitland ROAD	Landfill	Regulation under CLM Act not required	-32.88472556	151.7224791
MAYFIELD WEST	Koppers Coal Tar	East of Woodstock Street and Tourle STREET	Other Industry	Contamination currently regulated under CLM Act	-32.88554791	151.7368545
MAYFIELD WEST	Tourle Street Bridge Project	Tourle STREET	Landfill	Regulation under CLM Act not required	-32.88075518	151.7330073
MCDUGALLS HILL	Caltex Service Station	4949 New England HIGHWAY	Service Station	Regulation under CLM Act not required	-32.54484714	151.1490757
MEADOWBANK	Former Council Works Depot	2 Parsonage STREET	Unclassified	Regulation under CLM Act not required	-33.82191421	151.0951974
MENAI	7-Eleven (Former Mobil) Service Station Menai	289 Menai ROAD	Service Station	Regulation under CLM Act not required	-34.01579095	151.0131737
MENAI	Caltex Service Station Menai	1 Carter Road ROAD	Service Station	Regulation under CLM Act not required	-34.01654043	151.0124133
MEREWETHER	Merewether Childcare Centre	2/23 Caldwell STREET	Unclassified	Regulation under CLM Act not required	-32.94249653	151.7504279
MERIMBULA	Caltex Service Station	19-25 Merimbula DRIVE	Service Station	Regulation under CLM Act not required	-36.88757881	149.9089159
MERIMBULA	Former Mobil Service Station	27 Market STREET	Service Station	Regulation under CLM Act not required	-36.88941693	149.9103485
MERRYLANDS	Former Timber Yard and Hardware	11-19 Centenary ROAD	Other Petroleum	Regulation under CLM Act not required	-33.83083025	150.9698915
MERRYLANDS	Caltex Service Station	229 Woodville ROAD	Service Station	Regulation under CLM Act not required	-33.84547463	150.9983413

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MERRYLANDS	Caltex Service Station Merrylands	148 Woodville ROAD	Service Station	Regulation under CLM Act not required	-33.83818499	150.9997199
MERRYLANDS	Stockland Merrylands Court	249-259 Merrylands ROAD	Service Station	Regulation under CLM Act not required	-33.83560037	150.9869735
MERRYLANDS	7-Eleven Merrylands Service Station	295-297 Merrylands Road, corner Windsor ROAD	Service Station	Regulation under CLM Act not required	-33.83533205	150.9851801
MERRYLANDS	Former Stockfeed Manufacturing Site	1-7 & 9-11 Neil STREET	Other Petroleum	Regulation under CLM Act not required	-33.83390257	150.9947449
MERRYLANDS WEST	Former Mobil Service Station	3 Centenary ROAD	Service Station	Regulation under CLM Act not required	-33.83214226	150.9698958
MILLER	Caltex Service Station	86 Cartwright AVENUE	Service Station	Regulation under CLM Act not required	-33.91878146	150.8827514
MILLERS FOREST	Chichester Trunk Gravity Main	water pipeline	Other Industry	Contamination currently regulated under POEO Act	-32.772877	151.6826841
MILLERS POINT	Former AGL Gasworks	30 - 34 Hickson ROAD	Gasworks	Regulation under CLM Act not required	-33.86179594	151.2031726
MILLERS POINT	Moores Wharf UPSS	4 Towns PLACE	Other Petroleum	Regulation under CLM Act not required	-33.85581123	151.2024759
MILLERS POINT	Former AGL Gasworks	38 Hickson and road reserve ROAD	Gasworks	Contamination being managed via the planning process (EP&A Act)	-33.86280104	151.2032452
MILLERS POINT	Former AGL Gasworks	Berths 5, 6 and 7 (already demolished) and part Hickson ROAD	Gasworks	Contamination currently regulated under CLM Act	-33.86053571	151.2015022
MILLERS POINT	Former AGL Gasworks	Road reserve fronting 30-38 Hickson ROAD	Gasworks	Contamination currently regulated under CLM Act	-33.86241531	151.2024634
MILLERS POINT	Former AGL Gasworks 36 Hickson Road	36 Hickson ROAD	Gasworks	Contamination formerly regulated under the CLM Act	-33.86243824	151.2032514
MILPERRA	Heatcraft Australia Pty Ltd	286 Horsley ROAD	Other Industry	Regulation under CLM Act not required	-33.94031556	150.9958606
MILPERRA	United Group Rail Pty Limited	373 Horsley ROAD	Landfill	Regulation under CLM Act not required	-33.93286283	150.9934071

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MILPERRA	Caltex Service Station	264 Milperra ROAD	Service Station	Regulation under CLM Act not required	-33.93018101	150.9910964
MILPERRA	Former Landfill	479 Henry Lawson DRIVE	Landfill	Regulation under CLM Act not required	-33.933968	150.977629
MILTON	Former Sanitary Depot	Slaughterhouse ROAD	Other Industry	Regulation under CLM Act not required	-35.33819825	150.4471917
MILTON	Caltex Milton Service Station and Depot	331 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-35.33154474	150.4492852
MINCHINBURY	7-Eleven (former Mobil) Service Station	815 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.78812909	150.8495992
MINCHINBURY	BP Service Station	1055 Great Western Highway corner Archbold ROAD	Service Station	Regulation under CLM Act not required	-33.78211857	150.8244185
MINTO	Land adjacent to Former Shell depot	Airds Road and Essex STREET	Other Petroleum	Regulation under CLM Act not required	-34.02140447	150.8415134
MINTO	Shell Coles Express Service Station	73 Pembroke STREET	Service Station	Regulation under CLM Act not required	-34.02316454	150.8503118
MINTO	Former Endeavour Energy Depot	Pembroke ROAD	Other Petroleum	Regulation under CLM Act not required	-34.0408973	150.8451837
MINTO	Logistics Hub - Culverston Road, Minto	Culverston ROAD	Other Petroleum	Regulation under CLM Act not required	-34.0421711	150.833825
MIRANDA	Woolworth's Service Station	455 Kingsway OTHER	Service Station	Contamination currently regulated under CLM Act	-34.03492814	151.1124681
MITTAGONG	Enhance (former Coles Express) Service Station	224 Old Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-34.44746118	150.4326183
MITTAGONG	Lots 1 and 2 Alfred St.	Alfred STREET	Other Petroleum	Contamination formerly regulated under the CLM Act	-34.44738105	150.4565159
MITTAGONG	Caltex Mittagong Service Station	65 Bowral ROAD	Service Station	Regulation under CLM Act not required	-34.45245915	150.4381291
MOAMA	Caltex Moama Service Station	73 Meninya (Cnr Regent St) STREET	Service Station	Regulation under CLM Act not required	-36.10815134	144.752849

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MO LONG	Cabonne BP Service Station	2 Gidley STREET	Service Station	Contamination currently regulated under CLM Act	-33.09026307	148.8695809
MO LONG	Former Gasworks	Hill STREET	Gasworks	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.09074595	148.8703262
MONA VALE	Mona Vale Bus Depot	58 Darley STREET	Other Petroleum	Contamination currently regulated under CLM Act	-33.67452414	151.3074246
MONA VALE	Former Caltex service station and adjacent properties	79 Barrenjoey Road, 2 Polo Avenue, 6 Polo Avenue, 45 Bassett STREET	Service Station	Contamination formerly regulated under the CLM Act	-33.6743659	151.3096932
MONA VALE	7-Eleven (former Mobil) Service Station	24 Barrenjoey ROAD	Service Station	Regulation under CLM Act not required	-33.676909	151.3082515
MONA VALE	BP Peninsula Express Service Station	Corner Barrenjoey Road and Darley Street East STREET	Service Station	Regulation under CLM Act not required	-33.67670799	151.3090068
MONA VALE	BP Service Station Mona Vale	1721 Pittwater ROAD	Service Station	Regulation under CLM Act not required	-33.68043443	151.3023553
MONA VALE	Caltex Investigation Area	Polo Ave, Perak STREET	Service Station	Contamination formerly regulated under the CLM Act	-33.67431333	151.3091148
MOOBALL	Mooball General Store	5913 Tweed Valley WAY	Service Station	Regulation under CLM Act not required	-28.44204594	153.4887648
MOONBI	Caltex Moonbi Service Station	New England HIGHWAY	Service Station	Regulation under CLM Act not required	-31.02264369	151.069094
MOORE PARK	Area 2, Moore Park	Driver AVENUE	Unclassified	Regulation under CLM Act not required	-33.89426868	151.2226839
MOOREBANK	Caltex Service Station	216 Newbridge ROAD	Service Station	Regulation under CLM Act not required	-33.92930835	150.9551469
MOOREBANK	Joyce Foam Products	5-9 Bridges ROAD	Chemical Industry	Regulation under CLM Act not required	-33.92596302	150.9335273
MOOREBANK	ABB Australia Pty Ltd	(a) 1 Bapaume ROAD	Other Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.94143741	150.9208754
MOOREBANK	Caltex Service Station Moorebank	2 Bridges ROAD	Service Station	Regulation under CLM Act not required	-33.92839682	150.9327012

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MOOREBANK	Former Concrete Recyclers property, Newbridge Road, Moorebank	Newbridge ROAD	Landfill	Contamination being managed via the planning process (EP&A Act)	-33.938825	150.965169
MOORLAND	Caltex Service Station	99 Jericho ROAD	Service Station	Regulation under CLM Act not required	-31.79436622	152.6514849
MOREE	Former Freedom Service Station Site Moree	1 Dover STREET	Service Station	Contamination currently regulated under CLM Act	-29.4715814	149.8440279
MOREE	Caltex Depot	101 Gosport STREET	Other Petroleum	Regulation under CLM Act not required	-29.47603684	149.8476728
MOREE	Former Golden Fleece Depot	Gosport STREET	Other Petroleum	Contamination formerly regulated under the CLM Act	-29.47698315	149.8477108
MOREE	Former Mobil Depot	Gosport STREET	Other Petroleum	Contamination formerly regulated under the CLM Act	-29.47771921	149.8478438
MOREE	Moree Airport Evaporation Pond	Newell HIGHWAY	Unclassified	Regulation under CLM Act not required	-29.50289837	149.8411301
MOREE	Caltex Service Station	54 Alice STREET	Service Station	Contamination currently regulated under CLM Act	-29.47158492	149.8433182
MOREE	Former Shell Depot	Adelaide STREET	Other Petroleum	Contamination formerly regulated under the CLM Act	-29.47655335	149.8465698
MOREE	Shell Coles Express Service Station	Corner Gwydir and Balo STREET	Service Station	Regulation under CLM Act not required	-29.46081826	149.8419975
MOREE	BP Truckstop and Depot Moree	Newell Highway - 423 Frome STREET	Service Station	Regulation under CLM Act not required	-29.48223274	149.8463679
MOREE	Sunnyside Road	Sunnyside ROAD	Unclassified	Regulation under CLM Act not required	-29.456633	149.8225
MORISSET	Railcorp Station Masters Cottage	24 Dora STREET	Unclassified	Regulation under CLM Act not required	-33.10849681	151.4880317
MORISSET	Morisset High School	Bridge STREET	Unclassified	Regulation under CLM Act not required	-33.10475221	151.4866482
MORPETH	Telstra Cable Installation and RTA Bridge work	Northumberland STREET	Other Petroleum	Regulation under CLM Act not required	-32.72489729	151.6266795

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MORPETH	Former Service Station	Swan STREET	Service Station	Regulation under CLM Act not required	-32.72477413	151.6250642
MORTLAKE	Former Petroleum Storage Site	108-116 Tennyson ROAD	Other Petroleum	Regulation under CLM Act not required	-33.83979033	151.1064889
MORTLAKE	Kendall Bay Sediments	Kendall BAY	Gasworks	Contamination currently regulated under CLM Act	-33.83905999	151.1120458
MORTLAKE	Former AGL site	Tennyson ROAD	Gasworks	Contamination formerly regulated under the CLM Act	-33.84287407	151.1109313
MORTLAKE	Majors Bay Redevelopment	14-22 Hilly STREET	Other Industry	Regulation under CLM Act not required	-33.839553	151.105554
MORUYA	Former Fuel Depot Moruya	11 to 13 Ford STREET	Other Petroleum	Regulation under CLM Act not required	-35.9112243	150.0826475
MORUYA	Caltex Service Station Moruya	80-84 Campbell STREET	Service Station	Regulation under CLM Act not required	-35.91195596	150.0824213
MORUYA	Caltex Service Station	26 Campbell STREET	Service Station	Regulation under CLM Act not required	-35.9104985	150.0711419
MOSMAN	7-Eleven Mosman	162A Spit Road Corner Mitchell ROAD	Service Station	Regulation under CLM Act not required	-33.81747016	151.2433633
MOSMAN	BP Service Station	175 Ourimbah ROAD	Service Station	Regulation under CLM Act not required	-33.82106757	151.233291
MOSMAN	7-Eleven Service Station Mosman	45 Spit ROAD	Service Station	Regulation under CLM Act not required	-33.82302718	151.2435627
MOSMAN	Allan Border Oval	Myahgah ROAD	Landfill	Regulation under CLM Act not required	-33.82685	151.241919
MOSS VALE	Woolworths Service Station Moss Vale	609 Argyle STREET	Service Station	Regulation under CLM Act not required	-34.55409411	150.3609797
MOSS VALE	Coles Express Service Station	579 Argyle STREET	Service Station	Regulation under CLM Act not required	-34.55313422	150.364684
MOSS VALE	Moss Vale Refuelling Facility	Lackey ROAD	Other Petroleum	Regulation under CLM Act not required	-34.54662421	150.3721525

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MOUNT ANNAN	Woolworths Caltex Mount Annan	157 Narellan (Corner Smeaton Grange Road) ROAD	Service Station	Regulation under CLM Act not required	-34.04685527	150.7610434
MOUNT ANNAN	Great Southern Railways Aqueduct	Off Narellan ROAD	Unclassified	Regulation under CLM Act not required	-34.07308479	150.7707436
MOUNT COLAH	Caltex Service Station Mount Colah	603 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.67034662	151.1151861
MOUNT COLAH	Foxglove Oval	Foxglove ROAD	Landfill	Contamination currently regulated under CLM Act	-33.65829855	151.1229638
MOUNT DRUITT	Caltex (former Mobil) Service Station	17 Mount STREET	Service Station	Regulation under CLM Act not required	-33.76567994	150.8244544
MOUNT HUTTON	Woolworths Service Station	46 Wilsons ROAD	Service Station	Regulation under CLM Act not required	-32.9836378	151.67309
MOUNT PRITCHARD	7-Eleven Service Station	352 Elizabeth DRIVE	Service Station	Regulation under CLM Act not required	-33.90260656	150.8963326
MOUNT THORLEY	Bulga Surface Operations	Broke ROAD	Other Industry	Regulation under CLM Act not required	-32.68325751	151.1206158
MOUNT THORLEY	Lowes Petroleum (Former BP) Depot Mount Thorley	74 Mount Thorley ROAD	Other Petroleum	Regulation under CLM Act not required	-32.62443074	151.1025122
MOUNT VICTORIA	Former Mobil Service Station	81 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.5889727	150.2511783
MOUNT VICTORIA	Caltex Service Station	36a Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.58436517	150.2465528
MUDGEE	Caltex Service Station	114-116 Church STREET	Service Station	Regulation under CLM Act not required	-32.59428029	149.5876199
MUDGEE	Shell Coles Express Service Station	47 Church STREET	Service Station	Regulation under CLM Act not required	-32.59347493	149.5884623
MUDGEE	BP Service Station Mudgee	77 Church STREET	Service Station	Regulation under CLM Act not required	-32.59545872	149.588123
MUDGEE	Mobil Depot	47 Douro STREET	Other Petroleum	Contamination currently regulated under CLM Act	-32.60023979	149.5823448

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MUDGEE	Mudgee Gasworks	Mortimer Street and Court STREET	Gasworks	Regulation under CLM Act not required	-32.59168859	149.5817705
MUDGEE	Former Essential Energy Depot	27-31 Inglis STREET	Other Industry	Regulation under CLM Act not required	-32.60076552	149.5858905
MUDGEE	Former Caltex Depot Mudgee	cnr Nicholson Street & Atkinson STREET	Other Petroleum	Regulation under CLM Act not required	-32.60125298	149.5851398
MULGRAVE	7-Eleven (former Mobil) Service Station	Corner Windsor Road and Mulgrave ROAD	Service Station	Regulation under CLM Act not required	-33.61687781	150.8341809
MULWALA	Mulwala ADI Explosives Factory	Bayly STREET	Other Industry	Under assessment	-35.97572689	145.9809786
MURWILLUMBAH	Puma Murwillumbah (formerly Matilda)	182 Tweed Valley WAY	Service Station	Contamination currently regulated under CLM Act	-28.3263681	153.4103824
MURWILLUMBAH	Murwillumbah Ambulance Depot	27 Queen STREET	Other Petroleum	Regulation under CLM Act not required	-28.32552576	153.4000182
MURWILLUMBAH SOUTH	Former Norco Butter Factory (Eastern Portion)	230 Tweed Valley WAY	Other Petroleum	Regulation under CLM Act not required	-28.32791359	153.4073052
MUSWELLBROOK	Former Caltex Depot	1 Lower William STREET	Other Petroleum	Regulation under CLM Act not required	-32.26614257	150.8865136
MUSWELLBROOK	Vacant Rail Land	27 Brook STREET	Unclassified	Regulation under CLM Act not required	-32.26346086	150.8873181
MUSWELLBROOK	United Branded (Former Mobil) Service Station Muswellbrook	49-51 Maitland STREET	Service Station	Regulation under CLM Act not required	-32.27218162	150.8900206
MUSWELLBROOK	Former Mobil Depot Muswellbrook	43-51 Ford STREET	Other Petroleum	Regulation under CLM Act not required	-32.2599725	150.887573
MUSWELLBROOK	Woolworths Petrol	72 Brook STREET	Service Station	Regulation under CLM Act not required	-32.26325377	150.8905966
MUSWELLBROOK	Caltex Muswellbrook Service Station	84-86 Maitland STREET	Service Station	Regulation under CLM Act not required	-32.27793094	150.8980938
MUSWELLBROOK	Former Gasworks	Corner Carl Street and Foley STREET	Gasworks	Regulation under CLM Act not required	-32.26672337	150.8935982

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MUSWELLBROOK	Bayswater Power Station	New England HIGHWAY	Other Industry	Regulation under CLM Act not required	-32.3954046	150.9502683
MUSWELLBROOK	Former Industrial Site	Lot 89 Rathmore STREET	Other Industry	Regulation under CLM Act not required	-32.30544071	150.8823657
MUSWELLBROOK	Caltex Service Station	12-16 Sydney STREET	Service Station	Regulation under CLM Act not required	-32.26785559	150.8879601
MUSWELLBROOK	Former Caltex Depot	47-50 Victoria STREET	Service Station	Regulation under CLM Act not required	-32.26788823	150.8930609
MUSWELLBROOK	Former Pit Top No. 1 Colliery Muswellbrook Coal	Corner Clendinning Street and Victoria STREET	Other Industry	Regulation under CLM Act not required	-32.27031992	150.9009981
NABIAC	Caltex Service Station Nabiac	3964 Wallanbah (Cnr Wallanbah Rd and Pacific Hwy) ROAD	Service Station	Regulation under CLM Act not required	-32.09864883	152.3754346
NAMBUCCA HEADS	Former Mobil Service Station	6 Bowra STREET	Service Station	Regulation under CLM Act not required	-30.64282127	153.0035884
NARELLAN	Caltex Service Station Narellan	1 George Hunter DRIVE	Service Station	Regulation under CLM Act not required	-34.03963992	150.7432386
NARELLAN	Former Landfill	1 Elyard STREET	Landfill	Regulation under CLM Act not required	-34.043474	150.7393256
NAROOMA	Narooma Service Station	60 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-36.21617955	150.126261
NAROOMA	Former Caltex - Narooma	82 Princes HIGHWAY	Service Station	Contamination formerly regulated under the CLM Act	-36.21711766	150.1279305
NARRABEEN	Caltex Service Station	1509-1511 Pittwater ROAD	Service Station	Regulation under CLM Act not required	-33.70455756	151.2969352
NARRABEEN	Shell Coles Express Service Station	1418 Pittwater ROAD	Service Station	Regulation under CLM Act not required	-33.70013931	151.3002782
NARRABEEN	Narrabeen Shotgun Range Sydney Academy of Sport	Wakehurst PARKWAY	Unclassified	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.72138423	151.2642798
NARRABEEN	7-Eleven Service Station	1234 Pittwater ROAD	Service Station	Regulation under CLM Act not required	-33.71958892	151.298272

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
NARRABRI	Caltex Service Station	13 Doyle STREET	Service Station	Regulation under CLM Act not required	-30.3239182	149.7843052
NARRABRI	Lowes Petroleum (Former Mobil) Narrabri Depot	3 Old Gunnedah ROAD	Other Petroleum	Regulation under CLM Act not required	-30.33473586	149.789587
NARRABRI	Caltex Service Station	31-35 Cooma ROAD	Service Station	Regulation under CLM Act not required	-30.33968576	149.7657241
NARRABRI	Caltex Narrabri Service Station	31 Dangar (Cnr Anne and Dangar) STREET	Service Station	Regulation under CLM Act not required	-30.32989667	149.7756598
NARRABRI	Caltex Service Station	12 Reid STREET	Other Petroleum	Regulation under CLM Act not required	-30.32282764	149.7901182
NARRABRI	Cargill Soapstock Disposal Site	Westport ROAD	Unclassified	Contamination formerly regulated under the CLM Act	-30.4698458	149.6981931
NARRABRI	Caltex Service Station	7-13 James STREET	Service Station	Regulation under CLM Act not required	-30.33016168	149.7940732
NARRANDERA	Former Mobil Narrandera Depot	24 Whitton STREET	Other Petroleum	Regulation under CLM Act not required	-34.7410523	146.5620667
NARRANDERA	Former Mobil Emoleum Narrandera Depot	5-7 Margaret STREET	Other Petroleum	Regulation under CLM Act not required	-34.74105391	146.5628144
NARROMINE	Narromine Fuel (Former Caltex) Service Station	Cnr Burraway Street and Algalah STREET	Service Station	Regulation under CLM Act not required	-32.23565321	148.2454259
NELLIGEN	Former Clay Target Shooting Range	1398 Kings Highway and adjoining land on Old Bolaro Mountain ROAD	Unclassified	Contamination currently regulated under CLM Act	-35.64392469	150.0955224
NELLIGEN	Lot 2 Old Bolaro Road	Old Bolaro ROAD	Unclassified	Contamination formerly regulated under the CLM Act	-35.64485609	150.0937341
NELSON BAY	Shell Coles Express Service Station	25 Stockton STREET	Service Station	Regulation under CLM Act not required	-32.72265762	152.1437317
NELSON BAY	Former Caltex Service Station Nelson Bay	38 Stockton STREET	Service Station	Regulation under CLM Act not required	-32.72335662	152.1429384
NEMINGHA	Caltex Service Station and Depot Nemingha	428 Armidale (previously 16 New England Highway) ROAD	Service Station	Regulation under CLM Act not required	-31.12425169	150.9909054

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
NEUTRAL BAY	Caltex Service Station	16-38 Military ROAD	Service Station	Regulation under CLM Act not required	-33.82907162	151.2163342
NEUTRAL BAY	Shell Coles Express Service Station	200-204 Ben Boyd ROAD	Service Station	Regulation under CLM Act not required	-33.82915781	151.219437
NEW LAMBTON	Caltex Service Station New Lambton	144 Bridges ROAD	Service Station	Regulation under CLM Act not required	-32.93283668	151.7141748
NEW LAMBTON	BP Service Station	105 St James ROAD	Service Station	Regulation under CLM Act not required	-32.92910325	151.7155801
NEW LAMBTON	7-Eleven (former Mobil) Service Station	291 Turton ROAD	Service Station	Regulation under CLM Act not required	-32.91773864	151.7243096
NEWCASTLE	Reclaimed Land	26-28 Honeysuckle DRIVE	Unclassified	Contamination formerly regulated under the CLM Act	-32.92604705	151.7649508
NEWCASTLE	Wharf Road Newcastle Car Park	313-317 Wharf ROAD	Unclassified	Regulation under CLM Act not required	-32.92570385	151.7744076
NEWCASTLE	Newcastle Foreshore	40 Stevenson Place STREET	Other Industry	Regulation under CLM Act not required	-32.92556503	151.7876742
NEWCASTLE	BHP Steelworks (Closure site)	Bound by Hunter River, Selwyn Street & Industrial DRIVE	Metal Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-32.89436064	151.7590762
NEWCASTLE	SRA Land	Scott STREET	Gasworks	Regulation under CLM Act not required	-32.92641425	151.7837817
NEWCASTLE WEST	Former Mobil Service Station	113 Parry STREET	Service Station	Regulation under CLM Act not required	-32.92560628	151.7558542
NEWPORT	7-Eleven (former Mobil) Service Station	307 Barrenjoey ROAD	Service Station	Regulation under CLM Act not required	-33.65632902	151.3182089
NEWPORT	Former Caltex Service Station Newport	316-324 Barrenjoey ROAD	Service Station	Regulation under CLM Act not required	-33.65634516	151.3191571
NEWTOWN	Caltex Service Station Newtown	26 - 36 Enmore ROAD	Service Station	Regulation under CLM Act not required	-33.89851331	151.17714
NEWTOWN	Former Service Station	81 Wilson STREET	Service Station	Contamination formerly regulated under the CLM Act	-33.89626791	151.1827556

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
NEWTOWN	Aluminium Enterprises	66 Brocks LANE	Metal Industry	Contamination was addressed via the planning process (EP&A Act)	-33.89467126	151.1847528
NEWTOWN	Adjacent to Former Service Station	79 Wilson STREET	Service Station	Contamination formerly regulated under the CLM Act	-33.89630155	151.1826567
NORAVILLE	Former Toukley Landfill	Wilfred Barrett DRIVE	Landfill	Regulation under CLM Act not required	-33.27734185	151.5537784
NORTH ALBURY	Caltex Service Station and Diesel Stop	79 Union ROAD	Service Station	Regulation under CLM Act not required	-36.05496713	146.9487635
NORTH BOAMBEE VALLEY	Caltex Service Station	Cnr Pacific Hwy & Halls ROAD	Service Station	Regulation under CLM Act not required	-30.30639482	153.1007996
NORTH BONDI	Caltex Service Station North Bondi	321 Old South Head ROAD	Service Station	Regulation under CLM Act not required	-33.88463526	151.268551
NORTH NARRABEEN	7-Eleven Service Station	1501-1503 Pittwater ROAD	Service Station	Regulation under CLM Act not required	-33.70749859	151.296351
NORTH RICHMOND	Caltex Service Station	50 Bells Line Of ROAD	Service Station	Regulation under CLM Act not required	-33.57991338	150.7202346
NORTH ROCKS	7-Eleven Service Station North Rocks	340 North Rocks ROAD	Service Station	Regulation under CLM Act not required	-33.76895144	151.0305952
NORTH ST MARYS	BP Service Station	76 Glossop STREET	Service Station	Regulation under CLM Act not required	-33.76020183	150.7818149
NORTH STRATHFIELD	Budget Service Station	143 Concord ROAD	Service Station	Regulation under CLM Act not required	-33.85945248	151.0927853
NORTH STRATHFIELD	Former Caltex Service Station	92a Concord ROAD	Service Station	Regulation under CLM Act not required	-33.86244297	151.0932434
NORTH SYDNEY	Iora Complex	1 Kiara PLACE	Gasworks	Regulation under CLM Act not required	-33.843145	151.2161142
NORTH SYDNEY	Neutral Bay Sediments	Adjacent to Sub Base Platypus, High STREET	Gasworks	Contamination formerly regulated under the CLM Act	-33.842724	151.2174523
NORTH SYDNEY	Sub Base Platypus (previously HMAS Platypus)	High STREET	Gasworks	Contamination formerly regulated under the CLM Act	-33.84325935	151.2170347

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
NORTH WOLLONGONG	Former Mobil Depot	122-126 Montague STREET	Other Petroleum	Regulation under CLM Act not required	-34.40988259	150.8939374
NORTHMEAD	Former Prestige Plastics	1C Redbank ROAD	Other Industry	Regulation under CLM Act not required	-33.79716925	150.989926
NORTHMEAD	Coles Express Service Station Northmead	197 Windsor ROAD	Service Station	Regulation under CLM Act not required	-33.77741733	151.0001719
NORTHMEAD	Sydney Water Land	51c Hammers ROAD	Landfill	Regulation under CLM Act not required	-33.7887535	150.9858088
NORTHMEAD	Caltex Service Station	98-100 Windsor ROAD	Service Station	Regulation under CLM Act not required	-33.78786563	150.9945909
NORTHMEAD	7-Eleven Service Station Northmead	56 Windsor ROAD	Service Station	Regulation under CLM Act not required	-33.79090731	150.9967332
NOWRA	Former Gasworks Managers Residence	24 Osborne STREET	Gasworks	Regulation under CLM Act not required	-34.8708875	150.5992586
NOWRA	Fire Station	69 Bridge ROAD	Gasworks	Regulation under CLM Act not required	-34.87081582	150.6004881
NOWRA	Historically Filled Land	70 Bridge ROAD	Unclassified	Regulation under CLM Act not required	-34.87081809	150.6013231
NOWRA	Shell Coles Express Service Station	55 Kinghorne STREET	Service Station	Regulation under CLM Act not required	-34.87633757	150.6023481
NOWRA	Former gasworks	Lamonds LANE	Gasworks	Contamination currently regulated under CLM Act	-34.87111182	150.6000803
NOWRA	Former Hollingworth Scrap Yard	72-74 Jervis and 117 East STREET	Other Industry	Regulation under CLM Act not required	-34.88324216	150.6034361
NOWRA	Woolworths Service Station	60 North Street STREET	Service Station	Under assessment	-34.87266278	150.6014052
NOWRA	Harry Sawkins Park	Bounded by Princes Hwy, Graham St & McGrath AVENUE	Gasworks	Regulation under CLM Act not required	-34.87093993	150.6037157
NOWRA EAST	Mobil Service Station	Lot 3 Kalandar STREET	Service Station	Contamination formerly regulated under the CLM Act	-34.88850535	150.6093504

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
NYNGAN	Caltex Service Station	39-41 Pangee STREET	Service Station	Regulation under CLM Act not required	-31.56101006	147.1914997
NYNGAN	Caltex Service Station	126 Pangee STREET	Service Station	Regulation under CLM Act not required	-31.56482841	147.2002892
OAK FLATS	Shellharbour City Works Depot	132 Industrial ROAD	Other Industry	Regulation under CLM Act not required	-34.56546013	150.8087225
OBERON	Caltex Service Station and Depot	Lowes Mount ROAD	Service Station	Regulation under CLM Act not required	-33.69509055	149.8570553
OBERON	Oberon Timber Complex	Lowes Mount ROAD	Other Industry	Regulation under CLM Act not required	-33.69264862	149.8564588
OBERON	Former Shell Depot	32 O'Connell ROAD	Other Petroleum	Regulation under CLM Act not required	-33.6997172	149.8450057
OBERON	CSR Ltd Property and King's Stockyard Creek	Off Endeavour STREET	Other Industry	Contamination formerly regulated under the CLM Act	-33.6922152	149.8686909
OCEAN SHORES	Former Ocean Shores Service Station	Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-28.51270299	153.5301496
OLD GUILDFORD	Caltex Service Station	636-644 Woodville ROAD	Service Station	Regulation under CLM Act not required	-33.86670857	150.9879189
ORANGE	Former Fuel Depot	24-28 Peisley STREET	Other Petroleum	Contamination currently regulated under CLM Act	-33.29624293	149.1017277
ORANGE	Caltex Orange Depot	184 Byng STREET	Service Station	Regulation under CLM Act not required	-33.28285589	149.1050273
ORANGE	Woolworths Orange Service Station	357-361 Summer Street, corner William STREET	Service Station	Regulation under CLM Act not required	-33.28445811	149.1053604
ORANGE	BP Orange Service Station (Reliance Petroleum)	81 Summer STREET	Service Station	Regulation under CLM Act not required	-33.2825884	149.0951535
ORANGE	BP-Branded Lowes Petroleum Depot	197 - 201 Margaret STREET	Other Petroleum	Regulation under CLM Act not required	-33.27145977	149.1078103
ORANGE	Caltex Summer Street Service Station Orange	70-74 Summer Street, corner Hill STREET	Service Station	Regulation under CLM Act not required	-33.28311722	149.0940712

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
ORANGE	Lowes Petroleum (BP-branded) Service Station	76 Peisley STREET	Service Station	Regulation under CLM Act not required	-33.29025034	149.1027194
ORANGE	Former Mobil Service Station	24-28 Bathurst ROAD	Service Station	Regulation under CLM Act not required	-33.2866912	149.1066505
ORANGE	BP (Reliance Petroleum) Service Station Orange	56-60 Bathurst ROAD	Service Station	Regulation under CLM Act not required	-33.28980053	149.1086212
ORANGE	Former Mobil Service Station	168 Peisley STREET	Service Station	Regulation under CLM Act not required	-33.28525478	149.1037259
ORANGE	5-7 Edward St Orange	5-7 Edward STREET	Other Industry	Contamination currently regulated under CLM Act	-33.29874849	149.1038449
OURIMBAH	Palmdale Service Centre Pty Ltd	3130 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.3381336	151.374586
OURIMBAH	United Ourimbah	51 Pacific HIGHWAY	Service Station	Under assessment	-33.36026	151.369385
OURIMBAH	Shell Coles Express Service Station	78-80 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.3468202	151.3710098
OXLEY VALE	Hayes Transport Services	10 Manilla ROAD	Other Petroleum	Regulation under CLM Act not required	-31.06991417	150.9101381
OYSTER BAY	Shell Coles Express Service Station	20 Carvers ROAD	Service Station	Contamination currently regulated under CLM Act	-34.00934475	151.0758626
OYSTER COVE	Cove Marine Pty Ltd	60 Frederick STREET	Unclassified	Contamination currently regulated under POEO Act	-32.73549959	151.952446
PADDINGTON	7-Eleven Service Station	59 Oxford STREET	Service Station	Contamination currently regulated under CLM Act	-33.88322921	151.2205024
PADDINGTON	Former Workshop	52 Hopewell STREET	Other Industry	Regulation under CLM Act not required	-33.881947	151.222074
PADSTOW	Caltex Padstow	115 Fairford ROAD	Service Station	Regulation under CLM Act not required	-33.9434571	151.0345671
PADSTOW	Selleys / Dulux	1-29 Gow STREET	Chemical Industry	Regulation under CLM Act not required	-33.93904125	151.0381725

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
PADSTOW	Former Exide Battery Manufacturing & Recycling	55 Bryant STREET	Other Industry	Contamination currently regulated under CLM Act	-33.94265241	151.0378986
PADSTOW	Galvatech	49 Gow STREET	Metal Industry	Contamination currently regulated under POEO Act	-33.93808679	151.0346862
PADSTOW	Foseco Australia	7 Stuart STREET	Chemical Industry	Regulation under CLM Act not required	-33.94342957	151.0377316
PADSTOW	Sebel Furniture	Parts 64 and 92 Gow STREET	Other Industry	Regulation under CLM Act not required	-33.93606752	151.0322057
PAGEWOOD	Former Email Site	Corner of Page Street and Holloway STREET	Metal Industry	Contamination currently regulated under CLM Act	-33.94302462	151.2132036
PAMBULA	Offsite area (roadways) adjacent to United Service Station Pambula (former Shell)	Corner Quondola Street and Bullara STREET	Service Station	Regulation under CLM Act not required	-36.93104481	149.8746763
PARKES	Caltex Service Station Parkes	352-360 Clarinda STREET	Service Station	Regulation under CLM Act not required	-33.13317454	148.173643
PARKES	Former Caltex Parkes (Muginoble) Depot - Eugowra Rd, Muginoble	Eugowra ROAD	Service Station	Regulation under CLM Act not required	-33.19007031	148.224822
PARKES	BP Truckstop	(Newell Highway) 1 Forbes ROAD	Other Petroleum	Regulation under CLM Act not required	-33.14309226	148.1710282
PARKES	Former BP Telescope Service Station	339-341 Clarinda STREET	Service Station	Regulation under CLM Act not required	-33.13216152	148.1743239
PARKES	BP Reliance East End Service Station Parkes	46 Clarinda STREET	Service Station	Regulation under CLM Act not required	-33.14243539	148.1846227
PARKES	Former Parkes Gas Works (including Rail Corridor and offsite land)	1A East STREET	Gasworks	Regulation being finalised	-33.143041	148.182984
PARKLEA	Caltex Parklea Service Station	Old Windsor (north of Miami Street) ROAD	Service Station	Regulation under CLM Act not required	-33.72427108	150.9388531
PARRAMATTA	BP Service Station	435 Church STREET	Service Station	Regulation under CLM Act not required	-33.80498714	151.0056151
PARRAMATTA	Coleman Oval Embankment	Cnr of Pitt STREET and Maquarie STREET	Unclassified	Regulation under CLM Act not required	-33.80441625	150.9954841

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
PARRAMATTA	7-Eleven (former Mobil) Service Station	81 Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.80919769	151.0142894
PARRAMATTA	Parramatta Park Toilet Block Demolition	The Cresnet Toilet Block Parramatta PARK	Unclassified	Regulation under CLM Act not required	-33.81054034	150.9961968
PAUPONG	Former Timber Treatment Plant	Off Paupong ROAD	Other Industry	Regulation under CLM Act not required	-36.57657408	148.6624998
PENDLE HILL	7-Eleven Service Station	217 Wentworth AVENUE	Service Station	Regulation under CLM Act not required	-33.8017814	150.9577994
PENNANT HILLS	Shell Coles Express Pennant Hills West	386 Pennant Hills ROAD	Service Station	Contamination currently regulated under CLM Act	-33.73928611	151.0679704
PENRITH	Mirvac Industrial Site	2101 Castlereagh ROAD	Other Industry	Regulation under CLM Act not required	-33.73497514	150.6954097
PENRITH	7-Eleven (former Mobil) Service Station	212-222 Andrews ROAD	Service Station	Regulation under CLM Act not required	-33.73059678	150.6952571
PENRITH	Lowes Petroleum (Former Mobil) Depot Penrith	174 Coreen AVENUE	Other Petroleum	Regulation under CLM Act not required	-33.74484268	150.6980504
PENRITH	Caltex Service Station	Castlereagh Rd Cnr Lugard STREET	Service Station	Regulation under CLM Act not required	-33.73426843	150.6933382
PENRITH	BP Express Service Station	Corner Coreen Avenue and Castlereagh ROAD	Service Station	Regulation under CLM Act not required	-33.74385498	150.6925743
PENRITH	Crane Enfield Metals	Castlereagh ROAD	Metal Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.73734959	150.696442
PENRITH	7-Eleven Service Station Penrith	30 Henry STREET	Service Station	Regulation under CLM Act not required	-33.75408799	150.7045594
PENRITH	Caltex Penrith Service Station	153 Coreen AVENUE	Service Station	Regulation under CLM Act not required	-33.74287244	150.6927071
PENRITH	Jet 60 Dry Cleaners	Shop 3 134-138 Henry STREET	Unclassified	Regulation under CLM Act not required	-33.75231953	150.6964541
PENRITH	St Mary's Shopping Village	Charles Hackett DRIVE	Other Industry	Regulation under CLM Act not required	-33.766814	150.770363

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
PENRITH	Former Dry Cleaners	Shop 3, 134-138 Henry STREET	Other Industry	Regulation under CLM Act not required	-33.75231953	150.6964541
PENSHURST	7-Eleven Service Station	612 Forest ROAD	Service Station	Regulation under CLM Act not required	-33.96153533	151.0793525
PENSHURST	Caltex Service Station	641 King Georges ROAD	Service Station	Regulation under CLM Act not required	-33.95985335	151.0891118
PERISHER VALLEY	Perisher Centre Loading Dock	Kosciuszko ROAD	Other Petroleum	Regulation under CLM Act not required	-36.40392862	148.4111593
PERISHER VALLEY	Perisher Ski Resort	Kosciuszko ROAD	Other Petroleum	Regulation under CLM Act not required	-36.41106374	148.4005469
PETERSHAM	Fanny Durack Aquatic Centre	Station STREET	Unclassified	Regulation under CLM Act not required	-33.89194583	151.151824
PHEASANTS NEST	7-Eleven Service Station	(Southbound) Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-34.28291571	150.6394606
PHEASANTS NEST	7-Eleven (former Mobil) Service Station	(Northbound) Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-34.28303112	150.6363145
PICTON	Coles Express Picton	93-99 Argyle STREET	Service Station	Regulation under CLM Act not required	-34.16844337	150.6114236
PICTON	McDonalds	69 -71 Argyle STREET	Service Station	Regulation under CLM Act not required	-34.16711877	150.6121524
PITT TOWN	Whites Water Service	1 Canning PLACE	Other Industry	Under assessment	-33.574095	150.881258
PLUMPTON	Woolworths Service Station Plumpton (Plumpton Marketplace Shops)	260 Jersey ROAD	Service Station	Regulation under CLM Act not required	-33.74478874	150.8369408
PORT BOTANY	Vopak B	20 Friendship ROAD	Chemical Industry	Regulation under CLM Act not required	-33.97946548	151.2121752
PORT BOTANY	Vopak A	49 Friendship ROAD	Chemical Industry	Regulation under CLM Act not required	-33.97426175	151.2206228
PORT BOTANY	Terminals	45 Friendship ROAD	Chemical Industry	Regulation under CLM Act not required	-33.97609287	151.2174402

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
PORT BOTANY	Bunnerong Canal	Between Brotherson Dock and Bumborah Point ROAD	Unclassified	Regulation under CLM Act not required	-33.96798227	151.2230052
PORT BOTANY	Bulk Liquids Berth UPSS, Port Botany	Charlotte ROAD	Other Petroleum	Regulation under CLM Act not required	-33.97386329	151.2120157
PORT BOTANY	Port Operations Centre UPSS, Port Botany	Penrhyn ROAD	Other Petroleum	Regulation under CLM Act not required	-33.96803686	151.2205968
PORT BOTANY	Port Botany Railway Corridors	Friendship ROAD	Other Industry	Regulation under CLM Act not required	-33.95467008	151.2178012
PORT BOTANY	Smith Bros	4 Bumborah Point ROAD	Other Petroleum	Regulation under CLM Act not required	-33.9681757	151.2239505
PORT BOTANY	Vopak Terminals	21 Fishburn ROAD	Other Industry	Under assessment	-33.978961	151.217144
PORT KEMBLA	Coates Hire Facility (Eastern Portion)	1 Flinders STREET	Other Industry	Regulation under CLM Act not required	-34.47104817	150.89162
PORT KEMBLA	Shell Port Kembla CVRO	87-89 Flinders STREET	Other Petroleum	Regulation under CLM Act not required	-34.46964995	150.8953859
PORT KEMBLA	Darcy Road Rail Sidings	Darcy ROAD	Other Industry	Regulation under CLM Act not required	-34.47792834	150.9105503
PORT KEMBLA	No 2 Steelworks	Five Islands ROAD	Metal Industry	Regulation under CLM Act not required	-34.45965024	150.8844432
PORT KEMBLA	Port Kembla Orica	Foreshore Road and Darcy ROAD	Other Industry	Contamination currently regulated under CLM Act	-34.47773583	150.9054545
PORT KEMBLA	Port Kembla, Auszinc Metals and Alloys	Lot 2 Shellharbour ROAD	Metal Industry	Regulation under CLM Act not required	-34.49335414	150.8961205
PORT KEMBLA	South Yard Rail Sidings	Lot 3 Old Port ROAD	Unclassified	Regulation under CLM Act not required	-34.47500551	150.8951759
PORT KEMBLA	Manildra Park	Flinders STREET	Other Petroleum	Contamination formerly regulated under the CLM Act	-34.46946878	150.8935731
PORT KEMBLA	Port Kembla Copper Smelter	Military ROAD	Metal Industry	Contamination currently regulated under POEO Act	-34.4810006	150.9063426

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
PORT KEMBLA	Caltex Service Station	16 Flinders STREET	Service Station	Regulation under CLM Act not required	-34.47058088	150.8945864
PORT KEMBLA	BHP Area 21	Springhill ROAD	Metal Industry	Contamination formerly regulated under the CLM Act	-34.45244614	150.8676517
PORT KEMBLA	Port Kembla Steelworks Recycling Area	Springhill ROAD	Unclassified	Regulation under CLM Act not required	-34.45271181	150.8677127
PORT KEMBLA	Commonwealth Rolling Mills (CRM)	Old Port ROAD	Metal Industry	Regulation under CLM Act not required	-34.47476117	150.8974746
PORT KEMBLA	Port Kembla, Former Electricity Commission Site	Old Port Road/Christie Drive ROAD	Other Industry	Regulation under CLM Act not required	-34.46899143	150.8982854
PORT KEMBLA	Port Kembla Steelworks - Steelhaven	Five Islands ROAD	Other Industry	Regulation under CLM Act not required	-34.47605247	150.891144
PORT KEMBLA	Port Kembla Steelworks - No.1 Works Site	Five Islands ROAD	Metal Industry	Regulation under CLM Act not required	-34.47386606	150.8794912
PORT KEMBLA	Port Kembla Springhill Works	Springhill ROAD	Metal Industry	Regulation under CLM Act not required	-34.45905808	150.8749558
PORT MACQUARIE	Former Mobil Depot	211 Lake ROAD	Other Petroleum	Regulation under CLM Act not required	-31.44688513	152.8864499
PORT MACQUARIE	Caltex Service Station	112-114 Gordon STREET	Service Station	Regulation under CLM Act not required	-31.43491709	152.9047618
PORT MACQUARIE	Caltex Port Macquarie Service Station	29 Lord STREET	Service Station	Regulation under CLM Act not required	-31.43326436	152.9169873
PORT MACQUARIE	Coles Myer	43 John Oxley DRIVE	Service Station	Regulation under CLM Act not required	-31.45741442	152.8739626
PORT MACQUARIE	Air BP Avgas Facility	Oliver DRIVE	Other Petroleum	Regulation under CLM Act not required	-31.43227222	152.8681083
PORT MACQUARIE	Former Mobil Service Station	Corner Oxley Highway and Major Innes DRIVE	Service Station	Regulation under CLM Act not required	-31.45738931	152.873956
PORT MACQUARIE	Port Macquarie Council Depot	Koala STREET	Unclassified	Regulation under CLM Act not required	-31.45341586	152.9032764

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
PORT MACQUARIE	Shell Coles Express Port Macquarie Service Station	121 Gordon STREET	Service Station	Regulation under CLM Act not required	-31.4343131	152.9046869
PORT MACQUARIE	Caltex Service Station	92 Hastings River DRIVE	Service Station	Regulation under CLM Act not required	-31.42934052	152.8830188
PORT MACQUARIE	Caltex Service Station	12-14 Bolwarra ROAD	Service Station	Regulation under CLM Act not required	-31.45015286	152.8854769
PORT MACQUARIE	Car park	28 Hayward STREET	Other Industry	Regulation under CLM Act not required	-31.43385131	152.9072399
PORTLAND	Ivanhoe Colliery	Pipers Flat ROAD	Other Industry	Regulation under CLM Act not required	-33.36595748	150.0099577
PORTLAND	Mt Piper Power Station	350 Boulder ROAD	Other Petroleum	Regulation under CLM Act not required	-33.35581541	150.0350801
PRAIRIEWOOD	7-Eleven (former Caltex) Service Station	485-487 Smithfield ROAD	Service Station	Regulation under CLM Act not required	-33.87102509	150.9031383
PROSPECT	7-Eleven (former Mobil) Service Station Prospect	354 Flushcombe ROAD	Service Station	Regulation under CLM Act not required	-33.79541624	150.9049417
PROSPECT	Pincott's Cottage, Gate C1	Off Reservoir ROAD	Unclassified	Regulation under CLM Act not required	-33.81589773	150.9144343
PROSPECT	Gatehouse, 544 Reservoir Road	544 Reservoir ROAD	Unclassified	Regulation under CLM Act not required	-33.81049244	150.9157439
PROSPECT	Cottage 3, William Lawson Drive	William Lawson DRIVE	Unclassified	Regulation under CLM Act not required	-33.81490331	150.9149885
PUNCHBOWL	Former BP Service Station	1375 Canterbury Road, corner Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.93170424	151.0537302
PUNCHBOWL	Punchbowl Laundry	42-44 Belmore ROAD	Chemical Industry	Contamination currently regulated under CLM Act	-33.93582701	151.0562638
PUNCHBOWL	Caltex Service Station Punchbowl	1285-1289 Canterbury ROAD	Service Station	Regulation under CLM Act not required	-33.93146308	151.0596348
PUTNEY	Putney Marina	20 Waterview STREET	Other Industry	Regulation under CLM Act not required	-33.82608091	151.1003966

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
PYMBLE	Caltex Service Station	1089 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.74102977	151.1385257
PYMBLE	Shell Coles Express Service Station	21 Ryde ROAD	Service Station	Regulation under CLM Act not required	-33.75198512	151.1438115
PYMBLE	Former 3M site	950 Pacific HIGHWAY	Gasworks	Regulation under CLM Act not required	-33.75050288	151.1460578
PYMBLE	Pymble West Dry Cleaners	6 Philip MALL	Other Industry	Under preliminary investigation order	-33.76109009	151.1284329
PYRMONT	Former Council Works Depot (Fig and Wattle Depot)	14-26 Wattle STREET	Other Industry	Regulation under CLM Act not required	-33.8752655	151.1942645
QUAKERS HILL	7-Eleven (former Mobil) Service Station	83 Lalor ROAD	Service Station	Regulation under CLM Act not required	-33.72759077	150.8966764
QUAKERS HILL	BP Branded Parkway (Former Caltex) Service Station Quakers Hill	450 Quakers Hill PARKWAY	Service Station	Regulation under CLM Act not required	-33.72998613	150.9023617
QUEANBEYAN	Former Mobil Service Station	153 Uriarra ROAD	Service Station	Regulation under CLM Act not required	-35.34425514	149.2148687
QUEANBEYAN	Bill Lilley Automotive	169 Crawford STREET	Service Station	Regulation under CLM Act not required	-35.35138121	149.232486
QUEANBEYAN	Woolworths Queanbeyan Service Station	196 Crawford (Cnr Morisset St) STREET	Service Station	Regulation under CLM Act not required	-35.35163055	149.2335759
QUEANBEYAN	Caltex Queanbeyan Service Station	88 Macquoid (also known as Bungendore Rd) STREET	Service Station	Regulation under CLM Act not required	-35.34930535	149.2438607
QUEANBEYAN	Former Mobil Emoleum Depot	109-111 High STREET	Other Petroleum	Regulation under CLM Act not required	-35.3396115	149.237556
QUEANBEYAN	Former Caltex Depot	20-30 Railway STREET	Other Petroleum	Regulation under CLM Act not required	-35.34187485	149.2247277
QUEANBEYAN EAST	BP-Branded Service Station Queanbeyan	50 Yass ROAD	Service Station	Regulation under CLM Act not required	-35.34126641	149.2445103
QUEANBEYAN WEST	Caltex Service Station	Lanyon Dr Cnr Mccrae St (1 Suraci Place) STREET	Service Station	Regulation under CLM Act not required	-35.36372923	149.2067531

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
QUIRINDI	Former Mobil Depot Quirindi	4-6 Cross STREET	Other Petroleum	Regulation under CLM Act not required	-31.49903355	150.681972
QUIRINDI	Tamarang ServiCentre Quirindi	113-117 Station (also known as 119-121 Nowland) STREET	Service Station	Under assessment	-31.50179204	150.6814611
QUIRINDI	Caltex Service Station, Quirindi	199-201 George STREET	Service Station	Regulation under CLM Act not required	-31.5068778	150.6805874
RAMSGATE	Shell Coles Express Service Station	Grand Parade cnr Ramsgate ROAD	Service Station	Regulation under CLM Act not required	-33.98537988	151.1471234
RANDWICK	7-Eleven Service Station	126-130 Barker STREET	Service Station	Contamination currently regulated under CLM Act	-33.92096152	151.2355927
RANDWICK	Caltex Service Station	2 Alison ROAD	Service Station	Regulation under CLM Act not required	-33.9065752	151.2320697
RANDWICK	Metro Petroleum	345 Avoca STREET	Service Station	Regulation under CLM Act not required	-33.92544832	151.2396799
RANDWICK	Service Station, Randwick	33-37 Carrington ROAD	Service Station	Contamination currently regulated under CLM Act	-33.90655015	151.2525065
RAVENSWORTH	Ravensworth Operations Narama Mine	Lemington ROAD	Other Industry	Regulation under CLM Act not required	-32.47115903	151.0359579
RAVENSWORTH	Cumnock Colliery	Pikes Gully ROAD	Other Industry	Regulation under CLM Act not required	-32.40218281	150.9960082
RAYMOND TERRACE	Shell Coles Express Raymond Terrace	107 Adelaide (formerly Pacific Highway) STREET	Service Station	Regulation under CLM Act not required	-32.76110922	151.7492847
RAYMOND TERRACE	Caltex Service Station Raymond Terrace	136 Adelaide Street, corner Glenelg STREET	Service Station	Regulation under CLM Act not required	-32.76503842	151.7425264
RAYMOND TERRACE	Former Motor Registry	53 William STREET	Other Petroleum	Regulation under CLM Act not required	-32.76286473	151.7445839
RAYMOND TERRACE	Raymond Terrace Wastewater Treatment Works	22 Elizabeth AVENUE	Other Industry	Regulation under CLM Act not required	-32.774658	151.749978
REDFERN	BP Service Station	116 Regent STREET	Service Station	Regulation under CLM Act not required	-33.89367876	151.1995256

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
REDFERN	Former Printing Works	101a Marriott STREET	Other Industry	Regulation under CLM Act not required	-33.89512556	151.2113422
REDFERN	BP-branded Jasbe Surry Hills	411 Cleveland STREET	Service Station	Regulation under CLM Act not required	-33.89183974	151.2132466
REDFERN	Surry Hills Shopping Village	397-399 Cleveland & 2-38 Baptist STREET	Other Industry	Regulation under CLM Act not required	-33.89229521	151.2119397
REVESBY	Dorf Clark Industries	184-194 Milperra ROAD	Metal Industry	Regulation under CLM Act not required	-33.93387149	151.000553
REVESBY	Bituminous Products	33-35 Violet STREET	Chemical Industry	Contamination currently regulated under CLM Act	-33.93702092	151.0067896
REVESBY	Mirotone Pty Ltd	21 Marigold STREET	Chemical Industry	Contamination currently regulated under POEO Act	-33.93559608	151.0002207
REVESBY	Caltex Service Station Revesby	181 The River ROAD	Service Station	Regulation under CLM Act not required	-33.95573605	151.0171779
RHODES	Homebush Bay Sediments adjoining the former UCAL and Allied Feeds sites	Homebush BAY	Chemical Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.8263749	151.0839216
RHODES	Former Glad factory site	10-16 Marquet STREET	Chemical Industry	Regulation under CLM Act not required	-33.82884048	151.0848716
RHODES	Former Allied Feeds site	Walker STREET	Other Industry	Contamination was addressed via the planning process (EP&A Act)	-33.82465376	151.0870401
RHODES	Former UCAL site	Walker STREET	Chemical Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.82727505	151.0853195
RHODES	Homebush Bay sediments adjoining former Berger Paint factory	Oulton AVENUE	Chemical Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.83535308	151.083238
RICHMOND	Caltex Richmond Service Station	98 March (Cnr East Market St) STREET	Service Station	Regulation under CLM Act not required	-33.59937996	150.7514483
RIVERSTONE	Axalta Coating Systems	15-23 Melbourne ROAD	Other Industry	Regulation under CLM Act not required	-33.6636649	150.8557519
RIVERSTONE	7-Eleven Riverstone	55 Garfield ROAD	Service Station	Regulation under CLM Act not required	-33.67802232	150.8635246

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
RIVERSTONE	Woolworths Vineyard Service Station, Riverstone	1 Woodland Street, corner of Windsor ROAD	Service Station	Regulation under CLM Act not required	-33.65607641	150.8724067
RIVERSTONE	Vacant Commercial Land	88-94 Junction ROAD	Unclassified	Regulation under CLM Act not required	-33.66226398	150.8789967
RIVERWOOD	7-Eleven Riverwood	30 Bonds ROAD	Service Station	Regulation under CLM Act not required	-33.9523701	151.0583887
ROCKDALE	7-Eleven (former Mobil) Service Station	293 West Botany STREET	Service Station	Regulation under CLM Act not required	-33.94995672	151.1484667
ROCKDALE	7-Eleven Service Station	99 Railway STREET	Service Station	Regulation under CLM Act not required	-33.95247322	151.1356785
ROCKDALE	Lindsay St, Rockdale	7 Lindsay STREET	Other Industry	Under assessment	-33.95900867	151.1436466
ROOTY HILL	7-Eleven (former Mobil) Service Station	106 Rooty Hill Road South ROAD	Service Station	Regulation under CLM Act not required	-33.78036181	150.8501998
ROOTY HILL	7-Eleven (former Mobil) Service Station	1042 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.78214955	150.8287656
ROOTY HILL	Infrabuild NSW Pty Ltd (formerly OneSteel NSW Pty Ltd)	22 Kellogg ROAD	Other Industry	Under assessment	-33.76664143	150.8493465
ROSE BAY	Caltex Rose Bay Service Station	488 Old South Head ROAD	Service Station	Regulation under CLM Act not required	-33.87475145	151.2723847
ROSE BAY	Rose Bay Budget Service station	638 -646 New South Head ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.87062149	151.2677617
ROSEBERY	Autofoil P/L	2 Mentmore AVENUE	Other Industry	Regulation under CLM Act not required	-33.91121318	151.2054882
ROSEBERY	Caltex Rosebery Service Station	321 Gardeners (Cnr Macquarie St) ROAD	Service Station	Contamination currently regulated under CLM Act	-33.92302898	151.2059541
ROSEBERY	Former Industrial Site (Former Electroplating Facility)	108 Dunning AVENUE	Other Industry	Regulation under CLM Act not required	-33.91630811	151.201557
ROSEBERY	Rosebery Service Station	395 Gardeners ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.92246784	151.2024589

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
ROSEHILL	James Hardie Australia and former James Hardie lands	Devon STREET	Landfill	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.82539019	151.0339466
ROSEHILL	2 Ritchie Street, Rosehill	2 Ritchie STREET	Unclassified	Contamination formerly regulated under the CLM Act	-33.82691192	151.0154948
ROSEHILL	James Hardie Factory (former, western portion)	181 James Ruse DRIVE	Other Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.81605834	151.0238145
ROSELANDS	Roselands Shopping Centre	24 Roseland AVENUE	Service Station	Regulation under CLM Act not required	-33.93499281	151.0691284
ROSELANDS	Woolworths Caltex Petrol Service Station Roselands	218 King Georges ROAD	Service Station	Regulation under CLM Act not required	-33.93303118	151.0735036
ROSELANDS	7-Eleven (former Mobil) Service Station	91 Canary's ROAD	Service Station	Regulation under CLM Act not required	-33.93356078	151.0736274
ROSEVILLE	Mobil Service Station	2 Boundary STREET	Service Station	Regulation under CLM Act not required	-33.78769177	151.1796011
ROSEVILLE CHASE	Coles Express Roseville Chase	388 Eastern Valley WAY	Service Station	Regulation under CLM Act not required	-33.78337722	151.1973901
ROZELLE	Caltex Service Station	121 Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.86252996	151.168497
ROZELLE	7-Eleven (former Mobil) Service Station	178-180 (176-184) Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.8630268	151.1680857
ROZELLE	Kennards Rozelle	15-39 Wellington STREET	Other Petroleum	Regulation under CLM Act not required	-33.86176757	151.1686519
ROZELLE	White Bay Power Station	Robert STREET	Other Industry	Regulation under CLM Act not required	-33.86674636	151.1772204
ROZELLE	BP Service Station	Corner Darling Street and Thornton STREET	Service Station	Regulation under CLM Act not required	-33.8591647	151.1716591
RUFUS RIVER	SA Water Depot - Rufus River	Old Wentworth STREET	Other Petroleum	Regulation under CLM Act not required	-34.04191512	141.2679475
RUSHCUTTERS BAY	d'Albora Marinas	1b New Beach ROAD	Other Industry	Contamination currently regulated under POEO Act	-33.87351297	151.2345082

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RUTHERFORD	Rutherford Transpacific	11 Kyle STREET	Other Industry	Regulation under CLM Act not required	-32.71105203	151.500311
RUTHERFORD	Shell Coles Express Service Station Rutherford	118 New England HIGHWAY	Service Station	Regulation under CLM Act not required	-32.7208703	151.5394595
RUTHERFORD	Caltex Service Station	134-138 New England HIGHWAY	Service Station	Regulation under CLM Act not required	-32.7202589	151.5381526
RUTHERFORD	Transpacific Industrial Services/Nationwide Oil Pty Ltd	99 Kyle STREET	Chemical Industry	Regulation under CLM Act not required	-32.71262159	151.5013865
RYDALMERE	Caltex Service Station	309 Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.81196193	151.0371185
RYDALMERE	Mitsubishi Electric	348 Victoria ROAD	Other Industry	Contamination currently regulated under CLM Act	-33.81040138	151.0392812
RYDALMERE	Rheem Australia	1 Alan STREET	Other Industry	Contamination formerly regulated under the CLM Act	-33.81545013	151.0295476
RYDALMERE	BP Service Station	265 Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.8109483	151.0328101
RYDALMERE	Hunter Douglas	Victoria ROAD	Chemical Industry	Regulation under CLM Act not required	-33.81009112	151.0384732
RYDALMERE	United Petroleum (former 7-Eleven) Service Station Rydalmere	262-272 Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.81006724	151.032377
RYDE	Shell Coles Express Ryde	45 Lane Cove ROAD	Service Station	Regulation under CLM Act not required	-33.80726028	151.109981
RYDE	Caltex Service Station	110 Lane Cove ROAD	Service Station	Regulation under CLM Act not required	-33.80142973	151.1137925
RYDE	7-Eleven (former Mobil) Service Station	326-328 Blaxland ROAD	Service Station	Regulation under CLM Act not required	-33.80242183	151.1004278
RYDE	Ryde Bus Depot	51 - 75 Buffalo ROAD	Other Petroleum	Regulation under CLM Act not required	-33.81679771	151.1225255
SANCTUARY POINT	United Service Station, Sanctuary Point	147 Larmer AVENUE	Service Station	Regulation under CLM Act not required	-35.09918861	150.6329537

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
SANDGATE	Caltex Service Station Sandgate	162 Maitland ROAD	Service Station	Regulation under CLM Act not required	-32.86501596	151.706161
SANDGATE	North Limited Storage Handling facility	Maitland ROAD	Other Industry	Contamination formerly regulated under the CLM Act	-32.86598453	151.7012866
SANS SOUCI	7-Eleven (Former Mobil) Service Station	474 Rocky Point ROAD	Service Station	Regulation under CLM Act not required	-33.99088939	151.1333779
SANS SOUCI	BP Sans Souci	520 Rocky Point ROAD	Service Station	Contamination currently regulated under CLM Act	-33.99246353	151.1323243
SANS SOUCI	Kendall Street Reserve	Lawson Street and Kendall STREET	Landfill	Under preliminary investigation order	-33.99966431	151.13005
SANS SOUCI	Former Service Station	542-544 Rocky Point ROAD	Service Station	Contamination was addressed via the planning process (EP&A Act)	-33.99376148	151.1316131
SANS SOUCI	Former 7-Eleven Ramsgate	368 Rocky Point ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.98615125	151.1359961
SCONE	Shell Coles Express Service Station	91- 93 Kelly STREET	Service Station	Contamination currently regulated under CLM Act	-32.04715941	150.8676346
SCONE	Scone Works Depot	220 Susan STREET	Other Petroleum	Regulation under CLM Act not required	-32.04444892	150.879152
SCONE	Mobil Scone Airport Elt	8 Walter Pye AVENUE	Other Petroleum	Regulation under CLM Act not required	-32.03596733	150.8323698
SCONE	BP - Former Depot	Scone St, Guernsey St & Susan STREET	Service Station	Contamination formerly regulated under the CLM Act	-32.04599284	150.8662046
SCONE	BP Scone	23 Kelly STREET	Service Station	Under assessment	-32.040304	150.864603
SEVEN HILLS	7-Eleven (Former Mobil) Service Station Seven Hills	151 Prospect HIGHWAY	Service Station	Regulation under CLM Act not required	-33.76894646	150.9427004
SEVEN HILLS	Australia Post	3 Powers ROAD	Unclassified	Regulation under CLM Act not required	-33.77434009	150.9395495
SEVEN HILLS	Car Park (Former Brickworks / Warehouse)	1 Powers ROAD	Other Industry	Regulation under CLM Act not required	-33.77387442	150.9379787

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
SEVEN HILLS	BP-branded Jasbe Petroleum Service Station	156 Prospect HIGHWAY	Service Station	Regulation under CLM Act not required	-33.76906502	150.9414821
SEVEN HILLS	Caltex Service Station	38 Abbott ROAD	Service Station	Regulation under CLM Act not required	-33.76692649	150.9548271
SEVEN HILLS	Caltex Service Station Seven Hills	105 Station ROAD	Service Station	Regulation under CLM Act not required	-33.77435881	150.9448733
SEVEN HILLS	Former Australian Waste Oil Refineries Site	27 Powers ROAD	Other Industry	Contamination formerly regulated under the CLM Act	-33.77536127	150.9511122
SHELLY BEACH	Former Shelly Beach Landfill	Oaks AVENUE	Landfill	Regulation under CLM Act not required	-33.36700551	151.4913631
SHORTLAND	Former Astra St landfill	2 (part) & 28 (part) Astra STREET	Landfill	Contamination currently regulated under CLM Act	-32.86716222	151.6966948
SHORTLAND	Tuxford Park landfill	10 King STREET	Landfill	Regulation under CLM Act not required	-32.87721139	151.6936837
SHORTLAND	Former Lorna St landfill	8/475 Sandgate ROAD	Landfill	Regulation under CLM Act not required	-32.87888726	151.7023245
SHORTLAND	7-Eleven (Former BP) Service Station	298-302 Sandgate ROAD	Service Station	Regulation under CLM Act not required	-32.8861645	151.6953912
SILVERWATER	Former Silverwater Landfill	Carnarvon ROAD	Landfill	Contamination currently regulated under CLM Act	-33.83506394	151.033214
SILVERWATER	Vacant property	103-105 Silverwater ROAD	Other Industry	Regulation under CLM Act not required	-33.83831374	151.0472576
SILVERWATER	Storage Facility	54-58 Derby STREET	Unclassified	Under assessment	-33.83855869	151.0478649
SILVERWATER	Former Printing Facility	46-58 Derby STREET	Unclassified	Under assessment	-33.83855869	151.0478649
SILVERWATER	Silverwater Correctional Complex	Holker STREET	Landfill	Regulation under CLM Act not required	-33.82944797	151.0567486
SINGLETON	BP Service Station Singleton	53 George (Cnr Macquarie St) STREET	Other Petroleum	Regulation under CLM Act not required	-32.56182325	151.1748054

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
SINGLETON	Singleton Gasworks	55-57 John STREET	Gasworks	Contamination formerly regulated under the CLM Act	-32.56774715	151.1658188
SINGLETON	Shell Coles Express Service Station	69-73 George STREET	Service Station	Regulation under CLM Act not required	-32.56297156	151.1755215
SINGLETON	Mobil Singleton Airport Elt	74B Range ROAD	Other Petroleum	Regulation under CLM Act not required	-32.60270846	151.1944828
SINGLETON	Putty Saw Mill	(via Singleton) Putty ROAD	Other Industry	Contamination currently regulated under CLM Act	-32.99958725	150.7111684
SINGLETON	NSW Mines Rescue Services - Singleton	6 Lachlan AVENUE	Other Industry	Regulation under CLM Act not required	-32.54537821	151.156584
SMITHFIELD	Caltex Smithfield	16-18 Tait STREET	Service Station	Regulation under CLM Act not required	-33.84596441	150.9435497
SMITHFIELD	Freestones	1 Hume ROAD	Other Petroleum	Regulation under CLM Act not required	-33.83577694	150.9310112
SMITHFIELD	Liquip International	13 Hume ROAD	Other Industry	Regulation under CLM Act not required	-33.83802635	150.9319034
SMITHFIELD	Coles Express (former Mobil) Service Station	678 The Horsley Drive, corner Smithfield ROAD	Service Station	Regulation under CLM Act not required	-33.85376154	150.9400104
SMITHFIELD	Former Landfill	Little STREET	Landfill	Contamination being managed via the planning process (EP&A Act)	-33.85025253	150.9411561
SOUTH ALBURY	BP Border Service Station	Corner Ebden Street and Wodonga PLACE	Service Station	Contamination currently regulated under CLM Act	-36.08875942	146.9093882
SOUTH BOWENFELS	Shell Coles Express Service Station	Lot 1 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.50589001	150.1238487
SOUTH COOGEE	Caltex South Coogee Service Station	169-173 Malabar ROAD	Service Station	Regulation under CLM Act not required	-33.93233184	151.2574377
SOUTH GRAFTON	Shell Coles Express Service Station	91 Bent STREET	Service Station	Regulation under CLM Act not required	-29.70605829	152.9400329
SOUTH GRAFTON	Former United (former Mobil) Service Station	Corner Pacific Highway and Charles STREET	Service Station	Regulation under CLM Act not required	-29.70814828	152.9412928

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
SOUTH GRAFTON	Former Caltex Service Station	46-58 Schwinghammer STREET	Service Station	Regulation under CLM Act not required	-29.71149672	152.9453337
SOUTH GRAFTON	Former Caltex Depot South Grafton	72-82 Swallow ROAD	Other Petroleum	Regulation under CLM Act not required	-29.73168549	152.944024
SOUTH GRAFTON	Caltex Service Station	Pacific Hwy Cnr Gwyder HIGHWAY	Service Station	Regulation under CLM Act not required	-29.70739015	152.9425508
SOUTH GRANVILLE	Enhance Service Station south Granville	2 Rawson ROAD	Service Station	Regulation under CLM Act not required	-33.86366193	151.0088768
SOUTH KEMPSEY	Caltex Service Station	52 Lachlan STREET	Service Station	Regulation under CLM Act not required	-31.09361084	152.8370796
SOUTH LISMORE	North Coast Petroleum (Former Mobil) Depot Lismore	19-21 Elliot ROAD	Other Petroleum	Regulation under CLM Act not required	-28.81212046	153.2661935
SOUTH LISMORE	Former Mobil Service Station	126 - 128 Union STREET	Service Station	Regulation under CLM Act not required	-28.81242175	153.267541
SOUTH LISMORE	Caltex Service Station	237 Union STREET	Service Station	Regulation under CLM Act not required	-28.82052708	153.2648111
SOUTH LISMORE	Former Mobil Depot	26-32 Phyllis STREET	Other Petroleum	Regulation under CLM Act not required	-28.81005206	153.2660073
SOUTH MURWILLUMBAH	Former Caltex Depot	39 Lundberg DRIVE	Service Station	Regulation under CLM Act not required	-28.332622	153.4212884
SOUTH MURWILLUMBAH	Caltex Service Station	1-7 Buchanan (Cnr Tweed Valley Way) STREET	Service Station	Regulation under CLM Act not required	-28.32687988	153.4093274
SOUTH MURWILLUMBAH	Former Mobil Depot	45 Wardrop STREET	Other Petroleum	Regulation under CLM Act not required	-28.33421395	153.3993772
SOUTH NOWRA	Caltex South Nowra	100 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.90516081	150.6029621
SOUTH PENRITH	7-Eleven Service Station	45 Aspen STREET	Service Station	Regulation under CLM Act not required	-33.77727694	150.7107228
SOUTH TAMWORTH	Coles Express Tamworth	251 - 253 Goonoo Goonoo ROAD	Service Station	Contamination currently regulated under CLM Act	-31.1118945	150.9228523

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
SOUTH TAMWORTH	Caltex Service Station	2 Kathleen Street, corner Kent STREET	Service Station	Regulation under CLM Act not required	-31.10361712	150.9186343
SOUTH WENTWORTHVILLE	Aldi Stores Development	331-339 Great Western HIGHWAY	Metal Industry	Regulation under CLM Act not required	-33.81605854	150.9697429
SOUTH WENTWORTHVILLE	Caltex Service Station	313 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.81643692	150.9718802
SOUTH WEST ROCKS	Former Trial Bay Caltex Depot	Phillip DRIVE	Other Petroleum	Regulation under CLM Act not required	-30.89190078	153.0573056
SOUTH WEST ROCKS	Former Shell Trial Bay Depot	Phillip DRIVE	Other Petroleum	Regulation under CLM Act not required	-30.89273836	153.0612772
SOUTH WEST ROCKS	Residential area and Reserve opposite Former Caltex terminal	Phillip DRIVE	Other Petroleum	Regulation under CLM Act not required	-30.89172594	153.0573164
SPRINGVALE	Springvale Colliery	Castlereagh HIGHWAY	Other Industry	Regulation under CLM Act not required	-33.40334736	150.1070462
ST CLAIR	7-Eleven (former Mobil) Service Station	4 Endeavour AVENUE	Service Station	Regulation under CLM Act not required	-33.79430926	150.7885793
ST IVES	7-Eleven (former Mobil) St Ives Service Station	157-159 Mona Vale Road, corner Putarri AVENUE	Service Station	Regulation under CLM Act not required	-33.73265301	151.1563899
ST IVES	Caltex Service Station	452 Mona Vale ROAD	Service Station	Regulation under CLM Act not required	-33.70752272	151.187545
ST IVES	Caltex Service Station	164 Mona Vale ROAD	Service Station	Regulation under CLM Act not required	-33.7307595	151.1570462
ST IVES	Caltex Service Station St Ives	363 Mona Vale ROAD	Service Station	Regulation under CLM Act not required	-33.7168971	151.1735263
ST IVES	Shell Service Station	179-181 Mona Vale ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.73124859	151.1575827
ST LEONARDS	Telstra Data Centre	4A Herbert STREET	Other Petroleum	Regulation under CLM Act not required	-33.81873741	151.1914222
ST MARYS	Former Woolworths Service Station	120-128 Forrester ROAD	Service Station	Regulation under CLM Act not required	-33.75525115	150.7752897

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
ST MARYS	7-Eleven (former Mobil) Service Station	2 Christie STREET	Service Station	Regulation under CLM Act not required	-33.74790843	150.7767667
ST MARYS	7-Eleven (former Mobil) Service Station	2 Wilson STREET	Service Station	Regulation under CLM Act not required	-33.77790415	150.771689
ST MARYS	Solveco	38 LINKS ROAD	Other Industry	Contamination currently regulated under CLM Act	-33.738673	150.771554
ST MARYS	Integral Energy Mt Druitt Transmission Substation	69 Kurrajong North ROAD	Other Industry	Regulation under CLM Act not required	-33.76376093	150.7921691
ST MARYS	Caltex St Marys Service Station	Wordoo St Cnr Forrester ROAD	Service Station	Regulation under CLM Act not required	-33.75334263	150.7755489
ST MARYS	Chemcolour Industries	19-25 Anne STREET	Chemical Industry	Regulation under CLM Act not required	-33.75027071	150.7725397
ST MARYS	Old Drycleaning location	1-7 Queen STREET	Other Industry	Under assessment	-33.73873	150.771747
ST PETERS	Cooks River Rail Terminal	20 Canal ROAD	Unclassified	Regulation under CLM Act not required	-33.91943986	151.1726689
ST PETERS	Camdenville Park	May STREET	Other Industry	Regulation under CLM Act not required	-33.90911815	151.176951
ST PETERS	Former Tidyburn Facility	53 Barwon Park ROAD	Chemical Industry	Contamination formerly regulated under the CLM Act	-33.9130091	151.1809912
ST PETERS	BP Express Service Station	2 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-33.90982281	151.1809936
ST PETERS	Former Industrial Manufacturing Facility (Taubman's Paints)	75 Mary STREET	Other Industry	Regulation under CLM Act not required	-33.91307297	151.1731383
STANMORE	125 Corunna Road	125 Corunna ROAD	Unclassified	Regulation under CLM Act not required	-33.88937382	151.1644589
STOCKTON	Former Coroba Landfill	310 Fullerton STREET	Landfill	Under assessment	-32.89807537	151.7896891
STRATHFIELD	7-Eleven (former Mobil) Service Station	577 Liverpool ROAD	Service Station	Regulation under CLM Act not required	-33.88736091	151.0743474

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
STRATHFIELD SOUTH	Former Landfill Site	7-9 Dunlop STREET	Landfill	Regulation under CLM Act not required	-33.89509698	151.0796751
STROUD	Stroud Fuel Supplies (Former Caltex) Service Station	1 Cowper STREET	Service Station	Regulation under CLM Act not required	-32.39092749	151.9563089
SUFFOLK PARK	BP Service Station	207-209 Broken Head ROAD	Service Station	Regulation under CLM Act not required	-28.68800088	153.6083821
SUFFOLK PARK	Suffolk Park dip site	Cnr Broken Head Road & Beech DRIVE	Cattle Dip	Regulation under CLM Act not required	-28.6874242	153.6072824
SURRY HILLS	Woolworths Petrol Surry Hills	475 Cleveland STREET	Service Station	Regulation under CLM Act not required	-33.89223271	151.2161434
SURRY HILLS	Former Legion Cabs (Trading) Cooperative	81 & 81A (Formerly 69 - 81) Foveaux STREET	Service Station	Regulation under CLM Act not required	-33.88470082	151.2107944
SURRY HILLS	Ausgrid Road Reserve	Mary STREET	Other Industry	Regulation under CLM Act not required	-33.88292195	151.2095176
SUTHERLAND	United Service Station and Sutherland Reservoir	1 to 3 Oxford STREET	Service Station	Contamination currently regulated under CLM Act	-34.029532	151.0579906
SUTHERLAND	7-Eleven Service Station	693 Old Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.02976735	151.0588789
SUTTON FOREST	Coles Express Sutton Forest West	Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-34.60808989	150.2250592
SWANSEA	Caltex Service Station	126 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.08811841	151.6381764
SWANSEA	Swansea 1 - Wastewater Pumping Station	137 and 137a Northcote AVENUE	Other Industry	Under assessment	-33.09745672	151.6473257
SYDENHAM	SRA Land	117 Railway PARADE	Other Industry	Regulation under CLM Act not required	-33.91560723	151.1656846
SYDENHAM	Sydenham XPT Maintenance Facility	Way STREET	Other Industry	Regulation under CLM Act not required	-33.91698468	151.1614089
SYDNEY	Interpro House (OSP 46581)	447 Kent STREET	Other Petroleum	Regulation under CLM Act not required	-33.87225413	151.204761

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
SYDNEY	Eurostar Dry Cleaners	100 Oxford STREET	Chemical Industry	Regulation under CLM Act not required	-33.879333	151.215668
SYDNEY OLYMPIC PARK	RMS Western Precinct	14A-14E and 16 Hill ROAD	Other Petroleum	Regulation under CLM Act not required	-33.82239777	151.0758664
SYDNEY OLYMPIC PARK	Haslams Creek South Area 3	At Kronos Hill, Kevin Coombes AVENUE	Landfill	Contamination formerly regulated under the CLM Act	-33.84113059	151.0602966
SYDNEY OLYMPIC PARK	Bicentennial Park	Bicentennial DRIVE	Landfill	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.84456248	151.0788116
SYDNEY OLYMPIC PARK	Former Golf Driving Range Landfill	Sarah Durack AVENUE	Landfill	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.85358517	151.0713987
SYDNEY OLYMPIC PARK	Kronos Hill Landfill	Kevin Coombes AVENUE	Landfill	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.84014442	151.0649521
SYDNEY OLYMPIC PARK	Wilson Park (Former oil gas plant site)	Newington ROAD	Gasworks	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.82633586	151.0534322
SYDNEY OLYMPIC PARK	Woo-la-ra Landfill	Hill ROAD	Landfill	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.82695807	151.07282
SYDNEY OLYMPIC PARK	Aquatic Centre Carpark Landfill	Shane Gould AVENUE	Landfill	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.85093439	151.0656713
SYDNEY OLYMPIC PARK	Blaxland Common Landfill	Jamieson STREET	Landfill	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.82638382	151.05972
SYLVANIA	Caltex Service Station - Sylvania Heights	414-416 Princes HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-34.02361051	151.0895394
SYLVANIA	Caltex Service Station	61 Port Hacking ROAD	Service Station	Regulation under CLM Act not required	-34.0140089	151.104212
TALBINGO	Old Town Landfill	Bridle STREET	Landfill	Regulation under CLM Act not required	-35.59018237	148.3041771
TALBINGO	T3 Spoil dump and adjoining river sediments	Off Snowy Mountains HIGHWAY	Landfill	Contamination formerly regulated under the CLM Act	-35.6177268	148.2926158
TALBINGO	Former grit blasting site	Old Damsite ROAD	Other Industry	Regulation under CLM Act not required	-35.60894551	148.3030165

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
TAMINDA	Mobil Depot	9 Hinkler ROAD	Other Petroleum	Regulation under CLM Act not required	-31.09584286	150.9040493
TAMWORTH	Caltex Tamworth Service Station	109 Gunnedah ROAD	Service Station	Regulation under CLM Act not required	-31.09723226	150.8955299
TAMWORTH	Curlew Crescent	19-29 Curlew CRESCENT	Metal Industry	Regulation under CLM Act not required	-31.06963607	150.9069306
TAMWORTH	Former Service Station, Fitzpatrick Super Fund, Tamworth	210 Goonoo Goonoo ROAD	Service Station	Regulation under CLM Act not required	-31.10613594	150.9234143
TAMWORTH	Gunnedah Road Site	49 GUNNEDAH ROAD	Other Industry	Contamination formerly regulated under the CLM Act	-31.09574904	150.9021583
TAMWORTH	Elovera Former Sheep Dip	730 Ascot Calala ROAD	Cattle Dip	Regulation under CLM Act not required	-31.1801846	150.962897
TAMWORTH	Housing NSW	29 -33 White STREET	Other Petroleum	Regulation under CLM Act not required	-31.0915651	150.9357811
TAMWORTH	BP Tamworth Service Station and Depot	27-29 Gunnedah ROAD	Other Petroleum	Under assessment	-31.09642128	150.9058193
TAMWORTH	Former Mobil Service Station	373-375 Armidale ROAD	Service Station	Regulation under CLM Act not required	-31.10122679	150.9441341
TAMWORTH	Kensell's Mitsubishi	11-14 Kable AVENUE	Other Petroleum	Regulation under CLM Act not required	-31.08921565	150.9273063
TAMWORTH	Caltex Star Tamworth	21 White STREET	Service Station	Regulation under CLM Act not required	-31.09255137	150.9341709
TAMWORTH	Former Service Station Tamworth	(Cnr Scott Rd) 254-256 Goonoo Goonoo ROAD	Service Station	Regulation under CLM Act not required	-31.1118945	150.9228523
TAMWORTH	Cleanaway Operations Pty Ltd	31 Gunnedah ROAD	Other Industry	Under assessment	-31.09621029	150.9051567
TAMWORTH	Elgas Depot (former gasworks)	115 Marius STREET	Gasworks	Under assessment	-31.085682	150.926088
TAMWORTH	Proposed ALDI Store Tamworth	194-196 Peel STREET	Other Industry	Under assessment	-31.08522053	150.9260054

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
TARAGO	Tarago Railway Siding	Goulburn STREET	Other Industry	Regulation being finalised	-35.0659976	149.6507068
TARCUTTA	Mobil Service Station	(Hume Highway) 32 Sydney STREET	Service Station	Contamination formerly regulated under the CLM Act	-35.2772942	147.73574
TAREE	Caltex Taree	12 Pitt STREET	Service Station	Regulation under CLM Act not required	-31.90551738	152.4783334
TAREE	Former Caltex Depot	44 Stevenson STREET	Other Petroleum	Regulation under CLM Act not required	-31.90563595	152.4640848
TAREE	Former BP Service Station (Reliance Petroleum)	150 Manning River DRIVE	Service Station	Regulation under CLM Act not required	-31.93842026	152.4682056
TAREE	Former Shell Depot	53-55 Stevenson STREET	Other Petroleum	Regulation under CLM Act not required	-31.90514622	152.4649706
TAREE	United Service Station and Former Mobil Depot	85 Muldoon Street, corner Grey Gum ROAD	Service Station	Regulation under CLM Act not required	-31.89744109	152.4508569
TAREE	Caltex Service Station	104-106 Commerce STREET	Service Station	Regulation under CLM Act not required	-31.90720519	152.4500926
TAREE	Footpath in front of the former BP service station	53-55 Victoria STREET	Service Station	Regulation under CLM Act not required	-31.91015653	152.4659073
TAREN POINT	Former Oyster Farm	Part 2R Alexander Avenue and part 98 Woodlands ROAD	Other Industry	Contamination was addressed via the planning process (EP&A Act)	-34.01714802	151.1252694
TAREN POINT	Former Oyster Farmer	1A Atkinson ROAD	Other Industry	Regulation under CLM Act not required	-34.02081803	151.1283282
TAREN POINT	Former manufacturing site	46-50 Bay ROAD	Other Industry	Regulation under CLM Act not required	-34.0236184	151.1231649
TAREN POINT	Mangrove Lane Cycle pathway	Mangrove LANE	Unclassified	Regulation under CLM Act not required	-34.02404025	151.1324783
TAREN POINT	Caltex Service Station	114 Taren Point ROAD	Service Station	Regulation under CLM Act not required	-34.02065958	151.1218938
TAREN POINT	Shell Coles Express Service Station	99-103 Parraweena ROAD	Service Station	Regulation under CLM Act not required	-34.02630233	151.1200897

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
TAREN POINT	Redevelopment Site	25 Bay ROAD	Landfill	Regulation under CLM Act not required	-34.02119591	151.1274727
TELARAH	Former Ausgrid Depot	Green STREET	Other Industry	Regulation under CLM Act not required	-32.7276446	151.5269745
TELARAH	ACIRL	5 Junction STREET	Other Industry	Regulation under CLM Act not required	-32.73457183	151.5400128
TEMORA	Woolworths Caltex Temora	98-100 Hoskins STREET	Service Station	Regulation under CLM Act not required	-34.44324584	147.5318667
TEMPE	Tempe Depot	1a Gannon STREET	Other Petroleum	Regulation under CLM Act not required	-33.92408255	151.1596469
TEMPE	Caltex Service Station	775 Princes HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-33.9253681	151.1596532
TEMPE	Former Tempe Tip	South STREET	Landfill	Contamination currently regulated under CLM Act	-33.9255792	151.1668117
TEMPE	Railcorp Site Renwick Street	Renwick STREET	Other Industry	Regulation under CLM Act not required	-33.91997709	151.1576058
TENTERFIELD	United Tenterfield Service Station	94 Rouse STREET	Service Station	Under assessment	-29.062753	152.016724
TERALBA	Lake Macquarie Teralba Sanitary Depot	Griffen ROAD	Landfill	Regulation under CLM Act not required	-32.9372059	151.6214528
TERALBA	Lucky's Scrap Metal Yard	21 Racecourse ROAD	Metal Industry	Contamination currently regulated under CLM Act	-32.946805	151.61698
TERANIA CREEK	Former Izzards Cattle Tick Dip	Wallace ROAD	Cattle Dip	Contamination formerly regulated under the CLM Act	-28.65425776	153.2767438
THIRLMERE	Thirlmere Rail Heritage Museum	10 Barbour ROAD	Other Industry	Regulation under CLM Act not required	-34.20689245	150.5693902
THORNLEIGH	Caltex Thornleigh Service Station	192-198 Pennant Hills (Cnr Duffy Ave) ROAD	Service Station	Regulation under CLM Act not required	-33.72660793	151.08364
THORNLEIGH	Coles Express Service Station Thornleigh	188 - 190 Pennant Hills ROAD	Service Station	Regulation under CLM Act not required	-33.72502184	151.0850569

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
THORNTON	Energy Australia Thornton Pole Yard	55 Weakleys DRIVE	Other Industry	Regulation under CLM Act not required	-32.79973875	151.6374998
TIGHES HILL	Holcim Australia Cement Batching Plant	340 Industrial DRIVE	Other Industry	Regulation under CLM Act not required	-32.90532418	151.7574857
TIGHES HILL	SRA Land	73 Elizabeth STREET	Unclassified	Regulation under CLM Act not required	-32.90795794	151.754631
TIGHES HILL	Former Ampol Depot	94 Elizabeth STREET	Other Petroleum	Regulation under CLM Act not required	-32.90658137	151.757239
TIGHES HILL	Former Mobil Terminal	110 Elizabeth STREET	Other Petroleum	Contamination formerly regulated under the CLM Act	-32.90600406	151.7586907
TOCUMWAL	Former Mobil Depot	250 Murray STREET	Other Petroleum	Regulation under CLM Act not required	-35.79180653	145.5648214
TOCUMWAL	Former Mobil Depot	79-83 Deniliquin ROAD	Other Petroleum	Regulation under CLM Act not required	-35.80914914	145.5585528
TOMAGO	Balcombe Sweat Furnace	26 Laverick AVENUE	Metal Industry	Regulation under CLM Act not required	-32.82557395	151.7056416
TOMAGO	Former Hydromet Site	25 School DRIVE	Metal Industry	Under assessment	-32.8301553	151.7300603
TOMAGO	RZM Site - Tomago	1877 Pacific HIGHWAY	Other Industry	Regulation under CLM Act not required	-32.81419433	151.6985159
TOMERONG	Log Cabin Service Station (United Petroleum)	D1300 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-35.01820959	150.5779687
TOONGABBIE	7-Eleven (Former Mobil) Service Station Toongabbie	3 Metella ROAD	Service Station	Regulation under CLM Act not required	-33.78692357	150.9462837
TOORMINA	Caltex Service Station	2 Minorca PLACE	Service Station	Regulation under CLM Act not required	-30.35229568	153.0906606
TORONTO	Coles XP (Former Mobil) Toronto Service Station	133 - 137 Cary (Cnr Thorne St) STREET	Service Station	Regulation under CLM Act not required	-33.01187681	151.5930879
TORONTO	BP Toronto Service Station	132 Cary (Cnr Donnelly Ave) STREET	Service Station	Regulation under CLM Act not required	-33.01144673	151.5937863

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
TORONTO	Toronto Hotel	74 Victory PARADE	Unclassified	Regulation under CLM Act not required	-33.01214835	151.5958127
TORONTO	Caltex Service Station	147 Cary STREET	Service Station	Regulation under CLM Act not required	-33.01288007	151.5928388
TOUKLEY	Former Shell Toukley Autoport	211 Main ROAD	Service Station	Regulation under CLM Act not required	-33.26383791	151.5386268
TOUKLEY	7-Eleven Australia	287 Main ROAD	Service Station	Regulation under CLM Act not required	-33.26469166	151.5462414
TRANGIE	Caltex Service Station	(Mitchell Hwy) 76 Narromine STREET	Service Station	Regulation under CLM Act not required	-32.03234676	147.985164
TUGGERAH	BP Tuggerah	100 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.30578167	151.4198083
TUMBARUMBA	Former Caltex Depot	150 Albury STREET	Other Petroleum	Regulation under CLM Act not required	-35.77024081	147.9927182
TUMBI UMBI	Former Tumbi Landfill	140 Bellevue ROAD	Landfill	Regulation under CLM Act not required	-33.3993472	151.456471
TUMUT	CSR Blue Dam	Jepsen AVENUE	Other Industry	Under assessment	-35.30098337	148.1958308
TUMUT	CSR Railway cutting	Jepsen AVENUE	Unclassified	Under assessment	-35.30422002	148.1942579
TUMUT	Former Telstra Depot	22-26 Carey STREET	Other Industry	Regulation under CLM Act not required	-35.29873079	148.2191122
TUROSS HEAD	Tern Inn Restaurant (abandoned UPSS)	2 Trafalgar ROAD	Service Station	Regulation under CLM Act not required	-36.05871059	150.1308443
TURRAMURRA	7-Eleven (former Mobil) Service Station Turramurra	1408 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.73326389	151.1264194
TURRAMURRA	Woolworths Service Station	1233 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.73317594	151.1313195
TURRELLA	Tulloch Australia Pty Limited	61 Turrella STREET	Chemical Industry	Contamination currently regulated under CLM Act	-33.92857213	151.1475387

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TWEED HEADS	Former Mobil Quix Service Station	60 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-28.20143775	153.5445381
TWEED HEADS	Francis Street Road Reserve adjacent to 79-81 Wharf Street, Tweed Heads	79-81 Wharf STREET	Other Petroleum	Regulation under CLM Act not required	-28.17351959	153.542262
TWEED HEADS SOUTH	Former BP Depot	142 Minjungbal DRIVE	Other Petroleum	Regulation under CLM Act not required	-28.20860702	153.5455932
TWEED HEADS SOUTH	Coles Express Service Station	Corner Minjungbal Drive and Heffron STREET	Service Station	Regulation under CLM Act not required	-28.19459987	153.5419978
TWEED HEADS SOUTH	Woolworths Plus Petrol	98-102 Pacific (100 Minjungbal Drive) HIGHWAY	Service Station	Regulation under CLM Act not required	-28.20488521	153.5448675
TWEED HEADS WEST	Caltex Service Station	96 to 98 Kennedy DRIVE	Service Station	Regulation being finalised	-28.1871486	153.5229866
TYAGARAH	Tyagarah Airstrip	25 Staceys WAY	Other Petroleum	Regulation under CLM Act not required	-28.59553079	153.5469165
ULAN	Ulan Coal Mine	4505 Ulan ROAD	Other Industry	Regulation under CLM Act not required	-32.25620603	149.7558075
ULLADULLA	Coles Express Ulladulla	153 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-35.36288274	150.47272
ULLADULLA	Woolworths Petrol Station	155-157 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-35.36316263	150.4725668
ULLADULLA	Caltex Service Station	62A Deering Street, corner Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-35.36276828	150.473578
ULTIMO	Shell Coles Express Service Station	387-429 Wattle STREET	Service Station	Regulation under CLM Act not required	-33.88138825	151.1966791
UNANDERRA	Endeavour Energy Springhill Field Service Centre	195 Five Island ROAD	Other Industry	Regulation under CLM Act not required	-34.45837706	150.8598825
UNANDERRA	BlueScope Stainless Steel	13 Marley PLACE	Metal Industry	Contamination currently regulated under CLM Act	-34.44959798	150.8571632
UNANDERRA	Unanderra Weekend Detention Centre	34-40 Lady Penryhn DRIVE	Landfill	Regulation under CLM Act not required	-34.4620226	150.8473821

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UNANDERRA	Veolia Environmental Services	9 Waynote PLACE	Other Industry	Regulation under CLM Act not required	-34.46042393	150.863232
UNANDERRA	Caltex Service Station	86-98 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.45414951	150.845165
UNANDERRA	Former Prime Service Station and adjoining lands	41-49 Princes HIGHWAY	Service Station	Contamination formerly regulated under the CLM Act	-34.45056105	150.8490833
URALLA	Caltex Service Station	103 Bridge STREET	Service Station	Regulation under CLM Act not required	-30.64524911	151.4934484
URALLA	Phoenix Foundry	44 Duke STREET	Metal Industry	Regulation under CLM Act not required	-30.65093272	151.5004479
URANQUINTY	Former Caltex Depot Kapooka (Wagga Wagga)	6876 Olympic (Uranquinty Rd) HIGHWAY	Service Station	Regulation under CLM Act not required	-35.15319793	147.3085469
URUNGA	Former Antimony Process plant	Hillside DRIVE	Chemical Industry	Contamination currently regulated under CLM Act	-30.50422942	153.0132011
VALENTINE	BP Express Service Station	855 Macquarie DRIVE	Service Station	Regulation under CLM Act not required	-33.00801109	151.6425806
VALENTINE	Valentine Public School	Tallawalla ROAD	Unclassified	Regulation under CLM Act not required	-33.0091613	151.6423231
VILLAWOOD	Nepotian (Former Toll) Site	110A Christina ROAD	Other Industry	Under preliminary investigation order	-33.87919117	150.9812193
VILLAWOOD	Former Defence Site	29 Biloela STREET	Landfill	Regulation under CLM Act not required	-33.88782978	150.9886275
VILLAWOOD	Former Siemens/Westinghouse	49 Miorera ROAD	Other Industry	Contamination formerly regulated under the CLM Act	-33.87641909	150.9836746
VILLAWOOD	Former Orica Crop Care	2 Christina ROAD	Chemical Industry	Contamination currently regulated under CLM Act	-33.880329	150.9896329
VILLAWOOD	PPG Industries	9 Birmingham AVENUE	Chemical Industry	Regulation under CLM Act not required	-33.87800757	150.9887929
VILLAWOOD	Former Electrical Component Manufacturer	66 Christina ROAD	Other Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.88018315	150.9838773

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
VILLAWOOD	Ettason Villawood Site	2A Birmingham AVENUE	Chemical Industry	Under preliminary investigation order	-33.878734	150.98259
VINEYARD	Shell Coles Express Service Station	731 Windsor ROAD	Service Station	Regulation under CLM Act not required	-33.65780463	150.8753245
WAGGA WAGGA	Caltex Service Station	170 Fitzmaurice STREET	Service Station	Regulation under CLM Act not required	-35.10289587	147.3679002
WAGGA WAGGA	Former BP Service Station	31 Bourke STREET	Service Station	Regulation under CLM Act not required	-35.12626628	147.3547199
WAGGA WAGGA	Caltex (former Mobil) Service Station	106 Edward STREET	Service Station	Regulation under CLM Act not required	-35.11910909	147.3682364
WAGGA WAGGA	Former Caltex Depot	60 Lake Albert DRIVE	Service Station	Regulation under CLM Act not required	-35.12316794	147.37724
WAGGA WAGGA	Former Mobil Depot Wagga Wagga	97-99 Coleman STREET	Other Petroleum	Regulation under CLM Act not required	-35.12173871	147.3576651
WAGGA WAGGA	Ashmont Autoport	Cnr Tobruk Street and Bardia STREET	Service Station	Regulation under CLM Act not required	-35.12517373	147.329919
WAGGA WAGGA	Former Caltex Service Station	343 Hammond AVENUE	Service Station	Regulation under CLM Act not required	-35.12420793	147.4157959
WAGGA WAGGA	Caltex Service Station	56 - 60 Docker St STREET	Service Station	Regulation under CLM Act not required	-35.11737947	147.3558145
WAGGA WAGGA	Former Iron Foundry	212-230 Hammond STREET	Metal Industry	Regulation under CLM Act not required	-35.12605478	147.4045461
WAGGA WAGGA	Coles Express Wagga Wagga	353-355 Edward STREET	Service Station	Regulation under CLM Act not required	-35.11606625	147.3509339
WAGGA WAGGA	Former Wiradjuri landfill	Narrung STREET	Landfill	Under assessment	-35.09628532	147.3619535
WAGGA WAGGA	Former Gasworks	54 Chaston STREET	Gasworks	Contamination currently regulated under CLM Act	-35.12262069	147.3482778
WAGGA WAGGA	Former Gasworks	Cnr Tarcutta Street and Cross STREET	Gasworks	Contamination currently regulated under CLM Act	-35.10871183	147.3737933

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
WAGGA WAGGA	BP Wagga Wagga	180 Edward STREET	Service Station	Regulation under CLM Act not required	-35.11850802	147.3639619
WAGGA WAGGA	Former Dry Cleaning Facility	183 Fitzmaurice STREET	Other Industry	Contamination currently regulated under CLM Act	-35.10209987	147.3683852
WAHROONGA	Coles Express Wahroonga	1601 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.71945571	151.1163002
WAHROONGA	7-Eleven Service Station	1579 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.71974617	151.1168106
WAITARA	Caltex Service Station	59-61 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.71064349	151.1024644
WALGETT	Former Shell Depot	Castlereagh HIGHWAY	Other Petroleum	Regulation under CLM Act not required	-30.00861179	148.1239938
WALLERAWANG	Wallerawang Power Station	1 Main STREET	Other Petroleum	Regulation under CLM Act not required	-33.40339296	150.0855101
WALLERAWANG	Lidsdale Coal Loading Facility	Main STREET	Other Industry	Regulation under CLM Act not required	-33.39996523	150.0737717
WALLSEND	Caltex Maryland Service Station Wallsend	41 Minmi ROAD	Service Station	Regulation under CLM Act not required	-32.88967866	151.6619253
WALLSEND	Coles Express Wallsend East	15 Thomas STREET	Service Station	Regulation under CLM Act not required	-32.90719444	151.6693426
WALLSEND	OneSteel Recycling	64-80 Sandgate ROAD	Metal Industry	Regulation under CLM Act not required	-32.89425477	151.6799648
WALLSEND	Ausgrid Wallsend Depot	Abbott STREET	Other Industry	Regulation under CLM Act not required	-32.90162796	151.6857267
WALLSEND	Cnr of Douglas Street and 111 Newcastle Road Wallsend	111 Newcastle ROAD	Metal Industry	Regulation under CLM Act not required	-32.90414175	151.6830784
WAMBERAL	Caltex Service Station	654 The Entrance ROAD	Service Station	Regulation under CLM Act not required	-33.42338668	151.4375685
WANGI WANGI	Myuna Colliery	Wangi Point ROAD	Other Industry	Regulation under CLM Act not required	-33.06139532	151.5697186

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
WARATAH	Waratah Area Health	Turton ROAD	Unclassified	Regulation under CLM Act not required	-32.90961233	151.7260867
WARATAH	Waratah former Gasworks	Turton and Georgetown ROADS	Gasworks	Regulation being finalised	-32.9057763	151.7270033
WARDELL	Nancy's Cattle Dip, Thurgates Lane, Wardell	Thurgates LANE	Cattle Dip	Regulation under CLM Act not required	-28.954176	153.427349
WARILLA	Woolworths Petrol Warilla	43 -57 Shellharbour ROAD	Service Station	Regulation under CLM Act not required	-34.5470966	150.863748
WARKWORTH	Emulsion Plant, Dyno Nobel Asia Pacific Pty Ltd	186 Long Point ROAD	Chemical Industry	Regulation under CLM Act not required	-32.5781708	151.0834387
WARKWORTH	United Colliery	Jerrys Plains ROAD	Other Industry	Regulation under CLM Act not required	-32.5654356	150.9916698
WARNERS BAY	Caltex Service Station	55 King STREET	Service Station	Regulation under CLM Act not required	-32.97418806	151.6476184
WARNERS BAY	7-Eleven (former Mobil) Service Station	393 Hillsborough ROAD	Service Station	Regulation under CLM Act not required	-32.9659363	151.6543264
WARNERS BAY	Historically Filled Land	41-43 Charles STREET	Unclassified	Regulation under CLM Act not required	-32.97340461	151.6464383
WARNERVALE	Former Timber Treatment Plant	Aldenham and Railway ROADS	Other Industry	Contamination formerly regulated under the CLM Act	-33.24732018	151.4469037
WARRAGAMBA	Warragamba Dam Viewing Platform	Eighteenth STREET	Unclassified	Regulation under CLM Act not required	-33.88546354	150.6024501
WARRAGAMBA	Megarrity's Creek Site	Weir ROAD	Unclassified	Regulation under CLM Act not required	-33.885049	150.597628
WARRAWONG	Caltex Service Station	75-77 King STREET	Service Station	Regulation under CLM Act not required	-34.49037817	150.888802
WARREN	Former Shell Depot	8 Dubbo STREET	Other Petroleum	Regulation under CLM Act not required	-31.69379262	147.8308088
WARREN	Caltex Warren Service Station	1 Coonamble ROAD	Service Station	Regulation under CLM Act not required	-31.69508383	147.8405578

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
WARREN	Former Mobil Warren Depot	16 Dubbo STREET	Other Petroleum	Contamination currently regulated under CLM Act	-31.6943058	147.8314606
WARWICK FARM	Warwick Farm Public School	95 Lawrence Hargrave ROAD	Landfill	Regulation under CLM Act not required	-33.91050532	150.9302197
WATERLOO	Proposed Construction Site	2 John STREET	Other Industry	Regulation under CLM Act not required	-33.89989686	151.2010324
WATERLOO	Waverley Woollahra Process Plant	355 Botany ROAD	Other Industry	Regulation under CLM Act not required	-33.9063092	151.2042672
WATERLOO	Shell Coles Express Service Station	867-877 South Dowling STREET	Service Station	Regulation under CLM Act not required	-33.90179774	151.2143789
WATERLOO	Lawrence Dry Cleaners	887-893 Bourke STREET	Unclassified	Contamination currently regulated under CLM Act	-33.89897433	151.2101436
WATERLOO	Diversity Waterloo Blocks C & D and adjacent plaza / park	1, 9, 13, 13A, 13B and 23 Archibald Avenue, 20 Dunkerley Place and 850 Bourke STREET	Other Industry	Regulation under CLM Act not required	-33.90200158	151.2098496
WATERLOO	Iconic (Former Chubb Factory) Waterloo	830-838 Elizabeth STREET	Other Industry	Regulation under CLM Act not required	-33.90227718	151.2060305
WATERLOO	22-24 Archibald Avenue	22-24 Archibald AVENUE	Other Petroleum	Regulation under CLM Act not required	-33.90263766	151.2132105
WAUCHOPE	Expressway Spares UST	3 Sancrox ROAD	Other Petroleum	Regulation under CLM Act not required	-31.44163879	152.8231104
WAUCHOPE	Former Shell Depot	56-64 High STREET	Other Petroleum	Regulation under CLM Act not required	-31.45804845	152.7314151
WAUCHOPE	Wauchope Service Station	57 High STREET	Service Station	Regulation under CLM Act not required	-31.45737022	152.7305018
WAUCHOPE	Former Timber Treatment Site	Blackbutt DRIVE	Other Industry	Regulation under CLM Act not required	-31.46575645	152.7228555
WAUCHOPE	Shell Coles Express Service Station	64 High STREET	Service Station	Regulation under CLM Act not required	-31.45764495	152.7315975
WAUCHOPE	Wauchope Public Primary School	2 Waugh STREET	Unclassified	Regulation under CLM Act not required	-31.4556387	152.7295455

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
WAVERTON	SRA Land	95 Bay ROAD	Unclassified	Contamination formerly regulated under the CLM Act	-33.83716728	151.1969497
WAVERTON	Berry's Bay Woodley's Marina	1 Balls Head DRIVE	Other Industry	Contamination formerly regulated under the POEO Act	-33.84441851	151.1947433
WAVERTON	Oyster Cove AGL	2 King STREET	Gasworks	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.83637995	151.193541
WEE JASPER	Wee Jasper Tavern	6499 Wee Jasper ROAD	Other Industry	Regulation under CLM Act not required	-35.110374	148.679405
WELLINGTON	Former Caltex Service Station	124-128 Lee STREET	Service Station	Regulation under CLM Act not required	-32.55082729	148.9411537
WELLINGTON	BP Wellington Service Station	35A Maxwell STREET	Service Station	Under assessment	-32.55835121	148.9447284
WELLINGTON	Woolworths Petrol Wellington	79 Lee STREET	Service Station	Regulation under CLM Act not required	-32.54874227	148.9408531
WENTWORTH	Caltex - Wentworth	110 Adams STREET	Service Station	Regulation under CLM Act not required	-34.1024927	141.9160539
WENTWORTH FALLS	Bodington Hospital	Bodington DRIVE	Unclassified	Contamination formerly regulated under the CLM Act	-33.73201608	150.3874102
WENTWORTH POINT	RMS Eastern Precinct	3-7 Burroway ROAD	Other Petroleum	Regulation under CLM Act not required	-33.8233882	151.0815668
WENTWORTH POINT	Former TNT Express	23 Bennelong PARKWAY	Other Petroleum	Regulation under CLM Act not required	-33.83115118	151.0726636
WENTWORTHVILLE	Former Workshop	2 Rawson Rd and 8 Barfil CRESCENT	Unclassified	Regulation under CLM Act not required	-33.81568808	150.9671853
WERRINGTON	Caltex Service Station	Cnr Dunheved Rd and Henry Lawson DRIVE	Service Station	Regulation under CLM Act not required	-33.74577725	150.7409877
WERRINGTON	Claremont Meadows Former landfill	Gipps STREET	Landfill	Regulation under CLM Act not required	-33.77341076	150.7557628
WERRINGTON COUNTY	7-Eleven Werrington	Lot 122 Dunheved ROAD	Service Station	Regulation under CLM Act not required	-33.74699408	150.7428609

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
WEST BALLINA	Caltex Big Prawn Service Station	Pacific HIGHWAY	Service Station	Contamination formerly regulated under the CLM Act	-28.86374913	153.5321482
WEST GOSFORD	Caltex Service Station	283 Manns ROAD	Service Station	Regulation under CLM Act not required	-33.41659727	151.325219
WEST GOSFORD	Caltex Service Station	69-71 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.42729985	151.3214621
WEST GOSFORD	Caltex Service Station	30a Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.42778813	151.3190581
WEST GOSFORD	Adcock Memorial Park	Central Coast HIGHWAY	Landfill	Contamination currently regulated under CLM Act	-33.42963075	151.3273331
WEST NOWRA	Endeavour Energy Nowra Field Service Centre	20 Depot ROAD	Other Industry	Regulation under CLM Act not required	-34.88993085	150.5878854
WEST PENNANT HILLS	7-Eleven (former Mobil) Service Station	552 Pennant Hills ROAD	Service Station	Regulation under CLM Act not required	-33.74686545	151.0508067
WEST RYDE	7-Eleven (former Mobil) Service Station	917 Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.80921103	151.0932917
WEST RYDE	Pfizer Australia Pty Ltd	38-42 Wharf ROAD	Chemical Industry	Regulation under CLM Act not required	-33.81021085	151.0693631
WEST RYDE	Reckitt Benckiser	44 Wharf ROAD	Chemical Industry	Regulation under CLM Act not required	-33.81172205	151.0692752
WEST RYDE	JHM Property Development	2A Mellor STREET	Other Industry	Regulation under CLM Act not required	-33.81207534	151.094598
WEST TAMWORTH	Woolworths Petrol	119 Bridge STREET	Service Station	Regulation under CLM Act not required	-31.09358262	150.9167693
WEST WYALONG	Lowes Petroleum (Former BP) Depot West Wyalong	Compton (formerly known as Town Bypass/Railway Road) ROAD	Other Petroleum	Regulation under CLM Act not required	-33.93440247	147.2154596
WEST WYALONG	Caltex Depot	(Wyalong By-pass Rd) Lot 1-3 Showground ROAD	Service Station	Regulation under CLM Act not required	-33.92580863	147.1978504
WEST WYALONG	Former Mobil Depot	104 Compton ROAD	Other Petroleum	Regulation under CLM Act not required	-33.93449194	147.2147948

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
WESTON	Illegal Dumping Site	Corner Kline Street & First STREET	Unclassified	Regulation under CLM Act not required	-32.81367986	151.4551507
WETHERILL PARK	Former Fuel Storage Depot	200-212 Cowpasture ROAD	Other Petroleum	Regulation under CLM Act not required	-33.84568871	150.8764012
WETHERILL PARK	Sims Wetherill Park	35-37 Frank STREET	Metal Industry	Regulation under CLM Act not required	-33.84056122	150.9086265
WETHERILL PARK	Shell Coles Express Service Station	565 Polding STREET	Service Station	Regulation under CLM Act not required	-33.8569731	150.8992804
WETHERILL PARK	Cleanaway (Formerly Nationwide Oil) Wetherill Park	6 Davis ROAD	Other Industry	Regulation under CLM Act not required	-33.83770038	150.9045197
WETHERILL PARK	BOC Sydney Operations Centre	428-440 Victoria STREET	Chemical Industry	Regulation being finalised	-33.84375988	150.8960027
WETHERILL PARK	Camide Former Landfill	Newton ROAD	Landfill	Regulation under CLM Act not required	-33.83898879	150.8963813
WICKHAM	Caltex Terminal and "Building 33" on offsite adjacent land	156 Hannell Street and 33 Annie STREET	Other Petroleum	Contamination currently regulated under CLM Act	-32.9153413	151.7560062
WICKHAM	Former Warehouse	10 Dangar STREET	Unclassified	Regulation under CLM Act not required	-32.92383206	151.759761
WICKHAM	Former Factory	57 Annie STREET	Other Industry	Regulation under CLM Act not required	-32.91524827	151.7539893
WICKHAM	Railcorp Wickham	50 Railway STREET	Other Industry	Regulation under CLM Act not required	-32.9210433	151.7544687
WICKHAM	Fuchs Lubricants Wickham	2 Holland STREET	Other Industry	Under assessment	-32.9214709	151.7556928
WILBERFORCE	Former Drum Reconditioners	12-14 Box AVENUE	Other Industry	Contamination formerly regulated under the CLM Act	-33.5453884	150.8587934
WILBERFORCE	Former Solvent Recycling Site	13 Box AVENUE	Chemical Industry	Regulation under CLM Act not required	-33.54557427	150.8577006
WILEY PARK	Sydney Water Property	1B Hillcrest STREET	Other Industry	Regulation under CLM Act not required	-33.92391634	151.0676256

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
WILLIAMTOWN	Hunter Land Effluent Pond	38 Cabbage Tree ROAD	Other Industry	Regulation under CLM Act not required	-32.80750069	151.8310107
WILLOUGHBY	Shell Coles Express Service Station	616-626 Willoughby ROAD	Service Station	Regulation under CLM Act not required	-33.80593769	151.1988559
WILLOUGHBY	Caltex Service Station	157 Penhur STREET	Service Station	Regulation under CLM Act not required	-33.79793513	151.1981926
WILLOUGHBY	BP Express Tower	498 Willoughby STREET	Service Station	Contamination currently regulated under POEO Act	-33.81022918	151.199315
WILLOUGHBY EAST	Willoughby Bus Depot	Corner Ann Street and Stan STREET	Other Industry	Regulation under CLM Act not required	-33.7982569	151.2038993
WILTON	Condell Park Homestead	(Part Lot 17 DP 270536) Condell Park ROAD	Unclassified	Regulation under CLM Act not required	-34.21910141	150.6837962
WINDANG	Caltex Service Station	244-248 Windang ROAD	Service Station	Regulation under CLM Act not required	-34.5274434	150.8691161
WINDSOR	Former Caltex Service Station	46-52 Macquarie STREET	Service Station	Regulation under CLM Act not required	-33.60783315	150.8213428
WINDSOR	Former Caltex Windsor Depot and Service Station	48-50 Mileham STREET	Service Station	Regulation under CLM Act not required	-33.61538627	150.8157517
WINDSOR	Woolworths (former Caltex) Service Station	Cnr Macquarie Street & Baker STREET	Service Station	Regulation under CLM Act not required	-33.60569346	150.8232803
WINDSOR	Former Fire Station Windsor	19 Fitzgerald STREET	Other Industry	Under assessment	-33.606474	150.819908
WINGHAM	Former Caltex Service Station	1036-1038 Wingham ROAD	Service Station	Regulation under CLM Act not required	-31.86236594	152.3805752
WINGHAM	Bogas Service Station	Cnr Primrose Street and Isabella STREET	Service Station	Regulation under CLM Act not required	-31.86833656	152.3716346
WINMALEE	Prime Winmalee Service Station	281 Hawkesbury ROAD	Service Station	Regulation under CLM Act not required	-33.68223276	150.5997203
WIRLINGA	Former Liquid Waste Disposal Facility	704 Riverina ROAD	Unclassified	Regulation under CLM Act not required	-36.07103958	147.0193522

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
WOLLI CREEK	Former Ausgrid Substation 10061	13 Gertrude STREET	Other Industry	Regulation under CLM Act not required	-33.93364031	151.1543818
WOLLONGONG	Redevelopment site	33 - 39 Beatson STREET	Other Petroleum	Regulation under CLM Act not required	-34.43196083	150.8976661
WOLLONGONG	Caltex Service Station	9 Flinders STREET	Service Station	Regulation under CLM Act not required	-34.41505616	150.8932515
WOLLONGONG	Greenhouse Park	Springhill ROAD	Landfill	Contamination currently regulated under CLM Act	-34.44119949	150.8931764
WOLLONGONG	Former Wollongong Gasworks	120 and 122 Smith STREET	Gasworks	Regulation under CLM Act not required	-34.42030173	150.8906745
WOLLONGONG	Woolworths Service Station	425 Crown STREET	Service Station	Contamination currently regulated under CLM Act	-34.42637378	150.8799288
WOLLONGONG	Wollongong Harbour Central Spur	Off Endeavour DRIVE	Other Petroleum	Regulation under CLM Act not required	-34.42066879	150.906821
WOODBURN	Caltex Service Station	129 River STREET	Service Station	Regulation under CLM Act not required	-29.07206887	153.3409769
WOODBURN	Crown Reserve 88037 Woodburn	Pacific HIGHWAY	Landfill	Regulation under CLM Act not required	-29.06580577	153.3541886
WOOLGOOLGA	Caltex Woolgoolga Service Station	16 Bosworth ROAD	Service Station	Regulation under CLM Act not required	-30.12569561	153.1946006
WOOLGOOLGA	United Petroleum Service Station	58 Clarence STREET	Service Station	Under assessment	-30.11045544	153.1904609
WOOLLAHRA	Former Service Station	20 Wallis STREET	Service Station	Regulation under CLM Act not required	-33.8901965	151.2372752
WOOLLAHRA	Proposed Jewish Care Centre	7-21 Saber STREET	Unclassified	Regulation under CLM Act not required	-33.8904055	151.2480062
WOOLLAHRA	Caltex Woollahra Service Station	116 Old South Head ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.88959697	151.2553736
WOOLLOOMOOLOO	Former BP Service Station	2 Dowley STREET	Service Station	Contamination being managed via the planning process (EP&A Act)	-33.86940191	151.2218741

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
WOOLOMIN	Woolomin Gold Rush Store	65 Nundle ROAD	Other Petroleum	Contamination formerly regulated under the CLM Act	-31.30415134	151.149729
WOOLOOWARE	Caltex Service Station	100 Woollooware ROAD	Service Station	Regulation under CLM Act not required	-34.05274635	151.1408413
WOOLOOWARE	Oyster Farm	Captain Cook DRIVE	Other Industry	Regulation under CLM Act not required	-34.03807914	151.1476055
WOONGARRAH	Former Warnervale Landfill	236-264 Hakone ROAD	Landfill	Regulation under CLM Act not required	-33.2376313	151.464362
WOOTTON	Former Chemical Spill Site	11859 Pacific HIGHWAY	Chemical Industry	Regulation under CLM Act not required	-32.28168548	152.3117819
WOY WOY	Mobil Former Woy Woy Service Station and adjacent land	177-181 Blackwall ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.49254403	151.3270829
WOY WOY	Barry Robertson Holden	231 Blackwall ROAD	Service Station	Regulation under CLM Act not required	-33.49621068	151.3285128
WOY WOY	Bogas Service Station	66 Memorial AVENUE	Service Station	Contamination currently regulated under CLM Act	-33.5069738	151.3315579
WOY WOY	Rogers Park	Dunban ROAD	Landfill	Regulation under CLM Act not required	-33.50009693	151.3181347
WOY WOY	Austin Butler Memorial Oval	Blackwall ROAD	Landfill	Regulation under CLM Act not required	-33.48626871	151.3276042
WOY WOY	James Browne Oval	Welcome STREET	Landfill	Regulation under CLM Act not required	-33.49756053	151.3234871
WYALONG	Caltex Service Station	50 Neeld (Newell Highway) STREET	Service Station	Regulation under CLM Act not required	-33.92665025	147.2446546
WYOMING	Caltex Service Station Wyoming	465 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.40945391	151.3499812
WYONG	Wyong Bayer/Kemcon	16 Lucca ROAD	Chemical Industry	Contamination formerly regulated under the CLM Act	-33.26192339	151.4429446
WYONG	Caltex Service Station	M1 Pacific (Northbound) MOTORWAY	Service Station	Regulation under CLM Act not required	-33.25641477	151.4024821

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
WYONG	Caltex Service Station	M1 Pacific (Southbound) MOTORWAY	Service Station	Regulation under CLM Act not required	-33.25330747	151.4053862
WYONG	IXOM Facility	8 Pavitt CRESCENT	Other Industry	Regulation under CLM Act not required	-33.26379108	151.4485113
YAGOONA	Galserv Galvanising Services	117-153 Rookwood ROAD	Metal Industry	Contamination currently regulated under POEO Act	-33.89493085	151.0388013
YAGOONA	BP Service Station Potts Hill (Yagoona)	155 Rookwood ROAD	Service Station	Regulation under CLM Act not required	-33.89330525	151.0390969
YAGOONA	7-Eleven (former Mobil) Service Station	519 Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-33.90760623	151.0207783
YAGOONA	Shell Coles Express Service Station	112 Rookwood ROAD	Service Station	Regulation under CLM Act not required	-33.89856213	151.0370458
YAGOONA	Sydney Water Corporation Potts Hill Complex	91 Bruncker ROAD	Other Industry	Regulation under CLM Act not required	-33.89887589	151.0289165
YALLAH	Tallawarra Power Station site	Princes HIGHWAY	Unclassified	Ongoing maintenance required to manage residual contamination (CLM Act)	-34.52412143	150.8062159
YAMBA	Caltex Service Station	22 Treelands DRIVE	Service Station	Regulation under CLM Act not required	-29.42701701	153.3279204
YANCO	Former Service Station	14 Main AVENUE	Service Station	Contamination formerly regulated under the CLM Act	-34.60356494	146.4105016
YASS	Caltex Service Station	228 Comur STREET	Service Station	Regulation under CLM Act not required	-34.84440036	148.9140179
YASS	Caltex Service Station	1715 Yass Valley WAY	Service Station	Regulation under CLM Act not required	-34.80708856	148.8824228
YASS	Former Mobil Depot Yass and adjacent land	54-58 Laidlaw STREET	Service Station	Contamination currently regulated under CLM Act	-34.83252976	148.9068888
YASS	Former Gasworks	Dutton STREET	Gasworks	Contamination currently regulated under CLM Act	-34.83982614	148.9060029
YASS	Transgrid Depot Yass	Perry STREET	Unclassified	Under assessment	-34.86238341	148.9052809

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
YENNORA	Former Alcoa Australia Rolled Products Facility - Area 3	1 Kiora CRESCENT	Metal Industry	Regulation under CLM Act not required	-33.86568158	150.9649297
YENNORA	Spicer Axle Australia Manufacturing Facility	205-231 Fairfield ROAD	Other Industry	Regulation under CLM Act not required	-33.85655114	150.9579167
YENNORA	Former Caltex Service Station	137-141 Fairfield STREET	Service Station	Regulation under CLM Act not required	-33.86824768	150.9706137
YENNORA	Former Metal Plant	44 Larra STREET	Metal Industry	Contamination formerly regulated under the CLM Act	-33.86340576	150.9764349
YENNORA	TetraPak Site	6 Foray STREET	Other Industry	Contamination formerly regulated under the CLM Act	-33.8557183	150.9561605
YENNORA	19 Pine Road, Yennora	Pine ROAD	Metal Industry	Contamination currently regulated under CLM Act	-33.86713232	150.9621172
YETHOLME	Yetholme CCA Timber Treatment Plant	351 Eusdale ROAD	Other Industry	Contamination formerly regulated under the CLM Act	-33.45386256	149.8537787
YOUNG	Former Mobil Depot and Service Station Young	149 Lovell STREET	Service Station	Regulation under CLM Act not required	-34.31024587	148.290424
YOUNG	Former Shell Depot	166 Nasmyth STREET	Other Petroleum	Regulation under CLM Act not required	-34.31025192	148.2931008
YOUNG	Former battery recycler	45 Nasmyth STREET	Metal Industry	Contamination currently regulated under CLM Act	-34.31201571	148.306772
YOUNG	Adjacent to former battery recycler	47 Nasmyth STREET	Metal Industry	Contamination formerly regulated under the CLM Act	-34.31176273	148.3064765
YOUNG	Mobil Depot	186 Nasmyth STREET	Other Petroleum	Contamination currently regulated under CLM Act	-34.30954389	148.2908476
YOUNG	Former Caltex Depot	95 Lovell STREET	Service Station	Regulation under CLM Act not required	-34.31127119	148.2955092
ZETLAND	Energy Australia/ Ausgrid Zetland Depot	122 - 138 Joynton AVENUE	Other Industry	Regulation under CLM Act not required	-33.90883116	151.2101184
ZETLAND	Former Goodrich Control Systems, Zetland	84 - 92 Epsom ROAD	Other Industry	Regulation under CLM Act not required	-33.91025707	151.2078048

APPENDIX F

SAFEWORK RECORDS



Our Ref: D20/0091115

26 March 2020

Ms France Kuipers
Geotechnique Pty Ltd
PO Box 880
PENRITH NSW 2750

Dear Ms Kuipers

RE SITE: 20 Memorial Ave and 712 High St, Penrith NSW 2750

I refer to your site search request received by SafeWork NSW on 20 March 2020 requesting information on Storage of Hazardous Chemicals for the above site.

A search of the records held by SafeWork NSW has not located any records pertaining to the above-mentioned premises.

For further information or if you have any questions, please call us on 13 10 50 or email licensing@safework.nsw.gov.au

Yours sincerely

A handwritten signature in black ink, appearing to be 'A. M.'.

Customer Service Officer
Customer Experience - Operations
SafeWork NSW

DANGEROUS GOODS SITE SEARCH CHECKLIST

SALESFORCE #: _____

WORKFLOW #: 414229

Company Name: Geotechnique Pty Ltd

Site Address: 20 Memorial Avenue, Pennith NSW 2750
712 High Street, Pennith NSW 2750

TRIM Document No. D20 1091115

TRIM File No. 2020/007410

FOLLOW-UP NOTES

n/r

scid?

Application Form

Form completed and signed

Payment details received

Letter of authorisation

Map (only need to supply if authorisation isn't attached)

Multiple sites (list attached)

Finance

Payment already receipted

Sent to finance Date: _____

Returned from finance Date: _____

Correspondence

Acknowledgment Letter Sent

Database Searching

Search Completed by: _____

Result

No Result

Correspondence

Result Letter Sent with documentation

No Result Letter Sent

Filing

Documentation attached to file

SITE SEARCH FOR SCHEDULE 11 HAZARDOUS CHEMICALS ON PREMISES

This application must be accompanied with:

- a letter of authorisation from the owner of the land to be searched
- a clear map showing the actual location of the land to be searched

How to fill in this form

Please type directly into the form. When complete, save a copy before emailing or printing.

If completing by hand, please print clearly and mark box(es) with a where required.

Lodgement instructions

Email (preferred): licensing@safework.nsw.gov.au
(credit card payments only)

Post: Customer Experience - Operations,
SafeWork NSW, Locked Bag 2906, Lisarow, NSW,
2252.

Email or post the application - do not send more than once.

For assistance call 13 10 50

Visit the website www.safework.nsw.gov.au to find your nearest office.

Privacy compliance statement

This information is collected by SafeWork NSW (the Regulator) for the purposes of undertaking an evaluation, assessment and processing of a notification of lead risk work under the WHS Regulation.

This information may also be used by the Regulator for the purposes of confirming applicant details, to establish and maintain an external database and to assist the Regulator and its inspectorate with its work generally. It may also be provided to other state, territory and the Commonwealth regulatory authorities.

Except for the purposes of prosecution and unless such disclosure is otherwise required by law, the information will not be accessed by other third parties in a way that would identify the individual without the consent of that individual.

You may also apply to the Regulator to access and correct any information about yourself if that information is inaccurate, incomplete, not relevant or out of date. Applications should be made in writing to: Privacy Contact Officer, SafeWork NSW, Locked Bag 2906, Lisarow, NSW 2252.

SECTION 1. BUSINESS NAME OR INDIVIDUAL APPLYING FOR SITE SEARCH

Geotechnique Pty Ltd

SECTION 2: POSTAL ADDRESS OF THE APPLICANT

Unit number/Street number/Property number
(include Lot or DP/PO Box/GPO Box/Private Bag/Locked Bag)

P O Box 880

Suburb

PENRITH

Street name

State

NSW

Postcode

2750

SECTION 3: CONTACT FOR SITE SEARCH ENQUIRY

Names

Frances Kuipers

Email

frances@geotech.com.au

Daytime contact number

0247 222 700

Mobile number

SECTION 4: STREET ADDRESS OF SITE TO BE SEARCHEDUnit number/Street number/Property number
(include Lot or DP number if applicable)

Lots 21 & 22 DP1236215

Street name

20 Memorial Avenue & 712 High Street

Suburb

PENRITH

State

NSW

Postcode

2750

Nearest cross street

Nepean Avenue

**SECTION 5: CURRENT/PREVIOUS SITE OCCUPIER'S NAME
(AND TRADING NAME IF APPLICABLE)**

Current

Previous

SECTION 6: LODGEMENT FEES

A fee must be paid on lodgement of the application form.

Refer to the [SafeWork NSW fees schedule](http://www.safework.nsw.gov.au) available at www.safework.nsw.gov.au or call 13 10 50.Please charge \$ to my: MasterCard Visa

A payment processing fee of 0.40% applies to MasterCard and Visa.

Card number

4089670002274773

Card expiry date (MM/YYYY)

08/2022

Cardholder name (please print name as displayed on credit card)

Geotechnique

Cardholder signature



Date (DD/MM/YYYY)

13/03/2020

SECTION 7: NAME OF APPLICANT

Name

Frances Kuipers

Applicant's signature



Date (DD/MM/YYYY)

13/03/2020



FDC Construction (NSW) Pty Ltd
ABN 72 606 609 427

22-24 Junction Street
Forest Lodge NSW 2037 Australia
T 61 2 8117 5000 | F 61 2 9566 2800
fdcbuilding.com.au

12 March 2020

Geotechnique Pty Ltd
P O Box 880
PENRITH NSW 2751

Attention: Ms F Kuipers

Dear Ms Kuipers

RE: **Lots 21 & 22 in DP1236215
being 20 Memorial Avenue and 712 High Street, Penrith**

I/We am/are the owner(s) of the abovementioned property and hereby authorise Geotechnique Pty Ltd to contact Council and SafeWork NSW in order to obtain any relevant information for the purpose of preparation of a Preliminary Contamination Assessment Report for the above site.

Should you have any questions, please do not hesitate to contact the undersigned.

Yours faithfully

Chris Murray
Project Engineer, Construction NSW

0466 846 587
chrismu@fdcbuilding.com.au
22 - 24 Junction Street, Forest Lodge, NSW 2037

FDC | Local Focus. National Strength. Personal Touch.

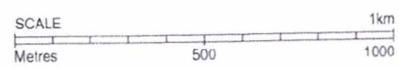
LinkedIn | Facebook | Instagram
www.fdcbuilding.com.au

4 GRID SQUARES MEASURE 1km

JOINS MAP 143



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<p> FREEWAY </p> <p> PROPOSED FREEWAY </p> <p> HIGHWAY or MAIN ROUTE </p> <p> ALTERNATE ROUTE </p> <p> TRAFFICABLE ROAD </p> <p> PROPOSED ROAD </p>	<p> PARK, RESERVE, OVAL </p> <p> SCHOOL, HOSPITAL </p> <p> MISCELLANEOUS AREA </p> <p> MALL, PLAZA </p> <p> SWAMP </p>	<p> AMBULANCE STATION </p> <p> BARBECUE </p> <p> BOAT RAMP </p> <p> BOWLING CLUB/GREEN </p> <p> CAMPING AREA </p> <p> CARAVAN PARK </p>	<p> CAR PARK </p> <p> CYCLEWAY </p> <p> DISTANCE FROM G </p> <p> EMERGENCY TELE </p> <p> EXPRESS POST BO </p> <p> FIRE STATION </p>
---	---	---	---

Elizabeth Tammekand

From: Frances Kuipers <frances@geotech.com.au>
Sent: Friday, 13 March 2020 9:50 AM
To: Customer Service Centre Licensing
Cc: John Xu
Subject: Site Search for Schedule 11 Hazardous Chemicals on Premises application
Attachments: SafeWork Application.pdf

Categories: Liz

To Whom it May Concern

Attached is our application for site search for schedule 11 hazardous chemicals on premises for Lots 21 & 22 DP1236215, 20 Memorial Avenue and 712 High Street, Penrith..
If possible could you email the information when available.

Thanks in advance.

Frances Kuipers
Office Assistant



PO Box 880
Penrith NSW 2750
Tel: 02 4722 2700
Fax: 02 4722 2777

www.geotech.com.au

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APPENDIX G

GROUNDWATER MAP



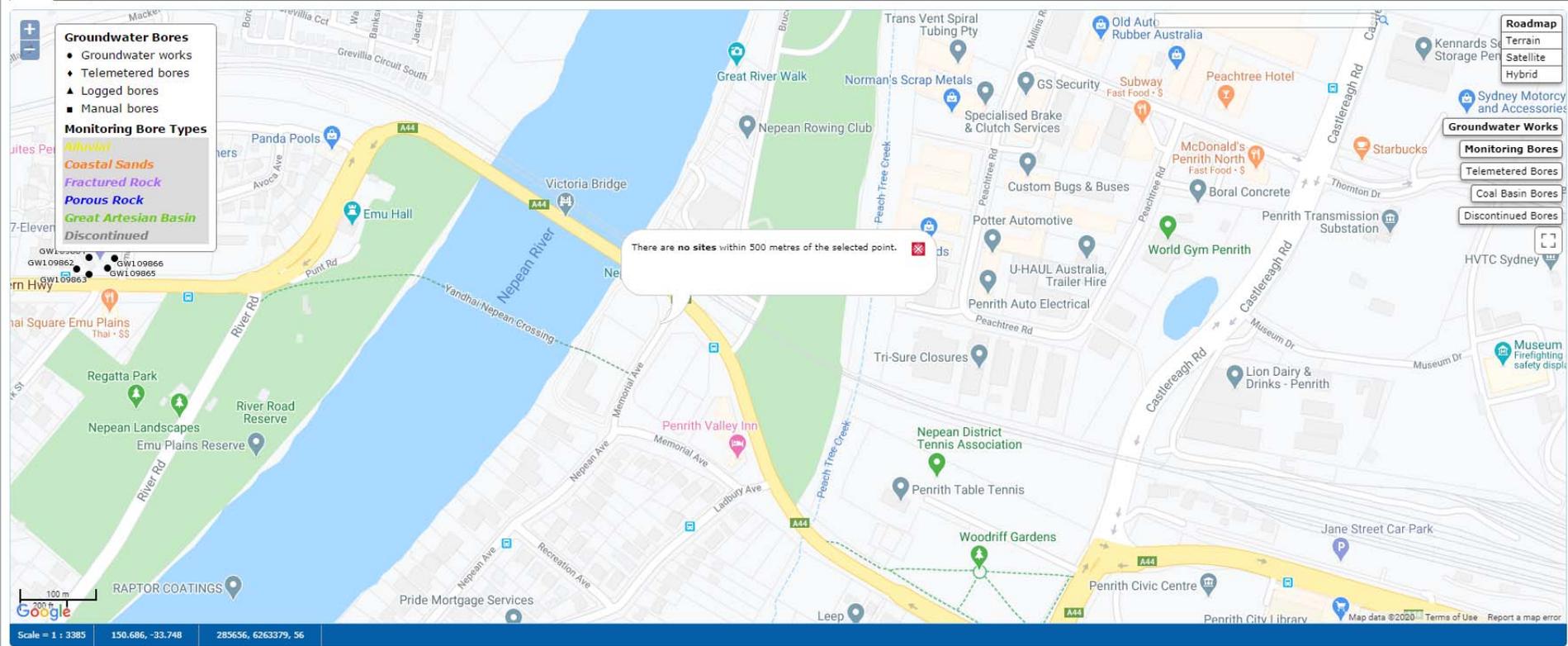
All Groundwater Site Details All Groundwater Map

All data times are Eastern Standard Time

[bookmark this page](#)

Map Info

- Groundwater Bores**
 - Groundwater works
 - ▲ Telemetered bores
 - ▲ Logged bores
 - Manual bores
- Monitoring Bore Types**
 - Aluvial
 - Coastal Sands
 - Fractured Rock
 - Porous Rock
 - Great Artesian Basin
 - Discontinued



[contact WaterNSW](#)

APPENDIX H

TABLE 1 – TEST PIT LOGS

Project	Proposed Hotel	Job No	14578/3
Location	20 and 713 Memorial Ave, Penrith	Refer to Drawing No	14578/3-AA1
		Logged & Sampled by	JH

TABLE 1

Test Pit	Depth (m)	Sample Depth (m)	Date	Material Description	Remarks*
TP201	0-2.2	0-0.15	29/11/2019	FILL: Silty Clay, medium plasticity, grey	
		0.5-0.8	29/11/2019	FILL: Silty Clay, medium plasticity, grey	
		1-1.3	29/11/2019	FILL: Silty Clay, medium plasticity, grey	
		1.5-1.8	29/11/2019	FILL: Silty Clay, medium plasticity, grey	
		2-2.2	29/11/2019	FILL: Silty Clay, medium plasticity, grey	
	2.2			Limit of reach	
TP202	0-1.0	0-0.15	29/11/2019	FILL: Silty Clay, medium plasticity, grey	
		0.5-0.8	29/11/2019	FILL: Silty Clay, medium plasticity, grey	
		1.0-1.5	29/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	
TP203	0-0.4	0-0.15	29/11/2019	FILL: Silty Clay, medium plasticity, grey with concrete fragments	
		0.4-0.9	29/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	
TP204	0-0.4	0-0.15	29/11/2019	FILL: Silty CLAY, medium plasticity, grey, trace of coal slag	
		0.4-0.9	29/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	
TP205	0-0.5	0-0.15	29/11/2019	FILL: Silty Clay, medium plasticity, grey with concrete fragments	
		0.5-1.0	29/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	
TP206	0-0.5	0-0.15	29/11/2019	FILL: Silty Clay, medium plasticity, grey with concrete fragments	
		0.5-1.0	29/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	
TP207	0-0.7	0-0.15	29/11/2019	FILL: Silty CLAY, medium plasticity, grey with coal slag, inclusion of FCP	FCP sample collected and labelled as FCP-TP207 (0.0-0.15m)
		0.5-0.7	29/11/2019	FILL: Silty CLAY, medium plasticity, grey with coal slag	
		0.7-1.3	29/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	

NS = No Sample

*Odour (O), Discolouration (D), Petroleum Hydrocarbon Staining (PHS), Fibro-cement Pieces (FCP), Ash Material (ASHM), Demolition Waste (DW), Groundwater (GW), Perched Water (PW) PID reading etc.

Form No 0009-Rev7 Jun 2014

Project	Proposed Hotel	Job No	14578/3
Location	20 and 713 Memorial Ave, Penrith	Refer to Drawing No	14578/3-AA1
		Logged & Sampled by	JH

TABLE 1

Page 2 of 5

Test Pit	Depth (m)	Sample Depth (m)	Date	Material Description	Remarks*
TP208	0-0.5	0-0.15	29/11/2019	FILL: Silty CLAY, medium plasticity, grey, inclusion of brick pieces and FCPs	FCP sample collected and labelled as FCP-TP208 (0.0-0.15m)
	0.5-1.0	0.55-0.65	29/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	
TP209	0-1.0	0-0.15	29/11/2019	FILL: Silty CLAY, medium plasticity, grey, trace of coal slag	
		0.5-0.7	29/11/2019	FILL: Silty CLAY, medium plasticity, grey, trace of coal slag	
	1.0-1.5	0.75-0.85	29/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	
TP210	0-0.2	0-0.15	29/11/2019	FILL: Silty CLAY, medium plasticity, grey	
	0.2-0.7	0.25-0.35	29/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	
TP211	0-0.3	0-0.15	29/11/2019	FILL: Silty CLAY, medium plasticity, grey	
	0.3-0.8	0.35-0.45	29/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	
TP212	0-0.5	0-0.15	29/11/2019	FILL: Silty CLAY, medium plasticity, grey	
	0.5-1.0	0.55-0.55	29/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	
TP213	0-0.5	0-0.15	29/11/2019	FILL: Silty CLAY, medium plasticity, grey	
	0.5-1.0	0.55-0.55	29/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	
TP301	0-0.5	0-0.15	28/11/2019	FILL: Silty CLAY, medium plasticity, grey	
	0.5-1.0	0.55-0.65	28/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	
TP302	0-1.0	0-0.15	28/11/2019	FILL: Silty Clay, low to medium plasticity, brown to dark brown, inclusion of gravel inclusion of bricks	
		0.5-0.8	28/11/2019	FILL: Silty Clay, low to medium plasticity, brown to dark brown, inclusion of gravel inclusion of bricks	

NS = No Sample

*Odour (O), Discolouration (D), Petroleum Hydrocarbon Staining (PHS), Fibro-cement Pieces (FCP), Ash Material (ASHM), Demolition Waste (DW), Groundwater (GW), Perched Water (PW) PID reading etc.

Form No 0009-Rev7 Jun 2014

Project	Proposed Hotel	Job No	14578/3
Location	20 and 713 Memorial Ave, Penrith	Refer to Drawing No	14578/3-AA1
		Logged & Sampled by	JH

TABLE 1

Test Pit	Depth (m)	Sample Depth (m)	Date	Material Description	Remarks*
	1.0-1.5	1.05-1.15	28/11/2019	(CI-CH) Silty CLAY, medium to high plasticity, brown	
TP303	0-0.8	0-0.15	28/11/2019	FILL: Silty Clay, low to medium plasticity, brown to dark brown, inclusion of gravel inclusion of bricks	
		0.5-0.8	28/11/2019	FILL: Silty Clay, low to medium plasticity, brown to dark brown, inclusion of gravel inclusion of bricks	
	0.8-1.3	0.85-0.95	28/11/2019	(CI-CH) Silty CLAY, medium to high plasticity, brown	
TP304	0-1.8	0-0.15	28/11/2019	FILL: Silty Clay, low to medium plasticity, brown to dark brown, inclusion of gravel inclusion of bricks	
		0.5-0.8	28/11/2019	FILL: Silty Clay, low to medium plasticity, brown to dark brown, inclusion of gravel inclusion of bricks	
		1-1.3	28/11/2019	FILL: Silty Clay, low to medium plasticity, brown to dark brown, inclusion of gravel inclusion of bricks	
		1.5-1.8	28/11/2019	FILL: Silty Clay, low to medium plasticity, brown to dark brown, inclusion of gravel inclusion of bricks	
TP305	1.8-2.3	1.85-1.95	28/11/2019	(CI-CH) Silty CLAY, medium to high plasticity, brown	
	0-0.2	0-0.15	28/11/2019	FILL: Silty CLAY, medium plasticity, grey	
TP306	0.2-0.7	0.25-0.35	28/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	
	0-0.3	0-0.15	28/11/2019	FILL: Silty CLAY, medium plasticity, grey	
TP307	0.3-0.8	0.35-0.45	28/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	
	0-0.4	0-0.15	28/11/2019	FILL: Silty CLAY, medium plasticity, grey. inclusion of concrete pieces, bitumen fragments and crushed sandstone	Bitumen sample collected and labelled as TP307
TP308	0.4-0.9	0.45-0.55	28/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	
	0-0.5	0-0.15	28/11/2019	FILL: Silty CLAY, medium plasticity, grey. inclusion of concrete pieces	

NS = No Sample

*Odour (O), Discolouration (D), Petroleum Hydrocarbon Staining (PHS), Fibro-cement Pieces (FCP), Ash Material (ASHM), Demolition Waste (DW), Groundwater (GW), Perched Water (PW) PID reading etc.

Form No 0009-Rev7 Jun 2014

Project	Proposed Hotel	Job No	14578/3
Location	20 and 713 Memorial Ave, Penrith	Refer to Drawing No	14578/3-AA1
		Logged & Sampled by	JH

TABLE 1

Page 4 of 5

Test Pit	Depth (m)	Sample Depth (m)	Date	Material Description	Remarks*
	0.5-1.0	0.55-0.65	28/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	
TP309	0-0.4	0-0.15	28/11/2019	FILL: Silty CLAY, medium plasticity, grey	
	0.4-0.9	0.45-0.55	28/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	
TP310	0-0.5	0-0.15	28/11/2019	FILL: Silty CLAY, medium plasticity, grey	
	0.5-1.0	0.55-0.65	28/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	
TP311	0-0.5	0-0.15	28/11/2019	FILL: Silty CLAY, medium plasticity, grey	
	0.5-1.0	0.55-0.65	28/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	
TP312	0-0.4	0-0.15	28/11/2019	FILL: Silty Clay, low to medium plasticity, brown to dark brown, inclusion of gravel inclusion bricks	
	0.4-0.9	0.45-0.55	28/11/2019	(CI-CH) Silty CLAY, medium to high plasticity, brown	
TP313	0-0.5	0-0.15	28/11/2019	FILL: Silty CLAY, medium plasticity, grey. inclusion concrete pieces	
	0.5-1.0	0.55-0.65	28/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	
TP314	0-0.4	0-0.15	28/11/2019	FILL: Silty CLAY, medium plasticity, grey	
	0.4-0.9	0.45-0.55	28/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	
TP315	0-0.2	0-0.15	28/11/2019	TOPSOIL: Silty Clay, low plasticity, dark brown, trace of root fibres	
	0.2-0.5	0.55-0.65	28/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	
TP316	0-0.4	0-0.15	28/11/2019	FILL: Silty CLAY, medium plasticity, grey. inclusion of concrete fragments	
	0.4-0.9	0.45-0.55	28/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	

NS = No Sample

*Odour (O), Discolouration (D), Petroleum Hydrocarbon Staining (PHS), Fibro-cement Pieces (FCP), Ash Material (ASHM), Demolition Waste (DW), Groundwater (GW), Perched Water (PW) PID reading etc.

Form No 0009-Rev7 Jun 2014

Project	Proposed Hotel	Job No	14578/3
Location	20 and 713 Memorial Ave, Penrith	Refer to Drawing No	14578/3-AA1
		Logged & Sampled by	JH

TABLE 1

Page 5 of 5

Test Pit	Depth (m)	Sample Depth (m)	Date	Material Description	Remarks*
TP317	0-0.4	0-0.15	28/11/2019	FILL: Silty CLAY, medium plasticity, grey	
	0.4-0.9	0.45-0.55	28/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	
TP318	0-0.2	0-0.15	28/11/2019	FILL: Silty CLAY, medium plasticity, grey	
	0.2-0.7	0.25-0.35	28/11/2019	(CL) Silty Sandy CLAY, low plasticity, brown to dark brown	

NS = No Sample

*Odour (O), Discolouration (D), Petroleum Hydrocarbon Staining (PHS), Fibro-cement Pieces (FCP), Ash Material (ASHM), Demolition Waste (DW), Groundwater (GW), Perched Water (PW) PID reading etc.

Form No 0009-Rev7 Jun 2014

APPENDIX I

ELECTRONIC COMMUNICATION WITH CLIENT REGARDING A FIRE ON PART OF THE SITE

James Ngu

From: Peter Stait <peterst@fdcbuilding.com.au>
Sent: Monday, 2 December 2019 6:22 PM
To: James Ngu; Justin Hofmann; John Xu
Cc: Marcus Cooper
Subject: Fwd: Log Cabin Site Assessment

FYI confirmation below regarding PFAS likelihood.

Peter Stait

Project Manager, Construction, NSW

[02 8117 5089](tel:0281175089) | [0466 149 090](tel:0466149090)
peterst@fdcbuilding.com.au
[22 - 24 Junction Street, Forest Lodge, NSW 2037](#)

Begin forwarded message:

From: John Mullane <jmullane@pnc.com.au>
Date: 29 November 2019 at 11:49:19 am AEDT
To: Peter Stait <peterst@fdcbuilding.com.au>
Cc: Phillip Thompson <phillip@ptalaw.com.au>
Subject: Log Cabin Site Assessment

Peter.

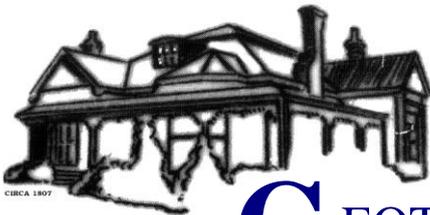
I met with the Director, Sinclair Nominees Pty. Ltd. (Ross Sinclair) today. Mr. Sinclair confirmed that, on the night the Log Cabin Hotel caught fire, the Fire Brigade, on arrival, could not locate a suitable hydrant and accordingly, pumped water from the River. Eventually a hydrant was located and used to continue to fight the fire. Mr. Sinclair stated that, at no time, did the Fire Brigade use any chemical retardant to fight the fire.

John Mullane
Director.
Mullane Planning Consultants, Pty. Ltd.

This email has been scanned by the Symantec Email Security.cloud service.
For more information please visit <http://www.symanteccloud.com>

APPENDIX J

UNEXPECTED MANAGEMENT FINDS PROTOCOL



G EOTECHNIQUE[®]
PTY LTD

ARN 64 002 841 063



**Unexpected Finds Management Protocol
Proposed Redevelopment
Lots 21 and 22 in DP1236215
20 and 713 Memorial Avenue, Penrith**

In the event that unexpected finds and/or suspect materials (identified by unusual staining, odour, discolouration or inclusions such as building rubble, asbestos sheeting/pieces/pipes, ash material, imported fill, etc.) are encountered during future earthworks/demolitions or in between sampling locations, the following actions are to be undertaken.

Management of unexpected finds and/or suspect materials

If unexpected finds and/or suspect materials are encountered:

- Works are to be ceased.
- An Environmental consultant is to be engaged to take appropriate action.
- If contamination is identified, the contaminated materials must be disposed of at an EPA licensed landfill facility with an appropriate waste classification.

Management of bonded asbestos containing material (ACM)

If bonded ACM is encountered, the following measures are implemented:

- Engage a NSW WorkCover accredited Class B asbestos contractor.
- Removal of the asbestos waste must be carried out in accordance with the requirements of the regulators, such as NSW WorkCover and NSW EPA.
- A WorkCover Licensed Asbestos Assessor should be engaged to provide a clearance certificate.

Management of friable asbestos within the soil

It is recommended that the following measures are implemented if friable asbestos is encountered:

- Engage a NSW WorkCover accredited Class A Asbestos contractor.
- Removal of the asbestos waste must be carried out in accordance with the requirements of the regulators, such as NSW WorkCover and NSW EPA
- A WorkCover Licensed Asbestos Assessor must be engaged to provide a clearance certificate.

APPENDIX K

LABORATORY ANALYTICAL REPORTS/CERTIFICATES

CLIENT DETAILS

Contact **John Xu**
 Client **Geotechnique**
 Address **P.O. Box 880
 NSW 2751**

Telephone **02 4722 2700**
 Facsimile **02 4722 6161**
 Email **john.xu@geotech.com.au**

Project **14578/1 Penrith**
 Order Number **(Not specified)**
 Samples **27**

LABORATORY DETAILS

Manager **Huong Crawford**
 Laboratory **SGS Alexandria Environmental**
 Address **Unit 16, 33 Maddox St
 Alexandria NSW 2015**

Telephone **+61 2 8594 0400**
 Facsimile **+61 2 8594 0499**
 Email **au.environmental.sydney@sgs.com**

SGS Reference **SE200565 R0**
 Date Received **29/11/2019**
 Date Reported **4/12/2019**

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

No respirable fibres detected in all soil samples using trace analysis technique.

Sample 9: Asbestos found in approx 5x3x1mm cement sheet fragment.

Asbestos analysed by Approved Identifiers Yusuf Kuthpudin and Ravee Sivasubramaniam .

SIGNATORIES



Akheeque BENIAEEN
 Chemist



Bennet LO
 Senior Organic Chemist/Metals Chemist



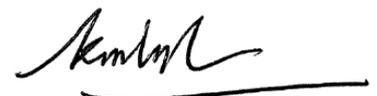
Dong LIANG
 Metals/Inorganics Team Leader



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Kamrul AHSAN
 Senior Chemist



Ly Kim HA
 Organic Section Head

VOC's in Soil [AN433] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP301	TP303	TP304	TP304	TP305
			CLAY 0.0-0.15 28/11/2019 SE200565.001	CLAY 0.0-0.15 28/11/2019 SE200565.004	CLAY 0.0-0.15 28/11/2019 SE200565.006	CLAY 1.0-1.3 28/11/2019 SE200565.008	CLAY 0.0-0.15 28/11/2019 SE200565.010
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	TP308	TP310	TP312	TP314	TP316
			CLAY 0.0-0.15 28/11/2019 SE200565.013	CLAY 0.0-0.15 28/11/2019 SE200565.015	CLAY 0.0-0.15 28/11/2019 SE200565.017	CLAY 0.0-0.15 28/11/2019 SE200565.019	CLAY 0.0-0.15 28/11/2019 SE200565.021
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	TP318	DDS3	TS1
			CLAY 0.0-0.15 28/11/2019 SE200565.023	CLAY - 28/11/2019 SE200565.024	SAND - 28/11/2019 SE200565.027
Benzene	mg/kg	0.1	<0.1	<0.1	[78%]
Toluene	mg/kg	0.1	<0.1	<0.1	[81%]
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	[82%]
m/p-xylene	mg/kg	0.2	<0.2	<0.2	[82%]
o-xylene	mg/kg	0.1	<0.1	<0.1	[82%]
Total Xylenes	mg/kg	0.3	<0.3	<0.3	-
Total BTEX	mg/kg	0.6	<0.6	<0.6	-
Naphthalene	mg/kg	0.1	<0.1	<0.1	-

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP301	TP303	TP304	TP304	TP305
			CLAY 0.0-0.15 28/11/2019 SE200565.001	CLAY 0.0-0.15 28/11/2019 SE200565.004	CLAY 0.0-0.15 28/11/2019 SE200565.006	CLAY 1.0-1.3 28/11/2019 SE200565.008	CLAY 0.0-0.15 28/11/2019 SE200565.010
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	TP308	TP310	TP312	TP314	TP316
			CLAY 0.0-0.15 28/11/2019 SE200565.013	CLAY 0.0-0.15 28/11/2019 SE200565.015	CLAY 0.0-0.15 28/11/2019 SE200565.017	CLAY 0.0-0.15 28/11/2019 SE200565.019	CLAY 0.0-0.15 28/11/2019 SE200565.021
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	TP318	DDS3
			CLAY 0.0-0.15 28/11/2019 SE200565.023	CLAY - 28/11/2019 SE200565.024
TRH C6-C9	mg/kg	20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP301	TP303	TP304	TP304	TP305
			CLAY 0.0-0.15 28/11/2019 SE200565.001	CLAY 0.0-0.15 28/11/2019 SE200565.004	CLAY 0.0-0.15 28/11/2019 SE200565.006	CLAY 1.0-1.3 28/11/2019 SE200565.008	CLAY 0.0-0.15 28/11/2019 SE200565.010
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	TP308	TP310	TP312	TP314	TP316
			CLAY 0.0-0.15 28/11/2019 SE200565.013	CLAY 0.0-0.15 28/11/2019 SE200565.015	CLAY 0.0-0.15 28/11/2019 SE200565.017	CLAY 0.0-0.15 28/11/2019 SE200565.019	CLAY 0.0-0.15 28/11/2019 SE200565.021
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	46	<45	<45	54
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	TP318	DDS3
			CLAY 0.0-0.15 28/11/2019 SE200565.023	CLAY - 28/11/2019 SE200565.024
TRH C10-C14	mg/kg	20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP301	TP303	TP303	TP304	TP304
			CLAY 0.0-0.15 28/11/2019 SE200565.001	CLAY 0.0-0.15 28/11/2019 SE200565.004	CLAY 0.5-0.8 28/11/2019 SE200565.005	CLAY 0.0-0.15 28/11/2019 SE200565.006	CLAY 0.5-0.8 28/11/2019 SE200565.007
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	0.3	<0.1	0.2	<0.1	<0.1
Pyrene	mg/kg	0.1	0.4	<0.1	0.2	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	0.2	<0.1	0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	0.2	<0.1	0.2	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	0.3	<0.1	0.2	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	0.2	<0.1	0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	0.3	<0.1	0.2	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.1	<0.1	0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<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	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	0.4	<0.2	0.3	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	0.5	<0.3	0.4	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	0.4	<0.2	0.3	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	2.2	<0.8	1.6	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	2.2	<0.8	1.6	<0.8	<0.8

PARAMETER	UOM	LOR	TP304	TP305	TP306	TP308	TP309
			CLAY 1.0-1.3 28/11/2019 SE200565.008	CLAY 0.0-0.15 28/11/2019 SE200565.010	CLAY 0.0-0.15 28/11/2019 SE200565.011	CLAY 0.0-0.15 28/11/2019 SE200565.013	CLAY 0.0-0.15 28/11/2019 SE200565.014
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	0.2	0.1	0.5
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.1
Fluoranthene	mg/kg	0.1	<0.1	0.2	0.5	0.3	0.9
Pyrene	mg/kg	0.1	0.1	0.2	0.4	0.3	0.8
Benzo(a)anthracene	mg/kg	0.1	<0.1	0.1	0.2	0.2	0.4
Chrysene	mg/kg	0.1	<0.1	0.1	0.2	0.2	0.4
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0.1	0.3	0.2	0.4
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	0.2	0.2	0.3
Benzo(a)pyrene	mg/kg	0.1	<0.1	0.1	0.3	0.2	0.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	0.1	<0.1	0.2
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	0.2	0.1	0.2
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	0.4	0.3	0.5
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	0.5	0.4	0.6
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	0.5	0.3	0.6
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	2.6	1.7	4.4
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	2.6	1.7	4.4

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 2/12/2019 (continued)

PARAMETER	UOM	LOR	TP310	TP311	TP312	TP314	TP316
			CLAY 0.0-0.15 28/11/2019 SE200565.015	CLAY 0.0-0.15 28/11/2019 SE200565.016	CLAY 0.0-0.15 28/11/2019 SE200565.017	CLAY 0.0-0.15 28/11/2019 SE200565.019	CLAY 0.0-0.15 28/11/2019 SE200565.021
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	0.2	<0.1	0.1	0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	0.5	0.2	0.2	0.4	0.3
Pyrene	mg/kg	0.1	0.5	0.2	0.2	0.4	0.4
Benzo(a)anthracene	mg/kg	0.1	0.2	0.1	0.1	0.2	0.2
Chrysene	mg/kg	0.1	0.3	0.1	0.1	0.2	0.3
Benzo(b&j)fluoranthene	mg/kg	0.1	0.4	0.1	0.2	0.2	0.5
Benzo(k)fluoranthene	mg/kg	0.1	0.2	0.1	0.1	0.1	0.3
Benzo(a)pyrene	mg/kg	0.1	0.4	0.1	0.2	0.2	0.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	0.3
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	0.2	<0.1	0.1	0.1	0.3
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	0.5	<0.2	0.2	0.3	0.7
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	0.6	<0.3	0.4	0.4	0.8
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	0.5	0.2	0.3	0.3	0.7
Total PAH (18)	mg/kg	0.8	3.0	0.9	1.4	1.9	3.1
Total PAH (NEPM/WHO 16)	mg/kg	0.8	3.0	0.9	1.4	1.9	3.1

PARAMETER	UOM	LOR	TP318	DDS3
			CLAY 0.0-0.15 28/11/2019 SE200565.023	CLAY - 28/11/2019 SE200565.024
Naphthalene	mg/kg	0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	0.2	0.2
Pyrene	mg/kg	0.1	0.2	0.2
Benzo(a)anthracene	mg/kg	0.1	0.1	<0.1
Chrysene	mg/kg	0.1	0.1	0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	0.2	0.1
Benzo(k)fluoranthene	mg/kg	0.1	0.1	0.1
Benzo(a)pyrene	mg/kg	0.1	0.1	0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	0.2	0.2
Total PAH (18)	mg/kg	0.8	1.2	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	1.2	<0.8

OC Pesticides in Soil [AN420] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP301	TP303	TP303	TP304	TP304
			CLAY 0.0-0.15 28/11/2019 SE200565.001	CLAY 0.0-0.15 28/11/2019 SE200565.004	CLAY 0.5-0.8 28/11/2019 SE200565.005	CLAY 0.0-0.15 28/11/2019 SE200565.006	CLAY 0.5-0.8 28/11/2019 SE200565.007
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Lindane	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Heptachlor	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Aldrin	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Beta BHC	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Delta BHC	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	<0.2	-
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Dieldrin	mg/kg	0.05	0.06	<0.05	-	<0.05	-
Endrin	mg/kg	0.2	<0.2	<0.2	-	<0.2	-
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	<0.2	-
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Isodrin	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Mirex	mg/kg	0.1	<0.1	<0.1	-	<0.1	-

OC Pesticides in Soil [AN420] Tested: 2/12/2019 (continued)

PARAMETER	UOM	LOR	TP304	TP305	TP306	TP308	TP309
			CLAY 1.0-1.3 28/11/2019 SE200565.008	CLAY 0.0-0.15 28/11/2019 SE200565.010	CLAY 0.0-0.15 28/11/2019 SE200565.011	CLAY 0.0-0.15 28/11/2019 SE200565.013	CLAY 0.0-0.15 28/11/2019 SE200565.014
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Lindane	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Heptachlor	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Aldrin	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Beta BHC	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Delta BHC	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	<0.2	-
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Dieldrin	mg/kg	0.05	<0.05	<0.05	-	0.12	-
Endrin	mg/kg	0.2	<0.2	<0.2	-	<0.2	-
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	<0.2	-
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Isodrin	mg/kg	0.1	<0.1	<0.1	-	<0.1	-
Mirex	mg/kg	0.1	<0.1	<0.1	-	<0.1	-

OC Pesticides in Soil [AN420] Tested: 2/12/2019 (continued)

PARAMETER	UOM	LOR	TP310	TP311	TP312	TP314	TP315
			CLAY 0.0-0.15 28/11/2019 SE200565.015	CLAY 0.0-0.15 28/11/2019 SE200565.016	CLAY 0.0-0.15 28/11/2019 SE200565.017	CLAY 0.0-0.15 28/11/2019 SE200565.019	CLAY 0.0-0.15 28/11/2019 SE200565.020
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.05	<0.05	-	<0.05	<0.05	<0.05
Endrin	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1

OC Pesticides in Soil [AN420] Tested: 2/12/2019 (continued)

PARAMETER	UOM	LOR	TP316	TP318	DDS3
			CLAY 0.0-0.15 28/11/2019 SE200565.021	CLAY 0.0-0.15 28/11/2019 SE200565.023	CLAY - 28/11/2019 SE200565.024
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.05	<0.05	<0.05	<0.05
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1

PCBs in Soil [AN420] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP301	TP303	TP303	TP304	TP304
			CLAY	CLAY	CLAY	CLAY	CLAY
			0.0-0.15 28/11/2019 SE200565.001	0.0-0.15 28/11/2019 SE200565.004	0.5-0.8 28/11/2019 SE200565.005	0.0-0.15 28/11/2019 SE200565.006	0.5-0.8 28/11/2019 SE200565.007
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	-	<0.2	-
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	-	<0.2	-
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	-	<0.2	-
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	-	<0.2	-
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	-	<0.2	-
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	-	<0.2	-
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	-	<0.2	-
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	-	<0.2	-
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	-	<0.2	-
Total PCBs (Arochlors)	mg/kg	1	<1	<1	-	<1	-

PARAMETER	UOM	LOR	TP304	TP305	TP306	TP308	TP309
			CLAY	CLAY	CLAY	CLAY	CLAY
			1.0-1.3 28/11/2019 SE200565.008	0.0-0.15 28/11/2019 SE200565.010	0.0-0.15 28/11/2019 SE200565.011	0.0-0.15 28/11/2019 SE200565.013	0.0-0.15 28/11/2019 SE200565.014
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	-	<0.2	-
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	-	<0.2	-
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	-	<0.2	-
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	-	<0.2	-
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	-	<0.2	-
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	-	<0.2	-
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	-	<0.2	-
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	-	<0.2	-
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	-	<0.2	-
Total PCBs (Arochlors)	mg/kg	1	<1	<1	-	<1	-

PARAMETER	UOM	LOR	TP310	TP311	TP312	TP314	TP315
			CLAY	CLAY	CLAY	CLAY	CLAY
			0.0-0.15 28/11/2019 SE200565.015	0.0-0.15 28/11/2019 SE200565.016	0.0-0.15 28/11/2019 SE200565.017	0.0-0.15 28/11/2019 SE200565.019	0.0-0.15 28/11/2019 SE200565.020
Arochlor 1016	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Arochlor 1221	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Arochlor 1232	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Arochlor 1242	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Arochlor 1248	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Arochlor 1254	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Arochlor 1260	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Arochlor 1262	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Arochlor 1268	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Total PCBs (Arochlors)	mg/kg	1	<1	-	<1	<1	-

PCBs in Soil [AN420] Tested: 2/12/2019 (continued)

PARAMETER	UOM	LOR	TP316	TP318	DDS3
			CLAY 0.0-0.15 28/11/2019 SE200565.021	CLAY 0.0-0.15 28/11/2019 SE200565.023	CLAY - 28/11/2019 SE200565.024
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1

pH in soil (1:5) [AN101] Tested: 3/12/2019

			TP301	TP303	TP304	TP308	TP310
			CLAY 0.0-0.15 28/11/2019	CLAY 0.0-0.15 28/11/2019	CLAY 1.0-1.3 28/11/2019	CLAY 0.0-0.15 28/11/2019	CLAY 0.0-0.15 28/11/2019
PARAMETER	UOM	LOR	SE200565.001	SE200565.004	SE200565.008	SE200565.013	SE200565.015
pH	pH Units	0.1	8.3	8.5	7.5	8.2	8.1

			TP312	TP314	TP315	TP316	TP318
			CLAY 0.0-0.15 28/11/2019	CLAY 0.0-0.15 28/11/2019	CLAY 0.0-0.15 28/11/2019	CLAY 0.0-0.15 28/11/2019	CLAY 0.0-0.15 28/11/2019
PARAMETER	UOM	LOR	SE200565.017	SE200565.019	SE200565.020	SE200565.021	SE200565.023
pH	pH Units	0.1	7.8	8.1	5.9	7.9	8.1

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) [AN122] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP301	TP303	TP304	TP308	TP310
			CLAY 0.0-0.15 28/11/2019 SE200565.001	CLAY 0.0-0.15 28/11/2019 SE200565.004	CLAY 1.0-1.3 28/11/2019 SE200565.008	CLAY 0.0-0.15 28/11/2019 SE200565.013	CLAY 0.0-0.15 28/11/2019 SE200565.015
Exchangeable Sodium, Na	mg/kg	2	110	720	350	86	55
Exchangeable Sodium, Na	meq/100g	0.01	0.49	3.1	1.5	0.37	0.24
Exchangeable Sodium Percentage*	%	0.1	1.6	18.1	8.7	1.4	0.9
Exchangeable Potassium, K	mg/kg	2	200	130	84	160	150
Exchangeable Potassium, K	meq/100g	0.01	0.51	0.34	0.22	0.41	0.38
Exchangeable Potassium Percentage*	%	0.1	1.7	2.0	1.2	1.5	1.4
Exchangeable Calcium, Ca	mg/kg	2	5100	1700	2500	5100	5100
Exchangeable Calcium, Ca	meq/100g	0.01	26	8.3	13	25	25
Exchangeable Calcium Percentage*	%	0.1	84.2	48.2	72.9	93.9	93.3
Exchangeable Magnesium, Mg	mg/kg	2	470	660	380	110	150
Exchangeable Magnesium, Mg	meq/100g	0.02	3.8	5.4	3.0	0.89	1.2
Exchangeable Magnesium Percentage*	%	0.1	12.6	31.7	17.2	3.3	4.4
Cation Exchange Capacity	meq/100g	0.02	30	17	17	27	27

PARAMETER	UOM	LOR	TP312	TP314	TP315	TP316	TP318
			CLAY 0.0-0.15 28/11/2019 SE200565.017	CLAY 0.0-0.15 28/11/2019 SE200565.019	CLAY 0.0-0.15 28/11/2019 SE200565.020	CLAY 0.0-0.15 28/11/2019 SE200565.021	CLAY 0.0-0.15 28/11/2019 SE200565.023
Exchangeable Sodium, Na	mg/kg	2	110	170	30	82	35
Exchangeable Sodium, Na	meq/100g	0.01	0.50	0.72	0.13	0.36	0.15
Exchangeable Sodium Percentage*	%	0.1	1.6	2.4	1.6	1.1	0.5
Exchangeable Potassium, K	mg/kg	2	240	160	200	150	220
Exchangeable Potassium, K	meq/100g	0.01	0.61	0.42	0.51	0.38	0.57
Exchangeable Potassium Percentage*	%	0.1	1.9	1.4	6.3	1.2	1.8
Exchangeable Calcium, Ca	mg/kg	2	5800	5400	1200	5900	6000
Exchangeable Calcium, Ca	meq/100g	0.01	29	27	6.1	30	30
Exchangeable Calcium Percentage*	%	0.1	92.2	91.0	74.6	93.6	93.9
Exchangeable Magnesium, Mg	mg/kg	2	160	190	170	150	150
Exchangeable Magnesium, Mg	meq/100g	0.02	1.3	1.5	1.4	1.3	1.2
Exchangeable Magnesium Percentage*	%	0.1	4.2	5.1	17.6	4.0	3.9
Cation Exchange Capacity	meq/100g	0.02	31	30	8.1	32	32

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP301	TP302	TP302	TP303	TP303
			CLAY 0.0-0.15 28/11/2019 SE200565.001	CLAY 0.0-0.15 28/11/2019 SE200565.002	CLAY 0.5-0.8 28/11/2019 SE200565.003	CLAY 0.0-0.15 28/11/2019 SE200565.004	CLAY 0.5-0.8 28/11/2019 SE200565.005
Arsenic, As	mg/kg	1	4	4	3	4	6
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	9.9	28	24	12	13
Copper, Cu	mg/kg	0.5	17	12	13	44	30
Lead, Pb	mg/kg	1	22	29	32	31	56
Nickel, Ni	mg/kg	0.5	9.2	18	16	12	18
Zinc, Zn	mg/kg	2	46	46	51	58	76
Beryllium, Be	mg/kg	0.5	<0.5	0.6	0.5	0.6	0.8
Boron, B	mg/kg	5	16	14	13	21	<5
Cobalt, Co	mg/kg	0.5	5.8	7.4	6.5	11	15
Manganese, Mn	mg/kg	1	230	380	310	420	1400
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

PARAMETER	UOM	LOR	TP304	TP304	TP304	TP304	TP305
			CLAY 0.0-0.15 28/11/2019 SE200565.006	CLAY 0.5-0.8 28/11/2019 SE200565.007	CLAY 1.0-1.3 28/11/2019 SE200565.008	CLAY 1.5-1.8 28/11/2019 SE200565.009	CLAY 0.0-0.15 28/11/2019 SE200565.010
Arsenic, As	mg/kg	1	4	8	8	5	7
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	12	11	12	10	8.5
Copper, Cu	mg/kg	0.5	13	33	16	16	14
Lead, Pb	mg/kg	1	50	35	28	32	26
Nickel, Ni	mg/kg	0.5	11	11	12	11	7.4
Zinc, Zn	mg/kg	2	77	76	54	74	51
Beryllium, Be	mg/kg	0.5	0.7	0.7	0.8	0.7	0.5
Boron, B	mg/kg	5	15	21	22	18	12
Cobalt, Co	mg/kg	0.5	8.3	10	11	9.9	5.2
Manganese, Mn	mg/kg	1	450	480	620	530	290
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

PARAMETER	UOM	LOR	TP306	TP307	TP308	TP309	TP310
			CLAY 0.0-0.15 28/11/2019 SE200565.011	CLAY 0.0-0.15 28/11/2019 SE200565.012	CLAY 0.0-0.15 28/11/2019 SE200565.013	CLAY 0.0-0.15 28/11/2019 SE200565.014	CLAY 0.0-0.15 28/11/2019 SE200565.015
Arsenic, As	mg/kg	1	4	4	5	4	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	8.8	8.7	8.4	8.9	9.2
Copper, Cu	mg/kg	0.5	12	12	13	13	17
Lead, Pb	mg/kg	1	27	28	24	25	26
Nickel, Ni	mg/kg	0.5	8.3	8.0	7.9	7.8	7.7
Zinc, Zn	mg/kg	2	49	54	49	49	43
Beryllium, Be	mg/kg	0.5	0.5	0.5	0.5	0.5	0.5
Boron, B	mg/kg	5	13	13	13	13	15
Cobalt, Co	mg/kg	0.5	5.6	5.7	5.8	5.9	5.8
Manganese, Mn	mg/kg	1	290	290	290	300	320
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP311	TP312	TP313	TP314	TP315
			CLAY 0.0-0.15 28/11/2019 SE200565.016	CLAY 0.0-0.15 28/11/2019 SE200565.017	CLAY 0.0-0.15 28/11/2019 SE200565.018	CLAY 0.0-0.15 28/11/2019 SE200565.019	CLAY 0.0-0.15 28/11/2019 SE200565.020
Arsenic, As	mg/kg	1	3	4	5	7	32
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	0.4
Chromium, Cr	mg/kg	0.5	7.9	9.2	8.3	14	8.4
Copper, Cu	mg/kg	0.5	11	15	12	16	14
Lead, Pb	mg/kg	1	27	41	28	25	49
Nickel, Ni	mg/kg	0.5	8.0	9.8	8.3	7.4	8.6
Zinc, Zn	mg/kg	2	48	64	54	45	89
Beryllium, Be	mg/kg	0.5	0.6	0.5	<0.5	0.5	0.6
Boron, B	mg/kg	5	14	16	12	17	14
Cobalt, Co	mg/kg	0.5	5.7	6.9	5.5	6.0	7.0
Manganese, Mn	mg/kg	1	280	390	280	310	400
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

PARAMETER	UOM	LOR	TP316	TP317	TP318	DDS3	DDS4
			CLAY 0.0-0.15 28/11/2019 SE200565.021	CLAY 0.0-0.15 28/11/2019 SE200565.022	CLAY 0.0-0.15 28/11/2019 SE200565.023	CLAY - 28/11/2019 SE200565.024	CLAY - 28/11/2019 SE200565.025
Arsenic, As	mg/kg	1	8	4	4	5	5
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	9.1	10	9.2	8.8	8.7
Copper, Cu	mg/kg	0.5	15	18	11	12	13
Lead, Pb	mg/kg	1	43	73	31	26	44
Nickel, Ni	mg/kg	0.5	8.2	9.6	9.1	8.5	7.1
Zinc, Zn	mg/kg	2	76	77	53	110	74
Beryllium, Be	mg/kg	0.5	0.6	0.7	<0.5	<0.5	<0.5
Boron, B	mg/kg	5	15	15	13	13	14
Cobalt, Co	mg/kg	0.5	5.9	7.5	5.5	5.3	5.2
Manganese, Mn	mg/kg	1	420	690	270	240	280
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

Mercury in Soil [AN312] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP301	TP302	TP302	TP303	TP303
			CLAY	CLAY	CLAY	CLAY	CLAY
			0.0-0.15	0.0-0.15	0.5-0.8	0.0-0.15	0.5-0.8
			28/11/2019	28/11/2019	28/11/2019	28/11/2019	28/11/2019
			SE200565.001	SE200565.002	SE200565.003	SE200565.004	SE200565.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	TP304	TP304	TP304	TP304	TP305
			CLAY	CLAY	CLAY	CLAY	CLAY
			0.0-0.15	0.5-0.8	1.0-1.3	1.5-1.8	0.0-0.15
			28/11/2019	28/11/2019	28/11/2019	28/11/2019	28/11/2019
			SE200565.006	SE200565.007	SE200565.008	SE200565.009	SE200565.010
Mercury	mg/kg	0.05	0.06	0.06	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	TP306	TP307	TP308	TP309	TP310
			CLAY	CLAY	CLAY	CLAY	CLAY
			0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15
			28/11/2019	28/11/2019	28/11/2019	28/11/2019	28/11/2019
			SE200565.011	SE200565.012	SE200565.013	SE200565.014	SE200565.015
Mercury	mg/kg	0.05	<0.05	0.06	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	TP311	TP312	TP313	TP314	TP315
			CLAY	CLAY	CLAY	CLAY	CLAY
			0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15
			28/11/2019	28/11/2019	28/11/2019	28/11/2019	28/11/2019
			SE200565.016	SE200565.017	SE200565.018	SE200565.019	SE200565.020
Mercury	mg/kg	0.05	<0.05	<0.05	0.06	<0.05	0.11

PARAMETER	UOM	LOR	TP316	TP317	TP318	DDS3	DDS4
			CLAY	CLAY	CLAY	CLAY	CLAY
			0.0-0.15	0.0-0.15	0.0-0.15	-	-
			28/11/2019	28/11/2019	28/11/2019	28/11/2019	28/11/2019
			SE200565.021	SE200565.022	SE200565.023	SE200565.024	SE200565.025
Mercury	mg/kg	0.05	0.20	0.25	<0.05	<0.05	0.06

Moisture Content [AN002] Tested: 2/12/2019

			TP301	TP302	TP302	TP303	TP303
			CLAY 0.0-0.15 28/11/2019 SE200565.001	CLAY 0.0-0.15 28/11/2019 SE200565.002	CLAY 0.5-0.8 28/11/2019 SE200565.003	CLAY 0.0-0.15 28/11/2019 SE200565.004	CLAY 0.5-0.8 28/11/2019 SE200565.005
PARAMETER	UOM	LOR					
% Moisture	%w/w	1	6.4	7.8	6.1	6.2	9.2

			TP304	TP304	TP304	TP304	TP305
			CLAY 0.0-0.15 28/11/2019 SE200565.006	CLAY 0.5-0.8 28/11/2019 SE200565.007	CLAY 1.0-1.3 28/11/2019 SE200565.008	CLAY 1.5-1.8 28/11/2019 SE200565.009	CLAY 0.0-0.15 28/11/2019 SE200565.010
PARAMETER	UOM	LOR					
% Moisture	%w/w	1	11.2	13.1	15.2	15.4	7.7

			TP306	TP307	TP308	TP309	TP310
			CLAY 0.0-0.15 28/11/2019 SE200565.011	CLAY 0.0-0.15 28/11/2019 SE200565.012	CLAY 0.0-0.15 28/11/2019 SE200565.013	CLAY 0.0-0.15 28/11/2019 SE200565.014	CLAY 0.0-0.15 28/11/2019 SE200565.015
PARAMETER	UOM	LOR					
% Moisture	%w/w	1	3.5	4.4	3.7	5.0	5.6

			TP311	TP312	TP313	TP314	TP315
			CLAY 0.0-0.15 28/11/2019 SE200565.016	CLAY 0.0-0.15 28/11/2019 SE200565.017	CLAY 0.0-0.15 28/11/2019 SE200565.018	CLAY 0.0-0.15 28/11/2019 SE200565.019	CLAY 0.0-0.15 28/11/2019 SE200565.020
PARAMETER	UOM	LOR					
% Moisture	%w/w	1	5.4	5.5	4.6	5.8	4.2

			TP316	TP317	TP318	DDS3	DDS4
			CLAY 0.0-0.15 28/11/2019 SE200565.021	CLAY 0.0-0.15 28/11/2019 SE200565.022	CLAY 0.0-0.15 28/11/2019 SE200565.023	CLAY - 28/11/2019 SE200565.024	CLAY - 28/11/2019 SE200565.025
PARAMETER	UOM	LOR					
% Moisture	%w/w	1	9.2	7.6	3.8	6.5	3.3

Fibre Identification in soil [AN602] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP302	TP302	TP303	TP303	TP304
			CLAY 0.0-0.15 28/11/2019 SE200565.002	CLAY 0.5-0.8 28/11/2019 SE200565.003	CLAY 0.0-0.15 28/11/2019 SE200565.004	CLAY 0.5-0.8 28/11/2019 SE200565.005	CLAY 0.0-0.15 28/11/2019 SE200565.006
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	TP304	TP304	TP304	TP307	TP308
			CLAY 0.5-0.8 28/11/2019 SE200565.007	CLAY 1.0-1.3 28/11/2019 SE200565.008	CLAY 1.5-1.8 28/11/2019 SE200565.009	CLAY 0.0-0.15 28/11/2019 SE200565.012	CLAY 0.0-0.15 28/11/2019 SE200565.013
Asbestos Detected	No unit	-	No	No	Yes	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	>0.01	<0.01	<0.01

PARAMETER	UOM	LOR	TP312	TP313	TP316
			CLAY 0.0-0.15 28/11/2019 SE200565.017	CLAY 0.0-0.15 28/11/2019 SE200565.018	CLAY 0.0-0.15 28/11/2019 SE200565.021
Asbestos Detected	No unit	-	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP302	TP302	TP303	TP303	TP304
			CLAY 0.0-0.15 28/11/2019 SE200565.002	CLAY 0.5-0.8 28/11/2019 SE200565.003	CLAY 0.0-0.15 28/11/2019 SE200565.004	CLAY 0.5-0.8 28/11/2019 SE200565.005	CLAY 0.0-0.15 28/11/2019 SE200565.006
Total Sample Weight*	g	1	608	634	746	663	587
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	TP304	TP304	TP304	TP307	TP308
			CLAY 0.5-0.8 28/11/2019 SE200565.007	CLAY 1.0-1.3 28/11/2019 SE200565.008	CLAY 1.5-1.8 28/11/2019 SE200565.009	CLAY 0.0-0.15 28/11/2019 SE200565.012	CLAY 0.0-0.15 28/11/2019 SE200565.013
Total Sample Weight*	g	1	659	478	531	632	833
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	0.0084	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	0.002	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	0.002	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	TP312	TP313	TP316
			CLAY 0.0-0.15 28/11/2019 SE200565.017	CLAY 0.0-0.15 28/11/2019 SE200565.018	CLAY 0.0-0.15 28/11/2019 SE200565.021
Total Sample Weight*	g	1	563	794	709
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-

PAH (Polynuclear Aromatic Hydrocarbons) in Water [AN420] Tested: 2/12/2019

PARAMETER	UOM	LOR	RS1
			WATER - 28/11/2019 SE200565.026
Naphthalene	µg/L	0.1	<0.1
2-methylnaphthalene	µg/L	0.1	<0.1
1-methylnaphthalene	µg/L	0.1	<0.1
Acenaphthylene	µg/L	0.1	<0.1
Acenaphthene	µg/L	0.1	<0.1
Fluorene	µg/L	0.1	<0.1
Phenanthrene	µg/L	0.1	<0.1
Anthracene	µg/L	0.1	<0.1
Fluoranthene	µg/L	0.1	<0.1
Pyrene	µg/L	0.1	<0.1
Benzo(a)anthracene	µg/L	0.1	<0.1
Chrysene	µg/L	0.1	<0.1
Benzo(b&j)fluoranthene	µg/L	0.1	<0.1
Benzo(k)fluoranthene	µg/L	0.1	<0.1
Benzo(a)pyrene	µg/L	0.1	<0.1
Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1
Dibenzo(ah)anthracene	µg/L	0.1	<0.1
Benzo(ghi)perylene	µg/L	0.1	<0.1
Total PAH (18)	µg/L	1	<1

Metals in Water (Dissolved) by ICPOES [AN320] Tested: 2/12/2019

PARAMETER	UOM	LOR	RS1
			WATER - 28/11/2019 SE200565.026
Arsenic, As	mg/L	0.02	<0.02
Cadmium, Cd	mg/L	0.001	<0.001
Chromium, Cr	mg/L	0.005	<0.005
Copper, Cu	mg/L	0.005	<0.005
Lead, Pb	mg/L	0.02	<0.02
Nickel, Ni	mg/L	0.005	<0.005
Zinc, Zn	mg/L	0.01	<0.01
Beryllium, Be	mg/L	0.005	<0.005
Boron, B	mg/L	0.05	<0.05
Cobalt, Co	mg/L	0.01	<0.01
Manganese, Mn	mg/L	0.005	<0.005
Selenium, Se	mg/L	0.05	<0.05

Mercury (dissolved) in Water [AN311(Perth)/AN312] Tested: 2/12/2019

			RS1
			WATER
			-
			28/11/2019
PARAMETER	UOM	LOR	SE200565.026
Mercury	mg/L	0.0001	<0.0001

- 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.
- AN020** Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
- AN040/AN320** A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
- AN040** A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
- AN101** pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode and is calibrated against 3 buffers purchased commercially. For soils, sediments and sludges, an extract with water (or 0.01M CaCl₂) is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
- AN122** Exchangeable Cations, CEC and ESP: Soil sample is extracted in 1M Ammonium Acetate at pH=7 (or 1M Ammonium Chloride at pH=7) with cations (Na, K, Ca & Mg) then determined by ICP OES/ICP MS and reported as Exchangeable Cations. For saline soils, these results can be corrected for water soluble cations and reported as Exchangeable cations in meq/100g or soil can be pre-treated (aqueous ethanol/aqueous glycerol) prior to extraction. Cation Exchange Capacity (CEC) is the sum of the exchangeable cations in meq/100g.
- AN122** The Exchangeable Sodium Percentage (ESP) is calculated as the exchangeable sodium divided by the CEC (all in meq/100g) times 100.
ESP can be used to categorise the sodicity of the soil as below :
- | | |
|-----------|----------------|
| ESP < 6% | non-sodic |
| ESP 6-15% | sodic |
| ESP >15% | strongly sodic |
- Method is referenced to Rayment and Lyons, 2011, sections 15D3 and 15N1.-
- AN311(Perth)/AN312** Mercury by Cold Vapour AAS in Waters: Mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500.
- AN312** Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
- AN320** Metals by ICP-OES: Samples are preserved with 10% nitric acid for a wide range of metals and some non-metals. This solution is measured by Inductively Coupled Plasma. Solutions are aspirated into an argon plasma at 8000-10000K and emit characteristic energy or light as a result of electron transitions through unique energy levels. The emitted light is focused onto a diffraction grating where it is separated into components.
- AN320** Photomultipliers or CCDs are used to measure the light intensity at specific wavelengths. This intensity is directly proportional to concentration. Corrections are required to compensate for spectral overlap between elements. Reference APHA 3120 B.
- AN403** Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
- AN403** Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
- AN403** The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
- AN420** (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).

AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC's are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN602	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	Fibres/material that cannot be unequivocally 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	AS4964.2004 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 limit 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	The sample can be reported "no asbestos found at the reporting limit of 0.1 g/kg" (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no 'respirable' fibres); (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 (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.
AN605	This technique gravimetrically determines the mass of Asbestos Containing Material retained on a 7mm Sieve and assumes that 15% of this ACM is asbestos. This calculated asbestos weight is then calculated as a percentage of the total sample weight.
AN605	This technique also gravimetrically determines the mass of Fibrous Asbestos (FA) and Asbestos Fines (AF) Containing Material retained on and passing a 2mm sieve post 7mm sieving. Assumes that FA and AF are 100% asbestos containing. This calculated asbestos weight is then calculated as a percentage of the total sample weight. This does not include free fibres which are only observed by standard trace analysis as per AN 602.
AN605	Insofar as is technically feasible, this report is consistent with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
		IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

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 calculated 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/pv.sgsvr/en-gb/environment.

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CLIENT DETAILS

LABORATORY DETAILS

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Facsimile	02 4722 6161	Facsimile	+61 2 8594 0499
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Project	14578/1 Penrith	SGS Reference	SE200565 R0
Order Number	(Not specified)	Date Received	29 Nov 2019
Samples	27	Date Reported	04 Dec 2019

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:

Matrix Spike	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item
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SAMPLE SUMMARY

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	25 Clay, 1 Sand, 1 V
Date documentation received	29/11/2019	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	7.4°C	Sufficient sample for analysis	Yes
Turnaround time requested	Two Days		

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.

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP301	SE200565.001	LB188881	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP303	SE200565.004	LB188881	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP304	SE200565.008	LB188881	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP308	SE200565.013	LB188881	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP310	SE200565.015	LB188881	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP312	SE200565.017	LB188881	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP314	SE200565.019	LB188881	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP315	SE200565.020	LB188881	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP316	SE200565.021	LB188881	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP318	SE200565.023	LB188881	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019

Fibre Identification in soil

Method: ME-(AU)-[ENV]AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP302	SE200565.002	LB188874	28 Nov 2019	29 Nov 2019	27 Nov 2020	02 Dec 2019	27 Nov 2020	03 Dec 2019
TP302	SE200565.003	LB188874	28 Nov 2019	29 Nov 2019	27 Nov 2020	02 Dec 2019	27 Nov 2020	03 Dec 2019
TP303	SE200565.004	LB188874	28 Nov 2019	29 Nov 2019	27 Nov 2020	02 Dec 2019	27 Nov 2020	03 Dec 2019
TP303	SE200565.005	LB188874	28 Nov 2019	29 Nov 2019	27 Nov 2020	02 Dec 2019	27 Nov 2020	03 Dec 2019
TP304	SE200565.006	LB188874	28 Nov 2019	29 Nov 2019	27 Nov 2020	02 Dec 2019	27 Nov 2020	03 Dec 2019
TP304	SE200565.007	LB188874	28 Nov 2019	29 Nov 2019	27 Nov 2020	02 Dec 2019	27 Nov 2020	03 Dec 2019
TP304	SE200565.008	LB188874	28 Nov 2019	29 Nov 2019	27 Nov 2020	02 Dec 2019	27 Nov 2020	03 Dec 2019
TP304	SE200565.009	LB188874	28 Nov 2019	29 Nov 2019	27 Nov 2020	02 Dec 2019	27 Nov 2020	03 Dec 2019
TP307	SE200565.012	LB188874	28 Nov 2019	29 Nov 2019	27 Nov 2020	02 Dec 2019	27 Nov 2020	03 Dec 2019
TP308	SE200565.013	LB188874	28 Nov 2019	29 Nov 2019	27 Nov 2020	02 Dec 2019	27 Nov 2020	03 Dec 2019
TP312	SE200565.017	LB188874	28 Nov 2019	29 Nov 2019	27 Nov 2020	02 Dec 2019	27 Nov 2020	03 Dec 2019
TP313	SE200565.018	LB188874	28 Nov 2019	29 Nov 2019	27 Nov 2020	02 Dec 2019	27 Nov 2020	03 Dec 2019
TP316	SE200565.021	LB188874	28 Nov 2019	29 Nov 2019	27 Nov 2020	02 Dec 2019	27 Nov 2020	03 Dec 2019

Gravimetric Determination of Asbestos in Soil

Method: ME-(AU)-[ENV]AN605

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP302	SE200565.002	LB188874	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP302	SE200565.003	LB188874	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP303	SE200565.004	LB188874	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP303	SE200565.005	LB188874	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP304	SE200565.006	LB188874	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP304	SE200565.007	LB188874	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP304	SE200565.008	LB188874	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP304	SE200565.009	LB188874	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP307	SE200565.012	LB188874	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP308	SE200565.013	LB188874	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP312	SE200565.017	LB188874	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP313	SE200565.018	LB188874	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP316	SE200565.021	LB188874	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RS1	SE200565.026	LB188818	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	02 Dec 2019

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP301	SE200565.001	LB188864	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP302	SE200565.002	LB188864	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP302	SE200565.003	LB188864	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP303	SE200565.004	LB188864	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP303	SE200565.005	LB188864	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP304	SE200565.006	LB188864	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP304	SE200565.007	LB188864	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP304	SE200565.008	LB188864	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP304	SE200565.009	LB188865	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP305	SE200565.010	LB188865	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP306	SE200565.011	LB188865	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP307	SE200565.012	LB188865	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019

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.

Mercury in Soil (continued)

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP308	SE200565.013	LB188865	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP309	SE200565.014	LB188865	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP310	SE200565.015	LB188865	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP311	SE200565.016	LB188865	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP312	SE200565.017	LB188865	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP313	SE200565.018	LB188865	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP314	SE200565.019	LB188865	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP315	SE200565.020	LB188865	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP316	SE200565.021	LB188865	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP317	SE200565.022	LB188865	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
TP318	SE200565.023	LB188865	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
DDS3	SE200565.024	LB188865	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019
DDS4	SE200565.025	LB188865	28 Nov 2019	29 Nov 2019	26 Dec 2019	02 Dec 2019	26 Dec 2019	03 Dec 2019

Metals in Water (Dissolved) by ICPOES

Method: ME-(AU)-[ENV]AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RS1	SE200565.026	LB188810	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	02 Dec 2019

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP301	SE200565.001	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP302	SE200565.002	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP302	SE200565.003	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP303	SE200565.004	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP303	SE200565.005	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP304	SE200565.006	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP304	SE200565.007	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP304	SE200565.008	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP304	SE200565.009	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP305	SE200565.010	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP306	SE200565.011	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP307	SE200565.012	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP308	SE200565.013	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP309	SE200565.014	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP310	SE200565.015	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP311	SE200565.016	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP312	SE200565.017	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP313	SE200565.018	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP314	SE200565.019	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP315	SE200565.020	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP316	SE200565.021	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP317	SE200565.022	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP318	SE200565.023	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
DDS3	SE200565.024	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
DDS4	SE200565.025	LB188855	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP301	SE200565.001	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP303	SE200565.004	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP303	SE200565.005	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP304	SE200565.006	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP304	SE200565.007	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP304	SE200565.008	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP305	SE200565.010	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP306	SE200565.011	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP308	SE200565.013	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP309	SE200565.014	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP310	SE200565.015	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP311	SE200565.016	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019

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.

OC Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP312	SE200565.017	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP314	SE200565.019	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP315	SE200565.020	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP316	SE200565.021	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP318	SE200565.023	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
DDS3	SE200565.024	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP301	SE200565.001	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP303	SE200565.004	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP303	SE200565.005	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP304	SE200565.006	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP304	SE200565.007	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP304	SE200565.008	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP305	SE200565.010	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP306	SE200565.011	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP308	SE200565.013	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP309	SE200565.014	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP310	SE200565.015	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP311	SE200565.016	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP312	SE200565.017	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP314	SE200565.019	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP315	SE200565.020	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP316	SE200565.021	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP318	SE200565.023	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS3	SE200565.024	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019

PAH (Polynuclear Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RS1	SE200565.026	LB188831	28 Nov 2019	29 Nov 2019	05 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP301	SE200565.001	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP303	SE200565.004	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP303	SE200565.005	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP304	SE200565.006	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP304	SE200565.007	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP304	SE200565.008	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP305	SE200565.010	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP306	SE200565.011	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP308	SE200565.013	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP309	SE200565.014	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP310	SE200565.015	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP311	SE200565.016	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP312	SE200565.017	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP314	SE200565.019	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP315	SE200565.020	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP316	SE200565.021	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP318	SE200565.023	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
DDS3	SE200565.024	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP301	SE200565.001	LB188927	28 Nov 2019	29 Nov 2019	05 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP303	SE200565.004	LB188927	28 Nov 2019	29 Nov 2019	05 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP304	SE200565.008	LB188927	28 Nov 2019	29 Nov 2019	05 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP308	SE200565.013	LB188927	28 Nov 2019	29 Nov 2019	05 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP310	SE200565.015	LB188927	28 Nov 2019	29 Nov 2019	05 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP312	SE200565.017	LB188927	28 Nov 2019	29 Nov 2019	05 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019

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.

pH in soil (1:5) (continued)

Method: ME-(AU)-[ENV]JAN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP314	SE200565.019	LB188927	28 Nov 2019	29 Nov 2019	05 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP315	SE200565.020	LB188927	28 Nov 2019	29 Nov 2019	05 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP316	SE200565.021	LB188927	28 Nov 2019	29 Nov 2019	05 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP318	SE200565.023	LB188927	28 Nov 2019	29 Nov 2019	05 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]JAN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP301	SE200565.001	LB188862	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP302	SE200565.002	LB188862	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP302	SE200565.003	LB188862	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP303	SE200565.004	LB188862	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP303	SE200565.005	LB188862	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP304	SE200565.006	LB188862	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP304	SE200565.007	LB188862	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP304	SE200565.008	LB188862	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP304	SE200565.009	LB188863	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP305	SE200565.010	LB188863	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP306	SE200565.011	LB188863	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP307	SE200565.012	LB188863	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP308	SE200565.013	LB188863	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP309	SE200565.014	LB188863	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP310	SE200565.015	LB188863	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP311	SE200565.016	LB188863	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP312	SE200565.017	LB188863	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP313	SE200565.018	LB188863	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP314	SE200565.019	LB188863	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP315	SE200565.020	LB188863	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP316	SE200565.021	LB188863	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP317	SE200565.022	LB188863	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
TP318	SE200565.023	LB188863	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
DDS3	SE200565.024	LB188863	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019
DDS4	SE200565.025	LB188863	28 Nov 2019	29 Nov 2019	26 May 2020	02 Dec 2019	26 May 2020	03 Dec 2019

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]JAN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP301	SE200565.001	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP303	SE200565.004	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP303	SE200565.005	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP304	SE200565.006	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP304	SE200565.007	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP304	SE200565.008	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP305	SE200565.010	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP306	SE200565.011	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP308	SE200565.013	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP309	SE200565.014	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP310	SE200565.015	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP311	SE200565.016	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP312	SE200565.017	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP314	SE200565.019	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP315	SE200565.020	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP316	SE200565.021	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP318	SE200565.023	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
DDS3	SE200565.024	LB188853	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019

VOC's in Soil

Method: ME-(AU)-[ENV]JAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP301	SE200565.001	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP303	SE200565.004	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP304	SE200565.006	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP304	SE200565.008	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP305	SE200565.010	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019

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.

VOC's in Soil (continued)

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP308	SE200565.013	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP310	SE200565.015	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP312	SE200565.017	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP314	SE200565.019	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP316	SE200565.021	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP318	SE200565.023	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
DDS3	SE200565.024	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TS1	SE200565.027	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP301	SE200565.001	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP303	SE200565.004	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP304	SE200565.006	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP304	SE200565.008	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP305	SE200565.010	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP308	SE200565.013	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP310	SE200565.015	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP312	SE200565.017	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP314	SE200565.019	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP316	SE200565.021	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TP318	SE200565.023	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
DDS3	SE200565.024	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019
TS1	SE200565.027	LB188852	28 Nov 2019	29 Nov 2019	12 Dec 2019	02 Dec 2019	11 Jan 2020	03 Dec 2019

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	TP301	SE200565.001	%	60 - 130%	72
	TP303	SE200565.004	%	60 - 130%	77
	TP304	SE200565.006	%	60 - 130%	82
	TP304	SE200565.008	%	60 - 130%	83
	TP305	SE200565.010	%	60 - 130%	84
	TP308	SE200565.013	%	60 - 130%	83
	TP310	SE200565.015	%	60 - 130%	87
	TP312	SE200565.017	%	60 - 130%	83
	TP314	SE200565.019	%	60 - 130%	85
	TP315	SE200565.020	%	60 - 130%	87
	TP316	SE200565.021	%	60 - 130%	86
	TP318	SE200565.023	%	60 - 130%	85
	DDS3	SE200565.024	%	60 - 130%	84

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %	
2-fluorobiphenyl (Surrogate)	TP301	SE200565.001	%	70 - 130%	78	
	TP303	SE200565.004	%	70 - 130%	79	
	TP303	SE200565.005	%	70 - 130%	78	
	TP304	SE200565.006	%	70 - 130%	90	
	TP304	SE200565.007	%	70 - 130%	83	
	TP304	SE200565.008	%	70 - 130%	88	
	TP305	SE200565.010	%	70 - 130%	82	
	TP306	SE200565.011	%	70 - 130%	83	
	TP308	SE200565.013	%	70 - 130%	86	
	TP309	SE200565.014	%	70 - 130%	79	
	TP310	SE200565.015	%	70 - 130%	85	
	TP311	SE200565.016	%	70 - 130%	82	
	TP312	SE200565.017	%	70 - 130%	84	
	TP314	SE200565.019	%	70 - 130%	79	
	TP316	SE200565.021	%	70 - 130%	87	
	TP318	SE200565.023	%	70 - 130%	85	
	DDS3	SE200565.024	%	70 - 130%	85	
	d14-p-terphenyl (Surrogate)	TP301	SE200565.001	%	70 - 130%	84
		TP303	SE200565.004	%	70 - 130%	83
TP303		SE200565.005	%	70 - 130%	82	
TP304		SE200565.006	%	70 - 130%	90	
TP304		SE200565.007	%	70 - 130%	87	
TP304		SE200565.008	%	70 - 130%	93	
TP305		SE200565.010	%	70 - 130%	83	
TP306		SE200565.011	%	70 - 130%	85	
TP308		SE200565.013	%	70 - 130%	88	
TP309		SE200565.014	%	70 - 130%	81	
TP310		SE200565.015	%	70 - 130%	85	
TP311		SE200565.016	%	70 - 130%	84	
TP312		SE200565.017	%	70 - 130%	86	
TP314		SE200565.019	%	70 - 130%	83	
TP316		SE200565.021	%	70 - 130%	88	
TP318		SE200565.023	%	70 - 130%	87	
DDS3		SE200565.024	%	70 - 130%	85	
d5-nitrobenzene (Surrogate)		TP301	SE200565.001	%	70 - 130%	86
		TP303	SE200565.004	%	70 - 130%	82
	TP303	SE200565.005	%	70 - 130%	84	
	TP304	SE200565.006	%	70 - 130%	92	
	TP304	SE200565.007	%	70 - 130%	86	
	TP304	SE200565.008	%	70 - 130%	88	
	TP305	SE200565.010	%	70 - 130%	84	
	TP306	SE200565.011	%	70 - 130%	84	
	TP308	SE200565.013	%	70 - 130%	86	
	TP309	SE200565.014	%	70 - 130%	81	
	TP310	SE200565.015	%	70 - 130%	87	

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d5-nitrobenzene (Surrogate)	TP311	SE200565.016	%	70 - 130%	80
	TP312	SE200565.017	%	70 - 130%	84
	TP314	SE200565.019	%	70 - 130%	82
	TP316	SE200565.021	%	70 - 130%	88
	TP318	SE200565.023	%	70 - 130%	86
	DDS3	SE200565.024	%	70 - 130%	82

PAH (Polynuclear Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	RS1	SE200565.026	%	40 - 130%	50
d14-p-terphenyl (Surrogate)	RS1	SE200565.026	%	40 - 130%	68
d5-nitrobenzene (Surrogate)	RS1	SE200565.026	%	40 - 130%	44

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	TP301	SE200565.001	%	60 - 130%	72
	TP303	SE200565.004	%	60 - 130%	77
	TP304	SE200565.006	%	60 - 130%	82
	TP304	SE200565.008	%	60 - 130%	83
	TP305	SE200565.010	%	60 - 130%	84
	TP308	SE200565.013	%	60 - 130%	83
	TP310	SE200565.015	%	60 - 130%	87
	TP312	SE200565.017	%	60 - 130%	83
	TP314	SE200565.019	%	60 - 130%	85
	TP316	SE200565.021	%	60 - 130%	86
	TP318	SE200565.023	%	60 - 130%	85
	DDS3	SE200565.024	%	60 - 130%	84

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TP301	SE200565.001	%	60 - 130%	85
	TP303	SE200565.004	%	60 - 130%	93
	TP304	SE200565.006	%	60 - 130%	93
	TP304	SE200565.008	%	60 - 130%	80
	TP305	SE200565.010	%	60 - 130%	93
	TP308	SE200565.013	%	60 - 130%	90
	TP310	SE200565.015	%	60 - 130%	88
	TP312	SE200565.017	%	60 - 130%	93
	TP314	SE200565.019	%	60 - 130%	93
	TP316	SE200565.021	%	60 - 130%	91
	TP318	SE200565.023	%	60 - 130%	85
	DDS3	SE200565.024	%	60 - 130%	83
	TS1	SE200565.027	%	60 - 130%	88
	d4-1,2-dichloroethane (Surrogate)	TP301	SE200565.001	%	60 - 130%
TP303		SE200565.004	%	60 - 130%	88
TP304		SE200565.006	%	60 - 130%	88
TP304		SE200565.008	%	60 - 130%	79
TP305		SE200565.010	%	60 - 130%	95
TP308		SE200565.013	%	60 - 130%	87
TP310		SE200565.015	%	60 - 130%	75
TP312		SE200565.017	%	60 - 130%	90
TP314		SE200565.019	%	60 - 130%	90
TP316		SE200565.021	%	60 - 130%	88
TP318		SE200565.023	%	60 - 130%	86
DDS3		SE200565.024	%	60 - 130%	80
TS1		SE200565.027	%	60 - 130%	89
d8-toluene (Surrogate)		TP301	SE200565.001	%	60 - 130%
	TP303	SE200565.004	%	60 - 130%	91
	TP304	SE200565.006	%	60 - 130%	89
	TP304	SE200565.008	%	60 - 130%	77
	TP305	SE200565.010	%	60 - 130%	91
	TP308	SE200565.013	%	60 - 130%	89

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	TP310	SE200565.015	%	60 - 130%	84
	TP312	SE200565.017	%	60 - 130%	92
	TP314	SE200565.019	%	60 - 130%	91
	TP316	SE200565.021	%	60 - 130%	89
	TP318	SE200565.023	%	60 - 130%	86
	DDS3	SE200565.024	%	60 - 130%	81
	TS1	SE200565.027	%	60 - 130%	90

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %	
Bromofluorobenzene (Surrogate)	TP301	SE200565.001	%	60 - 130%	85	
	TP303	SE200565.004	%	60 - 130%	93	
	TP304	SE200565.006	%	60 - 130%	93	
	TP304	SE200565.008	%	60 - 130%	80	
	TP305	SE200565.010	%	60 - 130%	93	
	TP308	SE200565.013	%	60 - 130%	90	
	TP310	SE200565.015	%	60 - 130%	88	
	TP312	SE200565.017	%	60 - 130%	93	
	TP314	SE200565.019	%	60 - 130%	93	
	TP316	SE200565.021	%	60 - 130%	91	
	TP318	SE200565.023	%	60 - 130%	85	
	DDS3	SE200565.024	%	60 - 130%	83	
	d4-1,2-dichloroethane (Surrogate)	TP301	SE200565.001	%	60 - 130%	84
		TP303	SE200565.004	%	60 - 130%	88
TP304		SE200565.006	%	60 - 130%	88	
TP304		SE200565.008	%	60 - 130%	79	
TP305		SE200565.010	%	60 - 130%	95	
TP308		SE200565.013	%	60 - 130%	87	
TP310		SE200565.015	%	60 - 130%	75	
TP312		SE200565.017	%	60 - 130%	90	
TP314		SE200565.019	%	60 - 130%	90	
TP316		SE200565.021	%	60 - 130%	88	
TP318		SE200565.023	%	60 - 130%	86	
DDS3		SE200565.024	%	60 - 130%	80	
d8-toluene (Surrogate)		TP301	SE200565.001	%	60 - 130%	86
		TP303	SE200565.004	%	60 - 130%	91
	TP304	SE200565.006	%	60 - 130%	89	
	TP304	SE200565.008	%	60 - 130%	77	
	TP305	SE200565.010	%	60 - 130%	91	
	TP308	SE200565.013	%	60 - 130%	89	
	TP310	SE200565.015	%	60 - 130%	84	
	TP312	SE200565.017	%	60 - 130%	92	
	TP314	SE200565.019	%	60 - 130%	91	
	TP316	SE200565.021	%	60 - 130%	89	
	TP318	SE200565.023	%	60 - 130%	86	
	DDS3	SE200565.024	%	60 - 130%	81	

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.

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Number	Parameter	Units	LOR	Result
LB18881.001	Exchangeable Sodium, Na	mg/kg	2	0
	Exchangeable Potassium, K	mg/kg	2	0
	Exchangeable Calcium, Ca	mg/kg	2	0
	Exchangeable Magnesium, Mg	mg/kg	2	0

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Number	Parameter	Units	LOR	Result
LB188818.001	Mercury	mg/L	0.0001	<0.0001

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB188864.001	Mercury	mg/kg	0.05	<0.05
LB188865.001	Mercury	mg/kg	0.05	<0.05

Metals in Water (Dissolved) by ICPOES

Method: ME-(AU)-[ENV]AN320

Sample Number	Parameter	Units	LOR	Result
LB188810.001	Arsenic, As	mg/L	0.02	<0.02
	Beryllium, Be	mg/L	0.005	<0.005
	Boron, B	mg/L	0.05	<0.05
	Cadmium, Cd	mg/L	0.001	<0.001
	Chromium, Cr	mg/L	0.005	<0.005
	Cobalt, Co	mg/L	0.01	<0.01
	Copper, Cu	mg/L	0.005	<0.005
	Lead, Pb	mg/L	0.02	<0.02
	Manganese, Mn	mg/L	0.005	<0.005
	Nickel, Ni	mg/L	0.005	<0.005
	Selenium, Se	mg/L	0.05	<0.05
	Zinc, Zn	mg/L	0.01	<0.01

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	
LB188853.001	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	
	Alpha BHC	mg/kg	0.1	<0.1	
	Lindane	mg/kg	0.1	<0.1	
	Heptachlor	mg/kg	0.1	<0.1	
	Aldrin	mg/kg	0.1	<0.1	
	Beta BHC	mg/kg	0.1	<0.1	
	Delta BHC	mg/kg	0.1	<0.1	
	Heptachlor epoxide	mg/kg	0.1	<0.1	
	Alpha Endosulfan	mg/kg	0.2	<0.2	
	Gamma Chlordane	mg/kg	0.1	<0.1	
	Alpha Chlordane	mg/kg	0.1	<0.1	
	p,p'-DDE	mg/kg	0.1	<0.1	
	Dieldrin	mg/kg	0.05	<0.05	
	Endrin	mg/kg	0.2	<0.2	
	Beta Endosulfan	mg/kg	0.2	<0.2	
	p,p'-DDD	mg/kg	0.1	<0.1	
	p,p'-DDT	mg/kg	0.1	<0.1	
	Endosulfan sulphate	mg/kg	0.1	<0.1	
	Endrin Aldehyde	mg/kg	0.1	<0.1	
	Methoxychlor	mg/kg	0.1	<0.1	
	Endrin Ketone	mg/kg	0.1	<0.1	
	Isodrin	mg/kg	0.1	<0.1	
	Mirex	mg/kg	0.1	<0.1	
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	95

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR
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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.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB188853.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Phenanthrene	mg/kg	0.1	<0.1
	Anthracene	mg/kg	0.1	<0.1
	Fluoranthene	mg/kg	0.1	<0.1
	Pyrene	mg/kg	0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1	<0.1
	Chrysene	mg/kg	0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
	Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1	<0.1
	Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	-
2-fluorobiphenyl (Surrogate)		%	-	88
d14-p-terphenyl (Surrogate)		%	-	92

PAH (Polynuclear Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	
LB188831.001	Naphthalene	µg/L	0.1	<0.1	
	2-methylnaphthalene	µg/L	0.1	<0.1	
	1-methylnaphthalene	µg/L	0.1	<0.1	
	Acenaphthylene	µg/L	0.1	<0.1	
	Acenaphthene	µg/L	0.1	<0.1	
	Fluorene	µg/L	0.1	<0.1	
	Phenanthrene	µg/L	0.1	<0.1	
	Anthracene	µg/L	0.1	<0.1	
	Fluoranthene	µg/L	0.1	<0.1	
	Pyrene	µg/L	0.1	<0.1	
	Benzo(a)anthracene	µg/L	0.1	<0.1	
	Chrysene	µg/L	0.1	<0.1	
	Benzo(a)pyrene	µg/L	0.1	<0.1	
	Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1	
	Dibenzo(ah)anthracene	µg/L	0.1	<0.1	
	Benzo(ghi)perylene	µg/L	0.1	<0.1	
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	104
		2-fluorobiphenyl (Surrogate)	%	-	104
d14-p-terphenyl (Surrogate)		%	-	96	

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB188853.001	Arochlor 1016	mg/kg	0.2	<0.2
	Arochlor 1221	mg/kg	0.2	<0.2
	Arochlor 1232	mg/kg	0.2	<0.2
	Arochlor 1242	mg/kg	0.2	<0.2
	Arochlor 1248	mg/kg	0.2	<0.2
	Arochlor 1254	mg/kg	0.2	<0.2
	Arochlor 1260	mg/kg	0.2	<0.2
	Arochlor 1262	mg/kg	0.2	<0.2
	Arochlor 1268	mg/kg	0.2	<0.2
	Total PCBs (Arochlors)	mg/kg	1	<1
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	95

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB188862.001	Arsenic, As	mg/kg	1	<1
	Beryllium, Be	mg/kg	0.5	<0.5
	Cadmium, Cd	mg/kg	0.3	<0.3

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.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB188862.001	Cobalt, Co	mg/kg	0.5	<0.5
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Manganese, Mn	mg/kg	1	<1
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Selenium, Se	mg/kg	3	<3
	Zinc, Zn	mg/kg	2	<2
LB188863.001	Arsenic, As	mg/kg	1	<1
	Beryllium, Be	mg/kg	0.5	<0.5
	Cadmium, Cd	mg/kg	0.3	<0.3
	Cobalt, Co	mg/kg	0.5	<0.5
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Manganese, Mn	mg/kg	1	<1
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Selenium, Se	mg/kg	3	<3
	Zinc, Zn	mg/kg	2	<2

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB188853.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	
LB188852.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
	Polycyclic VOCs	o-xylene	mg/kg	0.1	<0.1
		Naphthalene	mg/kg	0.1	<0.1
		Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-
	d8-toluene (Surrogate)		%	-	96
	Bromofluorobenzene (Surrogate)		%	-	95
	Totals	Total BTEX	mg/kg	0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result
LB188852.001	TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

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: $MAD = 100 \times SDL / Mean + LR$

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200565.026	LB188818.004	Mercury	µg/L	0.0001	<0.0001	<0.0001	160	0

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200565.001	LB188864.014	Mercury	mg/kg	0.05	<0.05	<0.05	188	0
SE200565.008	LB188864.022	Mercury	mg/kg	0.05	<0.05	<0.05	143	0
SE200565.018	LB188865.014	Mercury	mg/kg	0.05	0.06	0.06	115	8
SE200574.001	LB188865.023	Mercury	mg/kg	0.05	0.05	0.05	129	2

Metals in Water (Dissolved) by ICPOES

Method: ME-(AU)-[ENV]AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200565.026	LB188810.017	Arsenic, As	mg/L	0.02	<0.02	<0.02	200	0
		Beryllium, Be	mg/L	0.005	<0.005	<0.005	200	0
		Boron, B	mg/L	0.05	<0.05	<0.05	200	0
		Cadmium, Cd	mg/L	0.001	<0.001	<0.001	200	0
		Chromium, Cr	mg/L	0.005	<0.005	<0.005	200	0
		Cobalt, Co	mg/L	0.01	<0.01	<0.01	200	0
		Copper, Cu	mg/L	0.005	<0.005	<0.005	200	0
		Lead, Pb	mg/L	0.02	<0.02	<0.02	200	0
		Manganese, Mn	mg/L	0.005	<0.005	<0.005	200	0
		Nickel, Ni	mg/L	0.005	<0.005	<0.005	200	0
		Selenium, Se	mg/L	0.05	<0.05	<0.05	200	0
		Zinc, Zn	mg/L	0.01	<0.01	<0.01	200	0

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200565.010	LB188855.011	% Moisture	%w/w	1	7.7	7.0	44	9
SE200565.020	LB188855.022	% Moisture	%w/w	1	4.2	4.2	54	0
SE200574.001	LB188855.035	% Moisture	%w/w	1	13.7	15.6	37	13

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE200565.015	LB188853.032	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	0	200	0	
		Alpha BHC	mg/kg	0.1	<0.1	0	200	0	
		Lindane	mg/kg	0.1	<0.1	0	200	0	
		Heptachlor	mg/kg	0.1	<0.1	0	200	0	
		Aldrin	mg/kg	0.1	<0.1	0	200	0	
		Beta BHC	mg/kg	0.1	<0.1	0	200	0	
		Delta BHC	mg/kg	0.1	<0.1	0	200	0	
		Heptachlor epoxide	mg/kg	0.1	<0.1	0	200	0	
		o,p'-DDE	mg/kg	0.1	<0.1	0	200	0	
		Alpha Endosulfan	mg/kg	0.2	<0.2	0	200	0	
		Gamma Chlordane	mg/kg	0.1	<0.1	0	200	0	
		Alpha Chlordane	mg/kg	0.1	<0.1	0	200	0	
		trans-Nonachlor	mg/kg	0.1	<0.1	0	200	0	
		p,p'-DDE	mg/kg	0.1	<0.1	0	200	0	
		Dieldrin	mg/kg	0.05	<0.05	0	200	0	
		Endrin	mg/kg	0.2	<0.2	0	200	0	
		o,p'-DDD	mg/kg	0.1	<0.1	0	200	0	
		o,p'-DDT	mg/kg	0.1	<0.1	0	200	0	
		Beta Endosulfan	mg/kg	0.2	<0.2	0	200	0	
		p,p'-DDD	mg/kg	0.1	<0.1	0	200	0	
		p,p'-DDT	mg/kg	0.1	<0.1	0	200	0	
		Endosulfan sulphate	mg/kg	0.1	<0.1	0	200	0	
		Endrin Aldehyde	mg/kg	0.1	<0.1	0	200	0	
		Methoxychlor	mg/kg	0.1	<0.1	0	200	0	
		Endrin Ketone	mg/kg	0.1	<0.1	0	200	0	
		Isodrin	mg/kg	0.1	<0.1	0	200	0	
		Mirex	mg/kg	0.1	<0.1	0	200	0	
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.126	30	4

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

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: $MAD = 100 \times SDL / Mean + LR$

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil (continued)

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200574.001	LB188853.031	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Dieldrin	mg/kg	0.05	<0.2	<0.2	200	0
		Endrin	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
		Mirex	mg/kg	0.1	<0.1	<0.1	200	0
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.11	0.12	30	9

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200565.015	LB188853.032	Naphthalene	mg/kg	0.1	<0.1	0.0054967537	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	0.0035500648	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	0.0032928007	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	0.0498617118	200	0
		Acenaphthene	mg/kg	0.1	<0.1	0.0107021600	200	0
		Fluorene	mg/kg	0.1	<0.1	0.0119497200	200	0
		Phenanthrene	mg/kg	0.1	0.2	0.2114244164	80	12
		Anthracene	mg/kg	0.1	<0.1	0.0481977299	200	0
		Fluoranthene	mg/kg	0.1	0.5	0.4989391396	50	1
		Pyrene	mg/kg	0.1	0.5	0.4880347793	51	5
		Benzo(a)anthracene	mg/kg	0.1	0.2	0.2515073250	70	4
		Chrysene	mg/kg	0.1	0.3	0.2967645712	64	1
		Benzo(b&j)fluoranthene	mg/kg	0.1	0.4	0.3566717266	57	10
		Benzo(k)fluoranthene	mg/kg	0.1	0.2	0.2683615890	71	22
		Benzo(a)pyrene	mg/kg	0.1	0.4	0.3912803282	56	7
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.1	0.1730852192	92	15
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0.0302718678	200	0
		Benzo(ghi)perylene	mg/kg	0.1	0.2	0.1967720317	81	1
		Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	0.5	0.4990930402	52	7
		TEQ (mg/kg)	mg/kg	0.2	0.5	0.4990930402	52	7
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	0.6	0.5990930402	62	6
		TEQ (mg/kg)	mg/kg	0.3	0.6	0.5990930402	62	6
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	0.5	0.5490930402	48	7
		TEQ (mg/kg)	mg/kg	0.2	0.5	0.5490930402	48	7
		Total PAH (18)	mg/kg	0.8	3.0	3.1119887263	56	5
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4287724297	30	2
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4269029544	30	1
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4336474225	30	2
SE200574.001	LB188853.031	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

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: $MAD = 100 \times SDL / Mean + LR$

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200574.001	LB188853.031	1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Chrysene	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(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	<0.3	<0.3	134	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	<0.2	175	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates						
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.4	30	2
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	30	5
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	9

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200565.015	LB188853.032	Arochlor 1016	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1268	mg/kg	0.2	<0.2	0	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	0	200	0
		Surrogates						
		Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0.126	30	4
SE200574.001	LB188853.031	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
		Surrogates						
		Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	9

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200565.008	LB188927.017	pH	pH Units	0.1	7.5	7.692	31	2
SE200565.023	LB188927.016	pH	pH Units	0.1	8.1	8.0	31	1

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200565.008	LB188862.024	Arsenic, As	mg/kg	1	8	6	45	31
		Boron, B	mg/kg	5	22	20	54	7
		Beryllium, Be	mg/kg	0.5	0.8	0.7	93	12
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Cobalt, Co	mg/kg	0.5	11	10	35	10

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

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: $MAD = 100 \times SDL / Mean + LR$

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200565.008	LB188862.024	Chromium, Cr	mg/kg	0.5	12	11	34	11
		Copper, Cu	mg/kg	0.5	16	14	33	9
		Manganese, Mn	mg/kg	1	620	490	30	24
		Nickel, Ni	mg/kg	0.5	12	11	34	11
		Lead, Pb	mg/kg	1	28	25	34	10
		Selenium, Se	mg/kg	3	<3	<3	200	0
SE200565.018	LB188863.014	Zinc, Zn	mg/kg	2	54	54	34	0
		Arsenic, As	mg/kg	1	5	5	52	1
		Boron, B	mg/kg	5	12	13	70	5
		Beryllium, Be	mg/kg	0.5	<0.5	<0.5	133	0
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Cobalt, Co	mg/kg	0.5	5.5	5.5	39	0
		Chromium, Cr	mg/kg	0.5	8.3	8.6	36	4
		Copper, Cu	mg/kg	0.5	12	13	34	8
		Manganese, Mn	mg/kg	1	280	280	30	2
		Nickel, Ni	mg/kg	0.5	8.3	7.7	36	6
		Lead, Pb	mg/kg	1	28	32	33	12
		Selenium, Se	mg/kg	3	<3	<3	200	0
Zinc, Zn	mg/kg	2	54	55	34	2		
SE200571.005	LB188862.014	Lead, Pb	mg/kg	1	22	20	35	10
SE200574.001	LB188863.023	Arsenic, As	mg/kg	1	3	3	64	13
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	178	0
		Chromium, Cr	mg/kg	0.5	21	23	32	10
		Copper, Cu	mg/kg	0.5	69	68	31	2
		Nickel, Ni	mg/kg	0.5	8.2	8.7	36	6
		Lead, Pb	mg/kg	1	30	31	33	2
Zinc, Zn	mg/kg	2	87	90	32	3		

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE200565.015	LB188853.032	TRH C10-C14	mg/kg	20	<20	0	200	0	
		TRH C15-C28	mg/kg	45	<45	0	200	0	
		TRH C29-C36	mg/kg	45	46	32	145	2	
		TRH C37-C40	mg/kg	100	<100	0	200	0	
		TRH C10-C36 Total	mg/kg	110	<110	0	200	0	
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	0	200	0	
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	0	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	0	200	0	
		TRH >C16-C34 (F3)	mg/kg	90	<90	0	200	0	
		TRH >C34-C40 (F4)	mg/kg	120	<120	0	200	0	
SE200574.001	LB188853.031	TRH C10-C14	mg/kg	20	<20	<20	200	0	
		TRH C15-C28	mg/kg	45	<45	<45	200	0	
		TRH C29-C36	mg/kg	45	<45	<45	200	0	
		TRH C37-C40	mg/kg	100	<100	<100	200	0	
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0	
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0	
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0	
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0	
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0	

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE200565.021	LB188852.014	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.8	8.9	50
		d8-toluene (Surrogate)		mg/kg	-	8.9	9.2	50	4
		Bromofluorobenzene (Surrogate)		mg/kg	-	9.1	9.1	50	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

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: $MAD = 100 \times SDL / Mean + LR$

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE200565.021	LB188852.014	Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
SE200574.001	LB188852.022	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.3	7.9	50
		d8-toluene (Surrogate)		mg/kg	-	9.1	8.0	50	13
		Bromofluorobenzene (Surrogate)		mg/kg	-	9.2	8.2	50	12
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
	Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0		

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE200565.021	LB188852.014	TRH C6-C10	TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.8	8.9	30	2
			d8-toluene (Surrogate)	mg/kg	-	8.9	9.2	30	4
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.1	9.1	30	0
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
TRH C6-C10 minus BTEX (F1)	mg/kg		25	<25	<25	200	0		
SE200574.001	LB188852.022	TRH C6-C10	TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.3	7.9	30	16
			d8-toluene (Surrogate)	mg/kg	-	9.1	8.0	30	13
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.2	8.2	30	12
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	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.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188864.002	Mercury	mg/kg	0.05	0.21	0.2	70 - 130	104
LB188865.002	Mercury	mg/kg	0.05	0.21	0.2	70 - 130	104

Metals in Water (Dissolved) by ICPOES

Method: ME-(AU)-[ENV]AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188810.002	Arsenic, As	mg/L	0.02	0.47	0.5	80 - 120	95
	Beryllium, Be	mg/L	0.005	0.49	0.5	80 - 120	99
	Boron, B	mg/L	0.05	0.47	0.5	80 - 120	93
	Cadmium, Cd	mg/L	0.001	0.47	0.5	80 - 120	94
	Chromium, Cr	mg/L	0.005	0.47	0.5	80 - 120	95
	Cobalt, Co	mg/L	0.01	0.47	0.5	80 - 120	94
	Copper, Cu	mg/L	0.005	0.48	0.5	80 - 120	96
	Lead, Pb	mg/L	0.02	0.47	0.5	80 - 120	94
	Manganese, Mn	mg/L	0.005	0.49	0.5	80 - 120	97
	Nickel, Ni	mg/L	0.005	0.46	0.5	80 - 120	93
	Selenium, Se	mg/L	0.05	0.48	0.5	80 - 120	96
	Zinc, Zn	mg/L	0.01	0.49	0.5	80 - 120	98

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188853.002	Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	90
	Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	90
	Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	84
	Dieldrin	mg/kg	0.05	0.18	0.2	60 - 140	88
	Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	85
	p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	80
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.15	40 - 130	86

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB188853.002	Naphthalene	mg/kg	0.1	4.1	4	60 - 140	102	
	Acenaphthylene	mg/kg	0.1	4.3	4	60 - 140	108	
	Acenaphthene	mg/kg	0.1	4.0	4	60 - 140	100	
	Phenanthrene	mg/kg	0.1	4.3	4	60 - 140	107	
	Anthracene	mg/kg	0.1	4.2	4	60 - 140	104	
	Fluoranthene	mg/kg	0.1	4.0	4	60 - 140	99	
	Pyrene	mg/kg	0.1	4.2	4	60 - 140	104	
	Benzo(a)pyrene	mg/kg	0.1	4.2	4	60 - 140	105	
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	93
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	92
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	87	

PAH (Polynuclear Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB188831.002	Naphthalene	µg/L	0.1	36	40	60 - 140	89	
	Acenaphthylene	µg/L	0.1	38	40	60 - 140	94	
	Acenaphthene	µg/L	0.1	39	40	60 - 140	98	
	Phenanthrene	µg/L	0.1	36	40	60 - 140	89	
	Anthracene	µg/L	0.1	35	40	60 - 140	89	
	Fluoranthene	µg/L	0.1	35	40	60 - 140	87	
	Pyrene	µg/L	0.1	36	40	60 - 140	90	
	Benzo(a)pyrene	µg/L	0.1	43	40	60 - 140	108	
	Surrogates	d5-nitrobenzene (Surrogate)	µg/L	-	0.5	0.5	40 - 130	108
		2-fluorobiphenyl (Surrogate)	µg/L	-	0.5	0.5	40 - 130	106
	d14-p-terphenyl (Surrogate)	µg/L	-	0.5	0.5	40 - 130	100	

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188853.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	103

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.

pH In soil (1:5)

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188927.003	pH	pH Units	0.1	7.4	7.415	98 - 102	99

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188862.002	Arsenic, As	mg/kg	1	340	318.22	80 - 120	106
	Boron, B	mg/kg	5	36	37.13	80 - 120	96
	Beryllium, Be	mg/kg	0.5	4.3	4.17	80 - 120	103
	Cadmium, Cd	mg/kg	0.3	5.0	4.62	80 - 120	108
	Cobalt, Co	mg/kg	0.5	20	20.71	80 - 120	98
	Chromium, Cr	mg/kg	0.5	38	38.31	80 - 120	99
	Copper, Cu	mg/kg	0.5	300	290	80 - 120	103
	Manganese, Mn	mg/kg	1	700	660	80 - 120	107
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	101
	Lead, Pb	mg/kg	1	93	89.9	80 - 120	104
	Selenium, Se	mg/kg	3	79	83.3	80 - 120	95
	Zinc, Zn	mg/kg	2	280	273	80 - 120	103
LB188863.002	Arsenic, As	mg/kg	1	350	318.22	80 - 120	109
	Boron, B	mg/kg	5	38	37.13	80 - 120	103
	Beryllium, Be	mg/kg	0.5	4.2	4.17	80 - 120	101
	Cadmium, Cd	mg/kg	0.3	5.1	4.62	80 - 120	110
	Cobalt, Co	mg/kg	0.5	21	20.71	80 - 120	101
	Chromium, Cr	mg/kg	0.5	39	38.31	80 - 120	101
	Copper, Cu	mg/kg	0.5	310	290	80 - 120	107
	Manganese, Mn	mg/kg	1	720	660	80 - 120	109
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	104
	Lead, Pb	mg/kg	1	98	89.9	80 - 120	108
	Selenium, Se	mg/kg	3	78	83.3	80 - 120	94
	Zinc, Zn	mg/kg	2	290	273	80 - 120	105

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188853.002	TRH C10-C14	mg/kg	20	43	40	60 - 140	108
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	108
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	93
	TRH F Bands						
	TRH >C10-C16	mg/kg	25	43	40	60 - 140	108
	TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	105
	TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	85

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188852.002	Monocyclic						
	Benzene	mg/kg	0.1	4.9	5	60 - 140	98
	Aromatic						
	Toluene	mg/kg	0.1	4.9	5	60 - 140	97
	Ethylbenzene	mg/kg	0.1	4.8	5	60 - 140	95
	m/p-xylene	mg/kg	0.2	9.6	10	60 - 140	96
	o-xylene	mg/kg	0.1	4.8	5	60 - 140	96
	Surrogates						
d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.7	10	70 - 130	97	
d8-toluene (Surrogate)	mg/kg	-	9.3	10	70 - 130	93	
Bromofluorobenzene (Surrogate)	mg/kg	-	9.3	10	70 - 130	93	

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188852.002	TRH C6-C10	mg/kg	25	78	92.5	60 - 140	85
	TRH C6-C9	mg/kg	20	68	80	60 - 140	85
	Surrogates						
	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.7	10	70 - 130	97
	Bromofluorobenzene (Surrogate)	mg/kg	-	9.3	10	70 - 130	93
	VPH F Bands						
TRH C6-C10 minus BTEX (F1)	mg/kg	25	49	62.5	60 - 140	79	

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE200565.009	LB188865.004	Mercury	mg/kg	0.05	0.25	<0.05	0.2	101
SE200570.001	LB188864.004	Mercury	mg/kg	0.05	0.35	0.15	0.2	101

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE200565.001	LB188853.004	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
		Lindane	mg/kg	0.1	<0.1	<0.1	-	-
		Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	85
		Aldrin	mg/kg	0.1	0.2	<0.1	0.2	83
		Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
		Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	80
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
		Dieldrin	mg/kg	0.05	0.20	0.06	0.2	71
		Endrin	mg/kg	0.2	<0.2	<0.2	0.2	80
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	-
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDT	mg/kg	0.1	0.2	<0.1	0.2	75
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	-	-
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
		Endrin Ketone	mg/kg	0.1	<0.1	<0.1	-	-
		Isodrin	mg/kg	0.1	<0.1	<0.1	-	-
		Mirex	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.11	0.11	76

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE200565.001	LB188853.004	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1260	mg/kg	0.2	0.3	<0.2	0.4	84
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	-	-
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	76

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE200565.009	LB188863.004	Arsenic, As	mg/kg	1	51	5	50	93
		Boron, B	mg/kg	5	54	18	50	71
		Beryllium, Be	mg/kg	0.5	45	0.7	50	90
		Cadmium, Cd	mg/kg	0.3	41	<0.3	50	82
		Cobalt, Co	mg/kg	0.5	52	9.9	50	83
		Chromium, Cr	mg/kg	0.5	54	10	50	88
		Copper, Cu	mg/kg	0.5	58	16	50	83
		Manganese, Mn	mg/kg	1	480	530	50	-114 ⊕
		Nickel, Ni	mg/kg	0.5	53	11	50	84
		Lead, Pb	mg/kg	1	69	32	50	74
		Selenium, Se	mg/kg	3	39	<3	50	78

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE200565.009	LB188863.004	Zinc, Zn	mg/kg	2	120	74	50	85
SE200570.001	LB188862.004	Arsenic, As	mg/kg	1	53	3	50	100
		Cadmium, Cd	mg/kg	0.3	45	<0.3	50	90
		Chromium, Cr	mg/kg	0.5	53	5.0	50	96
		Copper, Cu	mg/kg	0.5	180	140	50	72
		Nickel, Ni	mg/kg	0.5	51	4.3	50	93
		Lead, Pb	mg/kg	1	180	120	50	117
		Zinc, Zn	mg/kg	2	180	130	50	112

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE200565.001	LB188853.004	TRH C10-C14	mg/kg	20	43	<20	40	108
		TRH C15-C28	mg/kg	45	<45	<45	40	105
		TRH C29-C36	mg/kg	45	<45	<45	40	90
		TRH C37-C40	mg/kg	100	<100	<100	-	-
		TRH C10-C36 Total	mg/kg	110	<110	<110	-	-
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
	TRH F Bands	TRH >C10-C16	mg/kg	25	43	<25	40	108
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	43	<25	-	-
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	98
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%	
SE200565.001	LB188852.004	Monocyclic	Benzene	mg/kg	0.1	4.8	<0.1	5	96
		Aromatic	Toluene	mg/kg	0.1	4.8	<0.1	5	95
			Ethylbenzene	mg/kg	0.1	4.7	<0.1	5	94
			m/p-xylene	mg/kg	0.2	9.4	<0.2	10	94
			o-xylene	mg/kg	0.1	4.7	<0.1	5	95
		Polycyclic	Naphthalene	mg/kg	0.1	4.8	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.0	8.4	10	90
			d8-toluene (Surrogate)	mg/kg	-	9.4	8.6	10	94
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.2	8.5	10	92
		Totals	Total Xylenes	mg/kg	0.3	14	<0.3	-	-
			Total BTEX	mg/kg	0.6	28	<0.6	-	-

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%	
SE200565.001	LB188852.004	TRH C6-C10	mg/kg	25	79	<25	92.5	86	
		TRH C6-C9	mg/kg	20	70	<20	80	87	
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.0	8.4	10	90
			d8-toluene (Surrogate)	mg/kg	-	9.4	8.6	10	94
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.2	8.5	-	92
		VPH F	Benzene (F0)	mg/kg	0.1	4.8	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	51	<25	62.5	82

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

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: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spike duplicates were required for this job.

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.
 - 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 At least 2 of 3 surrogates 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).
 - † Refer to Analytical Report comments for further information.

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 Order Number (Not specified)
 Samples 13

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SGS Reference **SE200565 R0**
 Date Received 29 Nov 2019
 Date Reported 04 Dec 2019

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

No respirable fibres detected in all soil samples using trace analysis technique.

Sample 9: Asbestos found in approx 5x3x1mm cement sheet fragment.

Asbestos analysed by Approved Identifiers Yusuf Kuthpudin and Ravee Sivasubramaniam .

SIGNATORIES



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 Chemist



Bennet LO
 Senior Organic Chemist/Metals Chemis



Dong LIANG
 Metals/Inorganics Team Leader



Huong CRAWFORD
 Production Manager



Kamrul AHSAN
 Senior Chemist



Ly Kim HA
 Organic Section Head

RESULTS

Fibre Identification in soil

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE200565.002	TP302	Other	608g Clay,Sand,Soil, Rocks	28 Nov 2019	No Asbestos Found Synthetic Mineral Fibres Detected Organic Fibres Detected	<0.01
SE200565.003	TP302	Other	634g Clay,Sand,Soil, Rocks	28 Nov 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE200565.004	TP303	Other	746g Clay,Sand,Rock s	28 Nov 2019	No Asbestos Found	<0.01
SE200565.005	TP303	Other	663g Clay,Rocks	28 Nov 2019	No Asbestos Found	<0.01
SE200565.006	TP304	Other	587g Clay,Sand,Soil, Rocks	28 Nov 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE200565.007	TP304	Other	659g Clay,Sand,Soil, Rocks	28 Nov 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE200565.008	TP304	Other	478g Clay,Sand,Soil, Rocks	28 Nov 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE200565.009	TP304	Other	531g Clay,Sand,Soil, Rocks	28 Nov 2019	Chrysotile Asbestos Found Organic Fibres Detected	>0.01
SE200565.012	TP307	Other	632g Clay,Sand,Soil, Rocks	28 Nov 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE200565.013	TP308	Other	833g Clay,Sand,Soil, Rocks	28 Nov 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE200565.017	TP312	Other	563g Clay,Sand,Soil, Rocks	28 Nov 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE200565.018	TP313	Other	794g Clay,Sand,Soil, Rocks	28 Nov 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE200565.021	TP316	Other	709g Clay,Sand,Soil, Rocks	28 Nov 2019	No Asbestos Found Organic Fibres Detected	<0.01

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP302	TP302	TP303	TP303	TP304
			CLAY 0.0-0.15 28/11/2019 SE200565.002	CLAY 0.5-0.8 28/11/2019 SE200565.003	CLAY 0.0-0.15 28/11/2019 SE200565.004	CLAY 0.5-0.8 28/11/2019 SE200565.005	CLAY 0.0-0.15 28/11/2019 SE200565.006
Total Sample Weight*	g	1	608	634	746	663	587
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	TP304	TP304	TP304	TP307	TP308
			CLAY 0.5-0.8 28/11/2019 SE200565.007	CLAY 1.0-1.3 28/11/2019 SE200565.008	CLAY 1.5-1.8 28/11/2019 SE200565.009	CLAY 0.0-0.15 28/11/2019 SE200565.012	CLAY 0.0-0.15 28/11/2019 SE200565.013
Total Sample Weight*	g	1	659	478	531	632	833
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	0.0084	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	0.002	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	0.002	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	TP312	TP313	TP316
			CLAY 0.0-0.15 28/11/2019 SE200565.017	CLAY 0.0-0.15 28/11/2019 SE200565.018	CLAY 0.0-0.15 28/11/2019 SE200565.021
Total Sample Weight*	g	1	563	794	709
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-

METHOD

METHODOLOGY SUMMARY

AN602	<p>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.</p>
AN602	<p>Fibres/material that cannot be unequivocally 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.</p>
AN602	<p>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 limit 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."</p>
AN602	<p>The sample can be reported "no asbestos found at the reporting limit of 0.1 g/kg" (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if-</p> <ul style="list-style-type: none"> (a) no trace asbestos fibres have been detected (i.e. no 'respirable' fibres); (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 (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.
AN605	<p>This technique gravimetrically determines the mass of Asbestos Containing Material retained on a 7mm Sieve and assumes that 15% of this ACM is asbestos. This calculated asbestos weight is then calculated as a percentage of the total sample weight.</p>
AN605	<p>This technique also gravimetrically determines the mass of Fibrous Asbestos (FA) and Asbestos Fines (AF) Containing Material retained on and passing a 2mm sieve post 7mm sieving. Assumes that FA and AF are 100% asbestos containing. This calculated asbestos weight is then calculated as a percentage of the total sample weight. This does not include free fibres which are only observed by standard trace analysis as per AN 602.</p>
AN605	<p>Insofar as is technically feasible, this report is consistent with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009.</p>

FOOTNOTES

Amosite	-	Brown Asbestos	NA	-	Not Analysed
Chrysotile	-	White Asbestos	LNR	-	Listed, Not Required
Crocidolite	-	Blue Asbestos	*	-	NATA accreditation does not cover the performance of this service .
Amphiboles	-	Amosite and/or Crocidolite	**	-	Indicative data, theoretical holding time exceeded.

(In reference to soil samples only) This report does not comply with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment and Remediation and Management of Asbestos Contaminated sites in Western Australia - May 2009.

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.

Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy, including dispersion staining.

Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

Even after disintegration it can be very difficult, or impossible, to detect the presence of asbestos in some asbestos-containing bulk materials using polarised light microscopy. This is due to the low grade or small length or diameter of asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials.

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/pv.sqsvr/en-gb/environment.

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29/11/19 05:48

SGS EHS Alexandria Laboratory



SE200565 COC
Received: 29 - Nov - 2019

GEOTECHNIQUE PTY LTD

1 LEMKO PLACE PENRITH NSW 2750

Tel: (02) 4722 2700

CHAIN OF CUSTODY

Results Required By: 2 days
Except pH Results Required By -

Date: Tuesday, 3 December 2019

Date:

Your Reference No.:

TO: SGS UNIT 16, 33 MADDOX STREET ALEXANDRIA NSW 2015 Tel: 02 8594 0400							Sampled By: JH Ref No: 14578/1 Project Manager: JOHN XU Location: Penrith																		
Location	Depth (m)	Date	Soil	Water	Material	Metals As Cd Cr Cu Pb Hg Ni Zn	pH	CEC	CL8 TRH BTEX PAH	CL10 Metals* TRH BTEX PAH	CL16 Metals* TRH BTEX PAH OC PCB	Be B Co Mn Se	Mn	Asbestos 0.001% w/w	Asbestos	BTEX	TRH & BTEX	PAH	OCP	OCP & PCB	Phenol	Cyanide	VOC	OCP OPP & PCB	
1 TP301	0.0-0.15	28/11/19	GP		Clay		✓	✓			✓	✓													
TP301	0.55-0.65	28/11/19	G		Clay																				
2 TP302	0.0-0.15	28/11/19	GP		Clay	✓						✓		✓											
3 TP302	0.5-0.8	28/11/19	GP		Clay	✓						✓		✓											
TP302	1.05-1.15	28/11/19	G		Clay																				
4 TP303	0.0-0.15	28/11/19	GP		Clay		✓	✓			✓	✓		✓											
5 TP303	0.5-0.8	28/11/19	GP		Clay	✓						✓		✓						✓					
TP303	0.85-0.95	28/11/19	G		Clay																				
6 TP304	0.0-0.15	28/11/19	GP		Clay						✓	✓		✓											
7 TP304	0.5-0.8	28/11/19	GP		Clay	✓						✓		✓					✓						
8 TP304	1.0-1.3	28/11/19	GP		Clay		✓	✓			✓	✓		✓											
9 TP304	1.5-1.8	28/11/19	GP		Clay	✓						✓		✓											
TP304	1.85-1.95	28/11/19	G		Clay																				
10 TP305	0.0-0.15	28/11/19	GP		Clay						✓	✓													
TP305	0.25-0.35	28/11/19	G		Clay																				
11 TP306	0.0-0.15	28/11/19	GP		Clay	✓						✓							✓						
TP306	0.35-0.45	28/11/19	G		Clay																				



1 LEMKO PLACE PENRITH NSW 2750

Tel: (02) 4722 2700

CHAIN OF CUSTODY

Results Required By: 2 days
 Except pH Results Required By -

Date: Tuesday, 3 December 2019
 Date:

Your Reference No.:

TO: SGS UNIT 16, 33 MADDOX STREET ALEXANDRIA NSW 2015 Tel: 02 8594 0400							Sampled By: JH Ref No: 14578/1 Project Manager: JOHN XU Location: Penrith																		
Location	Depth (m)	Date	Soil	Water	Material	Metals As Cd Cr Cu Pb Hg Ni Zn	pH	GEC	CL8 TRH BTEX PAH	CL10 Metals* TRH BTEX PAH	CL16 Metals* TRH BTEX PAH OC PCB	Be B Co Mn Se	Mn	Asbestos 0.001% w/w	Asbestos	BTEX	TRH & BTEX	PAH	OCP	OCP & PCB	Phenol	Cyanide	VOC	OCP OPP & PCB	
12 TP307	0.0-0.15	28/11/19	GP		Clay	✓						✓		✓											
TP307	0.45-0.55	28/11/19	G		Clay																				
13 TP308	0.0-0.15	28/11/19	GP		Clay		✓	✓			✓	✓		✓											
TP308	0.55-0.65	28/11/19	G		Clay																				
14 TP309	0.0-0.15	28/11/19	GP		Clay	✓						✓						✓							
TP309	0.45-0.55	28/11/19	G		Clay																				
15 TP310	0.0-0.15	28/11/19	GP		Clay		✓	✓			✓	✓													
TP310	0.55-0.65	28/11/19	G		Clay																				
16 TP311	0.0-0.15	28/11/19	GP		Clay	✓						✓						✓							
TP311	0.55-0.65	28/11/19	G		Clay																				
17 TP312	0.0-0.15	28/11/19	GP		Clay		✓	✓			✓	✓		✓											
TP312	0.45-0.55	28/11/19	G		Clay																				
18 TP313	0.0-0.15	28/11/19	GP		Clay	✓						✓		✓											
TP313	0.55-0.65	28/11/19	G		Clay																				
19 TP314	0.0-0.15	28/11/19	GP		Clay		✓	✓			✓	✓													
TP314	0.45-0.55	28/11/19	G		Clay																				
20 TP315	0.0-0.15	28/11/19	GP		Clay	✓	✓	✓				✓							✓						



1 LEMKO PLACE PENRITH NSW 2750

Tel: (02) 4722 2700

CHAIN OF CUSTODY

Results Required By: 2 days
 Except pH Results Required By -

Date: Tuesday, 3 December 2019

Date:

Your Reference No.:

TO: SGS UNIT 16, 33 MADDOX STREET ALEXANDRIA NSW 2015 Tel: 02 8594 0400							Sampled By: JH							Ref No: 14578/1							Project Manager: JOHN XU								
Location: Penrith																													
Location	Depth (m)	Date	Soil	Water	Material	Metals As Cd Cr Cu Pb Hg Ni Zn	pH	CEC	CL8 TRH BTEX PAH	CL10 Metals* TRH BTEX PAH	CL16 Metals* TRH BTEX PAH OC PCB	Be B Co Mn Se	Mn	Asbestos 0.001% w/w	Asbestos	BTEX	TRH & BTEX	PAH	OCP	OCP & PCB	Phenol	Cyanide	VOC	OCP OPP & PCB					
21 TP316	0.0-0.15	28/11/19	GP		Clay		✓	✓			✓	✓		✓															
TP316	0.45-0.55	28/11/19	G		Clay																								
22 TP317	0.0-0.15	28/11/19	GP		Clay	✓						✓																	
22 TP317	0.45-0.55	28/11/19	G		Clay																								
23 TP318	0.0-0.15	28/11/19	GP		Clay		✓	✓			✓	✓																	
TP318	0.25-0.35	28/11/19	G		Clay						✓	✓																	
24 DDS3		28/11/19	G		Clay						✓	✓																	
25 DDS4		28/11/19	G		Clay	✓						✓																	
26 RS1		28/11/19		WG/Vial		✓						✓						✓											
27 TS1		28/11/19																											
Relinquished by							Received by																						
Name		Signature		Date			Name					Signature					Date												
JOHN XU		JX		29/11/19			<i>John Xu</i>					<i>[Signature]</i>					29/11/19 @ 3.20 p												
WG: Water sample (glass bottle)			G	Soil sample (glass jar)			FCP	Fibro Cement Piece (plastic bag)			*: As,Cd,Cr,Cu,Pb,Hg,Ni & Zn (6 metals)																		
WP: Water sample (plastic bottle)			P	Soil sample (plastic bag)			✓	Test required																					



SAMPLE RECEIPT ADVICE

SE200565

CLIENT DETAILS

Contact John Xu
Client Geotechnique
Address P.O. Box 880
NSW 2751

Telephone 02 4722 2700
Facsimile 02 4722 6161
Email john.xu@geotech.com.au

Project **14578/1 Penrith**
Order Number (Not specified)
Samples 27

LABORATORY DETAILS

Manager Huong Crawford
Laboratory SGS Alexandria Environmental
Address Unit 16, 33 Maddox St
Alexandria NSW 2015

Telephone +61 2 8594 0400
Facsimile +61 2 8594 0499
Email au.environmental.sydney@sgs.com

Samples Received Fri 29/11/2019
Report Due Tue 3/12/2019
SGS Reference **SE200565**

SUBMISSION DETAILS

This is to confirm that 27 samples were received on Friday 29/11/2019. Results are expected to be ready by COB Tuesday 3/12/2019. Please quote SGS reference SE200565 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	25 Clay, 1 Sand, 1 Water
Date documentation received	29/11/2019	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	7.4°C	Sufficient sample for analysis	Yes
Turnaround time requested	Two Days		

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

17 samples have been placed on hold as no tests have been assigned for them by the client. These samples will not be processed.

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/en/Terms-and-Conditions.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

CLIENT DETAILS

Client **Geotechnique**

Project **14578/1 Penrith**

SUMMARY OF ANALYSIS

No.	Sample ID	Exchangeable Cations and Cation Exchange Capacity	OC Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	pH in soil (1:5)	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	TP301 0.0-0.15	13	28	26	11	1	10	11	7
004	TP303 0.0-0.15	13	28	26	11	1	10	11	7
005	TP303 0.5-0.8	-	-	26	-	-	-	-	-
006	TP304 0.0-0.15	-	28	26	11	-	10	11	7
007	TP304 0.5-0.8	-	-	26	-	-	-	-	-
008	TP304 1.0-1.3	13	28	26	11	1	10	11	7
010	TP305 0.0-0.15	-	28	26	11	-	10	11	7
011	TP306 0.0-0.15	-	-	26	-	-	-	-	-
013	TP308 0.0-0.15	13	28	26	11	1	10	11	7
014	TP309 0.0-0.15	-	-	26	-	-	-	-	-
015	TP310 0.0-0.15	13	28	26	11	1	10	11	7
016	TP311 0.0-0.15	-	-	26	-	-	-	-	-
017	TP312 0.0-0.15	13	28	26	11	1	10	11	7
019	TP314 0.0-0.15	13	28	26	11	1	10	11	7
020	TP315 0.0-0.15	13	28	-	-	1	-	-	-
021	TP316 0.0-0.15	13	28	26	11	1	10	11	7
023	TP318 0.0-0.15	13	28	26	11	1	10	11	7
024	DDS3	-	28	26	11	-	10	11	7

CONTINUED OVERLEAF

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.



SAMPLE RECEIPT ADVICE

SE200565

CLIENT DETAILS

Client **Geotechnique**

Project **14578/1 Penrith**

SUMMARY OF ANALYSIS

No.	Sample ID	VOC's in Soil
027	TS1	11

CONTINUED OVERLEAF

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.

CLIENT DETAILS

Client **Geotechnique**

Project **14578/1 Penrith**

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Gravimetric Determination of Asbestos in Soil	Mercury in Soil	Moisture Content	Total Recoverable Elements in Soil/Waste
001	TP301 0.0-0.15	-	-	1	1	12
002	TP302 0.0-0.15	2	9	1	1	12
003	TP302 0.5-0.8	2	9	1	1	12
004	TP303 0.0-0.15	2	9	1	1	12
005	TP303 0.5-0.8	2	9	1	1	12
006	TP304 0.0-0.15	2	9	1	1	12
007	TP304 0.5-0.8	2	9	1	1	12
008	TP304 1.0-1.3	2	9	1	1	12
009	TP304 1.5-1.8	2	9	1	1	12
010	TP305 0.0-0.15	-	-	1	1	12
011	TP306 0.0-0.15	-	-	1	1	12
012	TP307 0.0-0.15	2	9	1	1	12
013	TP308 0.0-0.15	2	9	1	1	12
014	TP309 0.0-0.15	-	-	1	1	12
015	TP310 0.0-0.15	-	-	1	1	12
016	TP311 0.0-0.15	-	-	1	1	12
017	TP312 0.0-0.15	2	9	1	1	12
018	TP313 0.0-0.15	2	9	1	1	12
019	TP314 0.0-0.15	-	-	1	1	12
020	TP315 0.0-0.15	-	-	1	1	12
021	TP316 0.0-0.15	2	9	1	1	12
022	TP317 0.0-0.15	-	-	1	1	12
023	TP318 0.0-0.15	-	-	1	1	12
024	DDS3	-	-	1	1	12

CONTINUED OVERLEAF

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.

CLIENT DETAILS

Client **Geotechnique**

Project **14578/1 Penrith**

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury in Soil	Moisture Content	Total Recoverable Elements in Soil/Waste
025	DDS4	1	1	12

CONTINUED OVERLEAF

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.
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 Testing as per this table shall commence immediately unless the client intervenes with a correction .

CLIENT DETAILS

Client **Geotechnique**

Project **14578/1 Penrith**

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water	Metals in Water (Dissolved) by ICPOES	PAH (Polynuclear Aromatic Hydrocarbons) in Water
026	RS1	1	12	22

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.

CLIENT DETAILS

LABORATORY DETAILS

Contact John Xu
 Client Geotechnique
 Address P.O. Box 880
 NSW 2751

Telephone 02 4722 2700
 Facsimile 02 4722 6161
 Email john.xu@geotech.com.au

Project **14578/1 Penrith**
 Order Number (Not specified)
 Samples 36

Manager Huong Crawford
 Laboratory SGS Alexandria Environmental
 Address Unit 16, 33 Maddox St
 Alexandria NSW 2015

Telephone +61 2 8594 0400
 Facsimile +61 2 8594 0499
 Email au.environmental.sydney@sgs.com

SGS Reference **SE200611 R1**
 Date Received 2/12/2019
 Date Reported 5/12/2019

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

This report cancels and supersedes the report No.SE200611 R0 dated 04/12/19 issued by SGS Environment, Health and Safety due to amended sampling dates as per COC.

No respirable fibres detected in all soil samples using trace analysis technique.

Sample 25: No trace asbestos fibres detected using trace analysis technique.

Sample 1: Approx 3 mm x 0.2mm fibre bundle found loose in sample.
 Sample 7: Asbestos found in approx 40x15x2mm cement sheet fragments.
 Sample 30: Asbestos found in approx 10x6x3mm cement sheet fragments.
 Asbestos analysed by Approved Identifiers Ravee Sivasubramaniam and Yusuf Kuthpudin .

SIGNATORIES



Akheeqaar BENIAMREEN
 Chemist



Dong LIANG
 Metals/Inorganics Team Leader



Huong CRAWFORD
 Production Manager



Ly Kim HA
 Organic Section Head



Ravee SIVASUBRAMANIAM
 Hygiene Team Leader

VOC's in Soil [AN433] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP102	TP106	TP107	TP109	TP201
			CLAY 0.0-0.15 29/11/2019 SE200611.002	CLAY 0.0-0.15 29/11/2019 SE200611.006	CLAY 0.0-0.15 29/11/2019 SE200611.007	SAND 0.1-0.25 29/11/2019 SE200611.009	CLAY 0.0-0.15 29/11/2019 SE200611.011
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	TP201	TP202	TP203	TP204	TP206
			CLAY 1.0-1.3 29/11/2019 SE200611.013	CLAY 0.0-0.15 29/11/2019 SE200611.016	CLAY 0.0-0.15 29/11/2019 SE200611.018	CLAY 0.0-0.15 29/11/2019 SE200611.019	CLAY 0.0-0.15 29/11/2019 SE200611.021
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	TP207	TP209	TP211	TP213	DDS1
			CLAY 0.0-0.15 29/11/2019 SE200611.023	CLAY 0.0-0.15 29/11/2019 SE200611.027	CLAY 0.0-0.15 29/11/2019 SE200611.030	CLAY 0.0-0.15 29/11/2019 SE200611.032	CLAY - 29/11/2019 SE200611.033
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	DDS2	TS2
			CLAY - 29/11/2019 SE200611.034	CLAY - 29/11/2019 SE200611.036
Benzene	mg/kg	0.1	<0.1	[112%]
Toluene	mg/kg	0.1	<0.1	[117%]
Ethylbenzene	mg/kg	0.1	<0.1	[120%]
m/p-xylene	mg/kg	0.2	<0.2	[119%]
o-xylene	mg/kg	0.1	<0.1	[114%]
Total Xylenes	mg/kg	0.3	<0.3	-
Total BTEX	mg/kg	0.6	<0.6	-
Naphthalene	mg/kg	0.1	<0.1	-

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP102	TP106	TP107	TP109	TP201
			CLAY 0.0-0.15 29/11/2019 SE200611.002	CLAY 0.0-0.15 29/11/2019 SE200611.006	CLAY 0.0-0.15 29/11/2019 SE200611.007	SAND 0.1-0.25 29/11/2019 SE200611.009	CLAY 0.0-0.15 29/11/2019 SE200611.011
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	TP201	TP202	TP203	TP204	TP206
			CLAY 1.0-1.3 29/11/2019 SE200611.013	CLAY 0.0-0.15 29/11/2019 SE200611.016	CLAY 0.0-0.15 29/11/2019 SE200611.018	CLAY 0.0-0.15 29/11/2019 SE200611.019	CLAY 0.0-0.15 29/11/2019 SE200611.021
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	TP207	TP209	TP211	TP213	DDS1
			CLAY 0.0-0.15 29/11/2019 SE200611.023	CLAY 0.0-0.15 29/11/2019 SE200611.027	CLAY 0.0-0.15 29/11/2019 SE200611.030	CLAY 0.0-0.15 29/11/2019 SE200611.032	CLAY - 29/11/2019 SE200611.033
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	DDS2
			CLAY - 29/11/2019 SE200611.034
TRH C6-C9	mg/kg	20	<20
Benzene (F0)	mg/kg	0.1	<0.1
TRH C6-C10	mg/kg	25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP102	TP106	TP107	TP109	TP201
			CLAY 0.0-0.15 29/11/2019 SE200611.002	CLAY 0.0-0.15 29/11/2019 SE200611.006	CLAY 0.0-0.15 29/11/2019 SE200611.007	SAND 0.1-0.25 29/11/2019 SE200611.009	CLAY 0.0-0.15 29/11/2019 SE200611.011
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	TP201	TP202	TP203	TP204	TP206
			CLAY 1.0-1.3 29/11/2019 SE200611.013	CLAY 0.0-0.15 29/11/2019 SE200611.016	CLAY 0.0-0.15 29/11/2019 SE200611.018	CLAY 0.0-0.15 29/11/2019 SE200611.019	CLAY 0.0-0.15 29/11/2019 SE200611.021
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	47	79
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	TP207	TP209	TP211	TP213	DDS1
			CLAY 0.0-0.15 29/11/2019 SE200611.023	CLAY 0.0-0.15 29/11/2019 SE200611.027	CLAY 0.0-0.15 29/11/2019 SE200611.030	CLAY 0.0-0.15 29/11/2019 SE200611.032	CLAY - 29/11/2019 SE200611.033
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 2/12/2019 (continued)

PARAMETER	UOM	LOR	DDS2
			CLAY - 29/11/2019 SE200611.034
TRH C10-C14	mg/kg	20	<20
TRH C15-C28	mg/kg	45	<45
TRH C29-C36	mg/kg	45	<45
TRH C37-C40	mg/kg	100	<100
TRH >C10-C16	mg/kg	25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120
TRH C10-C36 Total	mg/kg	110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP105	TP201	TP205	TP207	TP209
			CLAY 0.0-0.15 29/11/2019 SE200611.005	CLAY 2.0-2.2 29/11/2019 SE200611.015	CLAY 0.0-0.15 29/11/2019 SE200611.020	CLAY 0.5-0.7 29/11/2019 SE200611.024	CLAY 0.5-0.7 29/11/2019 SE200611.028
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<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	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<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	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<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	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP102	TP105	TP106	TP107	TP109
			CLAY 0.0-0.15 29/11/2019 SE200611.002	CLAY 0.0-0.15 29/11/2019 SE200611.005	CLAY 0.0-0.15 29/11/2019 SE200611.006	CLAY 0.0-0.15 29/11/2019 SE200611.007	SAND 0.1-0.25 29/11/2019 SE200611.009
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.05	0.27	-	0.28	0.68	<0.05
Endrin	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1

OC Pesticides in Soil [AN420] Tested: 2/12/2019 (continued)

PARAMETER	UOM	LOR	TP201	TP201	TP201	TP202	TP203
			CLAY 0.0-0.15 29/11/2019 SE200611.011	CLAY 1.0-1.3 29/11/2019 SE200611.013	CLAY 2.0-2.2 29/11/2019 SE200611.015	CLAY 0.0-0.15 29/11/2019 SE200611.016	CLAY 0.0-0.15 29/11/2019 SE200611.018
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Dieldrin	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05
Endrin	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1

OC Pesticides in Soil [AN420] Tested: 2/12/2019 (continued)

PARAMETER	UOM	LOR	TP204	TP205	TP206	TP207	TP207
			CLAY 0.0-0.15 29/11/2019 SE200611.019	CLAY 0.0-0.15 29/11/2019 SE200611.020	CLAY 0.0-0.15 29/11/2019 SE200611.021	CLAY 0.0-0.15 29/11/2019 SE200611.023	CLAY 0.5-0.7 29/11/2019 SE200611.024
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Alpha BHC	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Lindane	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Heptachlor	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Aldrin	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Beta BHC	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Delta BHC	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Heptachlor epoxide	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
o,p'-DDE	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Alpha Endosulfan	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Gamma Chlordane	mg/kg	0.1	<0.1	-	<0.1	0.3	-
Alpha Chlordane	mg/kg	0.1	<0.1	-	<0.1	0.3	-
trans-Nonachlor	mg/kg	0.1	<0.1	-	<0.1	0.1	-
p,p'-DDE	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Dieldrin	mg/kg	0.05	<0.05	-	<0.05	<0.05	-
Endrin	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
o,p'-DDD	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
o,p'-DDT	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Beta Endosulfan	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
p,p'-DDD	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
p,p'-DDT	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Endosulfan sulphate	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Endrin Aldehyde	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Methoxychlor	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Endrin Ketone	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Isodrin	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Mirex	mg/kg	0.1	<0.1	-	<0.1	<0.1	-

OC Pesticides in Soil [AN420] Tested: 2/12/2019 (continued)

PARAMETER	UOM	LOR	TP209	TP209	TP211	TP213	DDS1
			CLAY 0.0-0.15 29/11/2019 SE200611.027	CLAY 0.5-0.7 29/11/2019 SE200611.028	CLAY 0.0-0.15 29/11/2019 SE200611.030	CLAY 0.0-0.15 29/11/2019 SE200611.032	CLAY - 29/11/2019 SE200611.033
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	-	0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.05	0.21	-	1.5	0.14	0.19
Endrin	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1

OC Pesticides in Soil [AN420] Tested: 2/12/2019 (continued)

PARAMETER	UOM	LOR	DDS2
			CLAY - 29/11/2019 SE200611.034
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1
Lindane	mg/kg	0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1
Aldrin	mg/kg	0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1
Dieldrin	mg/kg	0.05	<0.05
Endrin	mg/kg	0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1
Isodrin	mg/kg	0.1	<0.1
Mirex	mg/kg	0.1	<0.1

PCBs in Soil [AN420] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP102	TP105	TP106	TP107	TP109
			CLAY 0.0-0.15 29/11/2019 SE200611.002	CLAY 0.0-0.15 29/11/2019 SE200611.005	CLAY 0.0-0.15 29/11/2019 SE200611.006	CLAY 0.0-0.15 29/11/2019 SE200611.007	SAND 0.1-0.25 29/11/2019 SE200611.009
Arochlor 1016	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	-	<1	<1	<1

PARAMETER	UOM	LOR	TP201	TP201	TP201	TP202	TP203
			CLAY 0.0-0.15 29/11/2019 SE200611.011	CLAY 1.0-1.3 29/11/2019 SE200611.013	CLAY 2.0-2.2 29/11/2019 SE200611.015	CLAY 0.0-0.15 29/11/2019 SE200611.016	CLAY 0.0-0.15 29/11/2019 SE200611.018
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	-	<1	<1

PARAMETER	UOM	LOR	TP204	TP205	TP206	TP207	TP207
			CLAY 0.0-0.15 29/11/2019 SE200611.019	CLAY 0.0-0.15 29/11/2019 SE200611.020	CLAY 0.0-0.15 29/11/2019 SE200611.021	CLAY 0.0-0.15 29/11/2019 SE200611.023	CLAY 0.5-0.7 29/11/2019 SE200611.024
Arochlor 1016	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Arochlor 1221	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Arochlor 1232	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Arochlor 1242	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Arochlor 1248	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Arochlor 1254	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Arochlor 1260	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Arochlor 1262	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Arochlor 1268	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Total PCBs (Arochlors)	mg/kg	1	<1	-	<1	<1	-

PCBs in Soil [AN420] Tested: 2/12/2019 (continued)

PARAMETER	UOM	LOR	TP209	TP209	TP211	TP213	DDS1
			CLAY 0.0-0.15 29/11/2019 SE200611.027	CLAY 0.5-0.7 29/11/2019 SE200611.028	CLAY 0.0-0.15 29/11/2019 SE200611.030	CLAY 0.0-0.15 29/11/2019 SE200611.032	CLAY - 29/11/2019 SE200611.033
Arochlor 1016	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	-	<1	<1	<1

PARAMETER	UOM	LOR	DDS2
			CLAY - 29/11/2019 SE200611.034
Arochlor 1016	mg/kg	0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1

pH in soil (1:5) [AN101] Tested: 3/12/2019

			TP102	TP103	TP106	TP107	TP109
			CLAY 0.0-0.15 29/11/2019	SAND 0.0-0.15 29/11/2019	CLAY 0.0-0.15 29/11/2019	CLAY 0.0-0.15 29/11/2019	SAND 0.1-0.25 29/11/2019
PARAMETER	UOM	LOR	SE200611.002	SE200611.003	SE200611.006	SE200611.007	SE200611.009
pH	pH Units	0.1	8.6	7.3	8.0	8.7	8.4

			TP110	TP201	TP201	TP203	TP204
			CLAY 0.1-0.25 29/11/2019	CLAY 0.0-0.15 29/11/2019	CLAY 1.0-1.3 29/11/2019	CLAY 0.0-0.15 29/11/2019	CLAY 0.0-0.15 29/11/2019
PARAMETER	UOM	LOR	SE200611.010	SE200611.011	SE200611.013	SE200611.018	SE200611.019
pH	pH Units	0.1	8.4	6.5	6.2	6.6	7.8

			TP206	TP209	TP211	TP213
			CLAY 0.0-0.15 29/11/2019	CLAY 0.0-0.15 29/11/2019	CLAY 0.0-0.15 29/11/2019	CLAY 0.0-0.15 29/11/2019
PARAMETER	UOM	LOR	SE200611.021	SE200611.027	SE200611.030	SE200611.032
pH	pH Units	0.1	9.5	8.0	8.2	7.8

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) [AN122] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP102	TP103	TP106	TP107	TP109
			CLAY 0.0-0.15 29/11/2019 SE200611.002	SAND 0.0-0.15 29/11/2019 SE200611.003	CLAY 0.0-0.15 29/11/2019 SE200611.006	CLAY 0.0-0.15 29/11/2019 SE200611.007	SAND 0.1-0.25 29/11/2019 SE200611.009
Exchangeable Sodium, Na	mg/kg	2	90	59	73	38	77
Exchangeable Sodium, Na	meq/100g	0.01	0.39	0.25	0.32	0.16	0.33
Exchangeable Sodium Percentage*	%	0.1	2.9	4.4	1.4	0.5	1.3
Exchangeable Potassium, K	mg/kg	2	140	220	230	240	240
Exchangeable Potassium, K	meq/100g	0.01	0.36	0.55	0.58	0.62	0.61
Exchangeable Potassium Percentage*	%	0.1	2.7	9.5	2.5	2.0	2.4
Exchangeable Calcium, Ca	mg/kg	2	2400	840	4200	6100	4700
Exchangeable Calcium, Ca	meq/100g	0.01	12	4.2	21	30	24
Exchangeable Calcium Percentage*	%	0.1	88.0	72.5	92.5	96.0	93.7
Exchangeable Magnesium, Mg	mg/kg	2	110	97	100	58	77
Exchangeable Magnesium, Mg	meq/100g	0.02	0.88	0.79	0.82	0.48	0.63
Exchangeable Magnesium Percentage*	%	0.1	6.5	13.6	3.6	1.5	2.5
Cation Exchange Capacity	meq/100g	0.02	14	5.8	23	32	25

PARAMETER	UOM	LOR	TP110	TP201	TP201	TP203	TP204
			CLAY 0.1-0.25 29/11/2019 SE200611.010	CLAY 0.0-0.15 29/11/2019 SE200611.011	CLAY 1.0-1.3 29/11/2019 SE200611.013	CLAY 0.0-0.15 29/11/2019 SE200611.018	CLAY 0.0-0.15 29/11/2019 SE200611.019
Exchangeable Sodium, Na	mg/kg	2	54	190	180	470	180
Exchangeable Sodium, Na	meq/100g	0.01	0.23	0.84	0.78	2.0	0.79
Exchangeable Sodium Percentage*	%	0.1	3.2	12.3	10.3	20.4	2.8
Exchangeable Potassium, K	mg/kg	2	110	100	120	130	130
Exchangeable Potassium, K	meq/100g	0.01	0.27	0.25	0.30	0.33	0.34
Exchangeable Potassium Percentage*	%	0.1	3.7	3.7	4.0	3.3	1.2
Exchangeable Calcium, Ca	mg/kg	2	1200	830	830	890	5000
Exchangeable Calcium, Ca	meq/100g	0.01	5.9	4.1	4.1	4.4	25
Exchangeable Calcium Percentage*	%	0.1	80.0	60.4	54.4	44.2	86.8
Exchangeable Magnesium, Mg	mg/kg	2	120	200	290	390	330
Exchangeable Magnesium, Mg	meq/100g	0.02	0.97	1.6	2.4	3.2	2.7
Exchangeable Magnesium Percentage*	%	0.1	13.1	23.6	31.3	32.2	9.3
Cation Exchange Capacity	meq/100g	0.02	7.4	6.8	7.6	10	29

PARAMETER	UOM	LOR	TP206	TP209	TP211	TP213
			CLAY 0.0-0.15 29/11/2019 SE200611.021	CLAY 0.0-0.15 29/11/2019 SE200611.027	CLAY 0.0-0.15 29/11/2019 SE200611.030	CLAY 0.0-0.15 29/11/2019 SE200611.032
Exchangeable Sodium, Na	mg/kg	2	260	89	150	140
Exchangeable Sodium, Na	meq/100g	0.01	1.2	0.39	0.67	0.61
Exchangeable Sodium Percentage*	%	0.1	1.4	1.5	1.4	1.5
Exchangeable Potassium, K	mg/kg	2	570	230	430	330
Exchangeable Potassium, K	meq/100g	0.01	1.5	0.60	1.1	0.85
Exchangeable Potassium Percentage*	%	0.1	1.8	2.3	2.3	2.0
Exchangeable Calcium, Ca	mg/kg	2	16000	4700	9100	7600
Exchangeable Calcium, Ca	meq/100g	0.01	78	23	45	38
Exchangeable Calcium Percentage*	%	0.1	96.2	90.5	94.7	91.7
Exchangeable Magnesium, Mg	mg/kg	2	54	180	95	240
Exchangeable Magnesium, Mg	meq/100g	0.02	0.44	1.5	0.78	2.0
Exchangeable Magnesium Percentage*	%	0.1	0.5	5.7	1.6	4.8
Cation Exchange Capacity	meq/100g	0.02	81	26	48	42

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP101	TP102	TP103	TP104	TP105
			CLAY 0.0-0.15 29/11/2019 SE200611.001	CLAY 0.0-0.15 29/11/2019 SE200611.002	SAND 0.0-0.15 29/11/2019 SE200611.003	SAND 0.05-0.2 29/11/2019 SE200611.004	CLAY 0.0-0.15 29/11/2019 SE200611.005
Arsenic, As	mg/kg	1	3	3	4	<1	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	8.3	6.2	11	3.2	7.9
Copper, Cu	mg/kg	0.5	15	9.7	5.8	<0.5	11
Lead, Pb	mg/kg	1	48	39	13	2	16
Nickel, Ni	mg/kg	0.5	7.8	5.7	5.0	<0.5	7.0
Zinc, Zn	mg/kg	2	97	58	41	<2	36
Beryllium, Be	mg/kg	0.5	<0.5	<0.5	0.6	<0.5	0.5
Boron, B	mg/kg	5	8	8	11	<5	12
Cobalt, Co	mg/kg	0.5	6.3	5.2	9.0	0.6	6.2
Manganese, Mn	mg/kg	1	310	230	230	10	250
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

PARAMETER	UOM	LOR	TP106	TP107	TP108	TP109	TP110
			CLAY 0.0-0.15 29/11/2019 SE200611.006	CLAY 0.0-0.15 29/11/2019 SE200611.007	SAND 0.05-0.2 29/11/2019 SE200611.008	SAND 0.1-0.25 29/11/2019 SE200611.009	CLAY 0.1-0.25 29/11/2019 SE200611.010
Arsenic, As	mg/kg	1	4	3	<1	3	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	8.7	7.1	3.3	8.5	8.8
Copper, Cu	mg/kg	0.5	16	6.4	<0.5	14	6.6
Lead, Pb	mg/kg	1	210	9	3	90	9
Nickel, Ni	mg/kg	0.5	7.2	6.1	<0.5	6.5	7.6
Zinc, Zn	mg/kg	2	88	26	<2	73	26
Beryllium, Be	mg/kg	0.5	0.5	0.5	<0.5	0.5	0.7
Boron, B	mg/kg	5	9	8	<5	8	14
Cobalt, Co	mg/kg	0.5	6.5	5.8	<0.5	5.4	7.2
Manganese, Mn	mg/kg	1	310	240	8	290	310
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

PARAMETER	UOM	LOR	TP201	TP201	TP201	TP201	TP201
			CLAY 0.0-0.15 29/11/2019 SE200611.011	CLAY 0.5-0.8 29/11/2019 SE200611.012	CLAY 1.0-1.3 29/11/2019 SE200611.013	CLAY 1.5-1.8 29/11/2019 SE200611.014	CLAY 2.0-2.2 29/11/2019 SE200611.015
Arsenic, As	mg/kg	1	4	7	5	5	4
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	5.2	8.2	9.9	9.0	5.2
Copper, Cu	mg/kg	0.5	10	15	15	12	13
Lead, Pb	mg/kg	1	7	45	24	22	7
Nickel, Ni	mg/kg	0.5	0.7	5.9	3.5	4.0	0.6
Zinc, Zn	mg/kg	2	5	77	28	29	6
Beryllium, Be	mg/kg	0.5	<0.5	<0.5	0.5	<0.5	<0.5
Boron, B	mg/kg	5	11	22	19	20	15
Cobalt, Co	mg/kg	0.5	<0.5	4.8	5.6	5.2	<0.5
Manganese, Mn	mg/kg	1	18	160	280	210	18
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP202	TP202	TP203	TP204	TP205
			CLAY 0.0-0.15 29/11/2019 SE200611.016	CLAY 0.5-0.8 29/11/2019 SE200611.017	CLAY 0.0-0.15 29/11/2019 SE200611.018	CLAY 0.0-0.15 29/11/2019 SE200611.019	CLAY 0.0-0.15 29/11/2019 SE200611.020
Arsenic, As	mg/kg	1	2	4	5	4	4
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	4.9	7.0	4.9	13	5.3
Copper, Cu	mg/kg	0.5	12	11	25	41	30
Lead, Pb	mg/kg	1	13	140	10	26	12
Nickel, Ni	mg/kg	0.5	2.8	11	4.8	23	7.8
Zinc, Zn	mg/kg	2	15	53	22	54	32
Beryllium, Be	mg/kg	0.5	<0.5	0.5	<0.5	0.5	0.6
Boron, B	mg/kg	5	12	13	19	29	16
Cobalt, Co	mg/kg	0.5	2.3	11	5.3	14	6.3
Manganese, Mn	mg/kg	1	55	230	110	480	150
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

PARAMETER	UOM	LOR	TP206	TP207	TP207	TP208	TP209
			CLAY 0.0-0.15 29/11/2019 SE200611.021	CLAY 0.0-0.15 29/11/2019 SE200611.023	CLAY 0.5-0.7 29/11/2019 SE200611.024	CLAY 0.0-0.15 29/11/2019 SE200611.026	CLAY 0.0-0.15 29/11/2019 SE200611.027
Arsenic, As	mg/kg	1	3	3	2	2	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	10	12	19	4.1	8.1
Copper, Cu	mg/kg	0.5	22	13	20	13	13
Lead, Pb	mg/kg	1	28	30	150	27	26
Nickel, Ni	mg/kg	0.5	9.2	9.7	19	4.2	8.6
Zinc, Zn	mg/kg	2	64	50	68	37	49
Beryllium, Be	mg/kg	0.5	0.5	0.6	0.7	<0.5	0.5
Boron, B	mg/kg	5	15	19	18	7	16
Cobalt, Co	mg/kg	0.5	4.9	8.3	8.8	3.2	7.6
Manganese, Mn	mg/kg	1	200	420	340	120	380
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

PARAMETER	UOM	LOR	TP209	TP210	TP211	TP212	TP213
			CLAY 0.5-0.7 29/11/2019 SE200611.028	CLAY 0.0-0.15 29/11/2019 SE200611.029	CLAY 0.0-0.15 29/11/2019 SE200611.030	CLAY 0.0-0.15 29/11/2019 SE200611.031	CLAY 0.0-0.15 29/11/2019 SE200611.032
Arsenic, As	mg/kg	1	4	3	3	4	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	4.2	7.8	9.3	5.8	12
Copper, Cu	mg/kg	0.5	13	23	16	14	16
Lead, Pb	mg/kg	1	11	64	72	90	45
Nickel, Ni	mg/kg	0.5	1.9	7.8	5.9	5.3	8.2
Zinc, Zn	mg/kg	2	11	60	140	93	62
Beryllium, Be	mg/kg	0.5	<0.5	0.5	<0.5	<0.5	0.5
Boron, B	mg/kg	5	11	13	11	8	16
Cobalt, Co	mg/kg	0.5	1.4	6.3	5.0	4.4	5.8
Manganese, Mn	mg/kg	1	55	360	260	220	300
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 2/12/2019

PARAMETER	UOM	LOR	DDS1	DDS2
			CLAY - 29/11/2019 SE200611.033	CLAY - 29/11/2019 SE200611.034
Arsenic, As	mg/kg	1	3	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	6.6	5.2
Copper, Cu	mg/kg	0.5	12	11
Lead, Pb	mg/kg	1	48	11
Nickel, Ni	mg/kg	0.5	5.3	2.5
Zinc, Zn	mg/kg	2	64	14
Beryllium, Be	mg/kg	0.5	<0.5	<0.5
Boron, B	mg/kg	5	10	13
Cobalt, Co	mg/kg	0.5	4.9	1.9
Manganese, Mn	mg/kg	1	240	46
Selenium, Se	mg/kg	3	<3	<3

Mercury in Soil [AN312] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP101 CLAY 0.0-0.15 29/11/2019 SE200611.001	TP102 CLAY 0.0-0.15 29/11/2019 SE200611.002	TP103 SAND 0.0-0.15 29/11/2019 SE200611.003	TP104 SAND 0.05-0.2 29/11/2019 SE200611.004	TP105 CLAY 0.0-0.15 29/11/2019 SE200611.005
Mercury	mg/kg	0.05	0.07	0.06	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	TP106 CLAY 0.0-0.15 29/11/2019 SE200611.006	TP107 CLAY 0.0-0.15 29/11/2019 SE200611.007	TP108 SAND 0.05-0.2 29/11/2019 SE200611.008	TP109 SAND 0.1-0.25 29/11/2019 SE200611.009	TP110 CLAY 0.1-0.25 29/11/2019 SE200611.010
Mercury	mg/kg	0.05	0.07	<0.05	<0.05	0.08	<0.05

PARAMETER	UOM	LOR	TP201 CLAY 0.0-0.15 29/11/2019 SE200611.011	TP201 CLAY 0.5-0.8 29/11/2019 SE200611.012	TP201 CLAY 1.0-1.3 29/11/2019 SE200611.013	TP201 CLAY 1.5-1.8 29/11/2019 SE200611.014	TP201 CLAY 2.0-2.2 29/11/2019 SE200611.015
Mercury	mg/kg	0.05	<0.05	0.10	<0.05	0.05	<0.05

PARAMETER	UOM	LOR	TP202 CLAY 0.0-0.15 29/11/2019 SE200611.016	TP202 CLAY 0.5-0.8 29/11/2019 SE200611.017	TP203 CLAY 0.0-0.15 29/11/2019 SE200611.018	TP204 CLAY 0.0-0.15 29/11/2019 SE200611.019	TP205 CLAY 0.0-0.15 29/11/2019 SE200611.020
Mercury	mg/kg	0.05	0.24	<0.05	<0.05	0.13	<0.05

PARAMETER	UOM	LOR	TP206 CLAY 0.0-0.15 29/11/2019 SE200611.021	TP207 CLAY 0.0-0.15 29/11/2019 SE200611.023	TP207 CLAY 0.5-0.7 29/11/2019 SE200611.024	TP208 CLAY 0.0-0.15 29/11/2019 SE200611.026	TP209 CLAY 0.0-0.15 29/11/2019 SE200611.027
Mercury	mg/kg	0.05	<0.05	0.09	0.07	0.07	<0.05

PARAMETER	UOM	LOR	TP209 CLAY 0.5-0.7 29/11/2019 SE200611.028	TP210 CLAY 0.0-0.15 29/11/2019 SE200611.029	TP211 CLAY 0.0-0.15 29/11/2019 SE200611.030	TP212 CLAY 0.0-0.15 29/11/2019 SE200611.031	TP213 CLAY 0.0-0.15 29/11/2019 SE200611.032
Mercury	mg/kg	0.05	<0.05	0.07	0.06	0.14	<0.05

PARAMETER	UOM	LOR	DDS1 CLAY - 29/11/2019 SE200611.033	DDS2 CLAY - 29/11/2019 SE200611.034
Mercury	mg/kg	0.05	0.09	0.19

Moisture Content [AN002] Tested: 2/12/2019

			TP101	TP102	TP103	TP104	TP105
			CLAY 0.0-0.15 29/11/2019	CLAY 0.0-0.15 29/11/2019	SAND 0.0-0.15 29/11/2019	SAND 0.05-0.2 29/11/2019	CLAY 0.0-0.15 29/11/2019
PARAMETER	UOM	LOR	SE200611.001	SE200611.002	SE200611.003	SE200611.004	SE200611.005
% Moisture	%w/w	1	8.2	8.1	10.7	4.4	10.9

			TP106	TP107	TP108	TP109	TP110
			CLAY 0.0-0.15 29/11/2019	CLAY 0.0-0.15 29/11/2019	SAND 0.05-0.2 29/11/2019	SAND 0.1-0.25 29/11/2019	CLAY 0.1-0.25 29/11/2019
PARAMETER	UOM	LOR	SE200611.006	SE200611.007	SE200611.008	SE200611.009	SE200611.010
% Moisture	%w/w	1	4.4	5.3	3.1	13.0	9.5

			TP201	TP201	TP201	TP201	TP201
			CLAY 0.0-0.15 29/11/2019	CLAY 0.5-0.8 29/11/2019	CLAY 1.0-1.3 29/11/2019	CLAY 1.5-1.8 29/11/2019	CLAY 2.0-2.2 29/11/2019
PARAMETER	UOM	LOR	SE200611.011	SE200611.012	SE200611.013	SE200611.014	SE200611.015
% Moisture	%w/w	1	8.6	9.2	9.2	8.0	7.8

			TP202	TP202	TP203	TP204	TP205
			CLAY 0.0-0.15 29/11/2019	CLAY 0.5-0.8 29/11/2019	CLAY 0.0-0.15 29/11/2019	CLAY 0.0-0.15 29/11/2019	CLAY 0.0-0.15 29/11/2019
PARAMETER	UOM	LOR	SE200611.016	SE200611.017	SE200611.018	SE200611.019	SE200611.020
% Moisture	%w/w	1	6.6	7.3	5.5	3.9	5.6

			TP206	TP207	TP207	TP208	TP209
			CLAY 0.0-0.15 29/11/2019	CLAY 0.0-0.15 29/11/2019	CLAY 0.5-0.7 29/11/2019	CLAY 0.0-0.15 29/11/2019	CLAY 0.0-0.15 29/11/2019
PARAMETER	UOM	LOR	SE200611.021	SE200611.023	SE200611.024	SE200611.026	SE200611.027
% Moisture	%w/w	1	4.7	5.3	7.4	4.3	4.1

			TP209	TP210	TP211	TP212	TP213
			CLAY 0.5-0.7 29/11/2019	CLAY 0.0-0.15 29/11/2019	CLAY 0.0-0.15 29/11/2019	CLAY 0.0-0.15 29/11/2019	CLAY 0.0-0.15 29/11/2019
PARAMETER	UOM	LOR	SE200611.028	SE200611.029	SE200611.030	SE200611.031	SE200611.032
% Moisture	%w/w	1	7.4	5.3	6.6	4.4	7.0

			DDS1	DDS2
			CLAY - 29/11/2019	CLAY - 29/11/2019
PARAMETER	UOM	LOR	SE200611.033	SE200611.034
% Moisture	%w/w	1	6.3	8.3

Fibre ID in bulk materials [AN602] Tested: 4/12/2019

PARAMETER	UOM	LOR	FCP-TP207	FCP-TP208
			MATERIAL 0.0-0.15 29/11/2019 SE200611.022	MATERIAL 0.0-0.15 29/11/2019 SE200611.025
Asbestos Detected	No unit	-	Yes	No

Fibre Identification in soil [AN602] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP101	TP102	TP106	TP107	TP203
			CLAY 0.0-0.15 29/11/2019 SE200611.001	CLAY 0.0-0.15 29/11/2019 SE200611.002	CLAY 0.0-0.15 29/11/2019 SE200611.006	CLAY 0.0-0.15 29/11/2019 SE200611.007	CLAY 0.0-0.15 29/11/2019 SE200611.018
Asbestos Detected	No unit	-	Yes	No	No	Yes	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	>0.01	<0.01

PARAMETER	UOM	LOR	TP204	TP206	TP207	TP208	TP209
			CLAY 0.0-0.15 29/11/2019 SE200611.019	CLAY 0.0-0.15 29/11/2019 SE200611.021	CLAY 0.0-0.15 29/11/2019 SE200611.023	CLAY 0.0-0.15 29/11/2019 SE200611.026	CLAY 0.0-0.15 29/11/2019 SE200611.027
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	TP210	TP211	TP212	TP213
			CLAY 0.0-0.15 29/11/2019 SE200611.029	CLAY 0.0-0.15 29/11/2019 SE200611.030	CLAY 0.0-0.15 29/11/2019 SE200611.031	CLAY 0.0-0.15 29/11/2019 SE200611.032
Asbestos Detected	No unit	-	No	Yes	No	No
Estimated Fibres*	%w/w	0.01	<0.01	>0.01	<0.01	<0.01

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP101	TP102	TP106	TP107	TP203
			CLAY 0.0-0.15 29/11/2019 SE200611.001	CLAY 0.0-0.15 29/11/2019 SE200611.002	CLAY 0.0-0.15 29/11/2019 SE200611.006	CLAY 0.0-0.15 29/11/2019 SE200611.007	CLAY 0.0-0.15 29/11/2019 SE200611.018
Total Sample Weight*	g	1	647	580	665	867	730
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	1.33	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	0.0009	<0.0001	<0.0001	0.0754	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	0.02	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	0.009	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	0.009	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	TP204	TP206	TP207	TP208	TP209
			CLAY 0.0-0.15 29/11/2019 SE200611.019	CLAY 0.0-0.15 29/11/2019 SE200611.021	CLAY 0.0-0.15 29/11/2019 SE200611.023	CLAY 0.0-0.15 29/11/2019 SE200611.026	CLAY 0.0-0.15 29/11/2019 SE200611.027
Total Sample Weight*	g	1	828	737	782	890	681
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	TP210	TP211	TP212	TP213
			CLAY 0.0-0.15 29/11/2019 SE200611.029	CLAY 0.0-0.15 29/11/2019 SE200611.030	CLAY 0.0-0.15 29/11/2019 SE200611.031	CLAY 0.0-0.15 29/11/2019 SE200611.032
Total Sample Weight*	g	1	786	804	763	726
ACM in >7mm Sample*	g	0.01	<0.01	0.81	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	0.02	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-

PAH (Polynuclear Aromatic Hydrocarbons) in Water [AN420] Tested: 3/12/2019

PARAMETER	UOM	LOR	RS2
			WATER - 29/11/2019 SE200611.035
Naphthalene	µg/L	0.1	<0.1
2-methylnaphthalene	µg/L	0.1	<0.1
1-methylnaphthalene	µg/L	0.1	<0.1
Acenaphthylene	µg/L	0.1	<0.1
Acenaphthene	µg/L	0.1	<0.1
Fluorene	µg/L	0.1	<0.1
Phenanthrene	µg/L	0.1	<0.1
Anthracene	µg/L	0.1	<0.1
Fluoranthene	µg/L	0.1	<0.1
Pyrene	µg/L	0.1	<0.1
Benzo(a)anthracene	µg/L	0.1	<0.1
Chrysene	µg/L	0.1	<0.1
Benzo(b&j)fluoranthene	µg/L	0.1	<0.1
Benzo(k)fluoranthene	µg/L	0.1	<0.1
Benzo(a)pyrene	µg/L	0.1	<0.1
Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1
Dibenzo(ah)anthracene	µg/L	0.1	<0.1
Benzo(ghi)perylene	µg/L	0.1	<0.1
Total PAH (18)	µg/L	1	<1

Metals in Water (Dissolved) by ICPOES [AN320] Tested: 4/12/2019

PARAMETER	UOM	LOR	RS2
			WATER - 29/11/2019 SE200611.035
Arsenic, As	mg/L	0.02	<0.02
Cadmium, Cd	mg/L	0.001	<0.001
Chromium, Cr	mg/L	0.005	<0.005
Copper, Cu	mg/L	0.005	<0.005
Lead, Pb	mg/L	0.02	<0.02
Nickel, Ni	mg/L	0.005	<0.005
Zinc, Zn	mg/L	0.01	<0.01
Beryllium, Be	mg/L	0.005	<0.005
Boron, B	mg/L	0.05	<0.05
Cobalt, Co	mg/L	0.01	<0.01
Manganese, Mn	mg/L	0.005	<0.005
Selenium, Se	mg/L	0.05	<0.05

Mercury (dissolved) in Water [AN311(Perth)/AN312] Tested: 3/12/2019

			RS2
			WATER
			-
			29/11/2019
PARAMETER	UOM	LOR	SE200611.035
Mercury	mg/L	0.0001	<0.0001

- 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.
- AN020** Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
- AN040/AN320** A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
- AN040** A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
- AN101** pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode and is calibrated against 3 buffers purchased commercially. For soils, sediments and sludges, an extract with water (or 0.01M CaCl₂) is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
- AN122** Exchangeable Cations, CEC and ESP: Soil sample is extracted in 1M Ammonium Acetate at pH=7 (or 1M Ammonium Chloride at pH=7) with cations (Na, K, Ca & Mg) then determined by ICP OES/ICP MS and reported as Exchangeable Cations. For saline soils, these results can be corrected for water soluble cations and reported as Exchangeable cations in meq/100g or soil can be pre-treated (aqueous ethanol/aqueous glycerol) prior to extraction. Cation Exchange Capacity (CEC) is the sum of the exchangeable cations in meq/100g.
- AN122** The Exchangeable Sodium Percentage (ESP) is calculated as the exchangeable sodium divided by the CEC (all in meq/100g) times 100.
ESP can be used to categorise the sodicity of the soil as below :
- | | |
|-----------|----------------|
| ESP < 6% | non-sodic |
| ESP 6-15% | sodic |
| ESP >15% | strongly sodic |
- Method is referenced to Rayment and Lyons, 2011, sections 15D3 and 15N1.-
- AN311(Perth)/AN312** Mercury by Cold Vapour AAS in Waters: Mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500.
- AN312** Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
- AN320** Metals by ICP-OES: Samples are preserved with 10% nitric acid for a wide range of metals and some non-metals. This solution is measured by Inductively Coupled Plasma. Solutions are aspirated into an argon plasma at 8000-10000K and emit characteristic energy or light as a result of electron transitions through unique energy levels. The emitted light is focused onto a diffraction grating where it is separated into components.
- AN320** Photomultipliers or CCDs are used to measure the light intensity at specific wavelengths. This intensity is directly proportional to concentration. Corrections are required to compensate for spectral overlap between elements. Reference APHA 3120 B.
- AN403** Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
- AN403** Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
- AN403** The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
- AN420** (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).

<p>AN420</p>	<p>SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).</p>
<p>AN433</p>	<p>VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC's are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.</p>
<p>AN602</p>	<p>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.</p>
<p>AN602</p>	<p>Fibres/material that cannot be unequivocally 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.</p>
<p>AN602</p>	<p>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 limit 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."</p>
<p>AN602</p>	<p>The sample can be reported "no asbestos found at the reporting limit of 0.1 g/kg" (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if-</p> <ul style="list-style-type: none"> (a) no trace asbestos fibres have been detected (i.e. no 'respirable' fibres); (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 (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.
<p>AN605</p>	<p>This technique gravimetrically determines the mass of Asbestos Containing Material retained on a 7mm Sieve and assumes that 15% of this ACM is asbestos. This calculated asbestos weight is then calculated as a percentage of the total sample weight.</p>
<p>AN605</p>	<p>This technique also gravimetrically determines the mass of Fibrous Asbestos (FA) and Asbestos Fines (AF) Containing Material retained on and passing a 2mm sieve post 7mm sieving. Assumes that FA and AF are 100% asbestos containing. This calculated asbestos weight is then calculated as a percentage of the total sample weight. This does not include free fibres which are only observed by standard trace analysis as per AN 602.</p>
<p>AN605</p>	<p>Insofar as is technically feasible, this report is consistent with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009.</p>

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
		IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

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 calculated 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/pv.sgsvr/en-gb/environment.

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STATEMENT OF QA/QC PERFORMANCE

SE200611 R1

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Project **14578/1 Penrith**
Order Number (Not specified)
Samples 36

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SGS Reference **SE200611 R1**
Date Received 02 Dec 2019
Date Reported 05 Dec 2019

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	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	1 item
Matrix Spike	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item

SAMPLE SUMMARY

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	28 Clay, 5 Sand, 1 V
Date documentation received	02/12/2019@12:58p	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	4.3°C	Sufficient sample for analysis	Yes
Turnaround time requested	Two Days		

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.

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP102	SE200611.002	LB188889	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	03 Dec 2019
TP103	SE200611.003	LB188889	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	03 Dec 2019
TP106	SE200611.006	LB188889	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	03 Dec 2019
TP107	SE200611.007	LB188889	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	03 Dec 2019
TP109	SE200611.009	LB188889	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	03 Dec 2019
TP110	SE200611.010	LB188889	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	03 Dec 2019
TP201	SE200611.011	LB188889	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	03 Dec 2019
TP201	SE200611.013	LB188889	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	03 Dec 2019
TP203	SE200611.018	LB188889	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	03 Dec 2019
TP204	SE200611.019	LB188889	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	03 Dec 2019
TP206	SE200611.021	LB188889	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	03 Dec 2019
TP209	SE200611.027	LB188889	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	03 Dec 2019
TP211	SE200611.030	LB188889	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	03 Dec 2019
TP213	SE200611.032	LB188889	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	03 Dec 2019

Fibre ID in bulk materials

Method: ME-(AU)-[ENV]AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
FCP-TP207	SE200611.022	LB189020	29 Nov 2019	02 Dec 2019	28 Nov 2020	04 Dec 2019	28 Nov 2020	04 Dec 2019
FCP-TP208	SE200611.025	LB189020	29 Nov 2019	02 Dec 2019	28 Nov 2020	04 Dec 2019	28 Nov 2020	04 Dec 2019

Fibre Identification in soil

Method: ME-(AU)-[ENV]AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP101	SE200611.001	LB188883	29 Nov 2019	02 Dec 2019	28 Nov 2020	02 Dec 2019	28 Nov 2020	04 Dec 2019
TP102	SE200611.002	LB188883	29 Nov 2019	02 Dec 2019	28 Nov 2020	02 Dec 2019	28 Nov 2020	04 Dec 2019
TP106	SE200611.006	LB188883	29 Nov 2019	02 Dec 2019	28 Nov 2020	02 Dec 2019	28 Nov 2020	04 Dec 2019
TP107	SE200611.007	LB188883	29 Nov 2019	02 Dec 2019	28 Nov 2020	02 Dec 2019	28 Nov 2020	04 Dec 2019
TP203	SE200611.018	LB188883	29 Nov 2019	02 Dec 2019	28 Nov 2020	02 Dec 2019	28 Nov 2020	04 Dec 2019
TP204	SE200611.019	LB188883	29 Nov 2019	02 Dec 2019	28 Nov 2020	02 Dec 2019	28 Nov 2020	04 Dec 2019
TP206	SE200611.021	LB188883	29 Nov 2019	02 Dec 2019	28 Nov 2020	02 Dec 2019	28 Nov 2020	04 Dec 2019
TP207	SE200611.023	LB188883	29 Nov 2019	02 Dec 2019	28 Nov 2020	02 Dec 2019	28 Nov 2020	04 Dec 2019
TP208	SE200611.026	LB188883	29 Nov 2019	02 Dec 2019	28 Nov 2020	02 Dec 2019	28 Nov 2020	04 Dec 2019
TP209	SE200611.027	LB188883	29 Nov 2019	02 Dec 2019	28 Nov 2020	02 Dec 2019	28 Nov 2020	04 Dec 2019
TP210	SE200611.029	LB188883	29 Nov 2019	02 Dec 2019	28 Nov 2020	02 Dec 2019	28 Nov 2020	04 Dec 2019
TP211	SE200611.030	LB188883	29 Nov 2019	02 Dec 2019	28 Nov 2020	02 Dec 2019	28 Nov 2020	04 Dec 2019
TP212	SE200611.031	LB188883	29 Nov 2019	02 Dec 2019	28 Nov 2020	02 Dec 2019	28 Nov 2020	04 Dec 2019
TP213	SE200611.032	LB188883	29 Nov 2019	02 Dec 2019	28 Nov 2020	02 Dec 2019	28 Nov 2020	04 Dec 2019

Gravimetric Determination of Asbestos in Soil

Method: ME-(AU)-[ENV]AN605

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP101	SE200611.001	LB188883	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP102	SE200611.002	LB188883	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP106	SE200611.006	LB188883	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP107	SE200611.007	LB188883	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP203	SE200611.018	LB188883	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP204	SE200611.019	LB188883	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP206	SE200611.021	LB188883	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP207	SE200611.023	LB188883	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP208	SE200611.026	LB188883	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP209	SE200611.027	LB188883	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP210	SE200611.029	LB188883	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP211	SE200611.030	LB188883	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP212	SE200611.031	LB188883	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP213	SE200611.032	LB188883	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RS2	SE200611.035	LB188911	29 Nov 2019	02 Dec 2019	27 Dec 2019	03 Dec 2019	27 Dec 2019	03 Dec 2019

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref
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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.

Mercury in Soil (continued)

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP101	SE200611.001	LB188902	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP102	SE200611.002	LB188902	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP103	SE200611.003	LB188902	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP104	SE200611.004	LB188902	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP105	SE200611.005	LB188902	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP106	SE200611.006	LB188902	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP107	SE200611.007	LB188902	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP108	SE200611.008	LB188902	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP109	SE200611.009	LB188902	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP110	SE200611.010	LB188902	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP201	SE200611.011	LB188902	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP201	SE200611.012	LB188902	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP201	SE200611.013	LB188902	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP201	SE200611.014	LB188902	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP201	SE200611.015	LB188902	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP202	SE200611.016	LB188902	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP202	SE200611.017	LB188902	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP203	SE200611.018	LB188902	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP204	SE200611.019	LB188902	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP205	SE200611.020	LB188903	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP206	SE200611.021	LB188903	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP207	SE200611.023	LB188903	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP207	SE200611.024	LB188903	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP208	SE200611.026	LB188903	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP209	SE200611.027	LB188903	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP209	SE200611.028	LB188903	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP210	SE200611.029	LB188903	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP211	SE200611.030	LB188903	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP212	SE200611.031	LB188903	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
TP213	SE200611.032	LB188903	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
DDS1	SE200611.033	LB188903	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019
DDS2	SE200611.034	LB188903	29 Nov 2019	02 Dec 2019	27 Dec 2019	02 Dec 2019	27 Dec 2019	04 Dec 2019

Metals in Water (Dissolved) by ICPOES

Method: ME-(AU)-[ENV]AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RS2	SE200611.035	LB189011	29 Nov 2019	02 Dec 2019	27 May 2020	04 Dec 2019	27 May 2020	04 Dec 2019

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP101	SE200611.001	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP102	SE200611.002	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP103	SE200611.003	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP104	SE200611.004	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP105	SE200611.005	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP106	SE200611.006	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP107	SE200611.007	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP108	SE200611.008	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP109	SE200611.009	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP110	SE200611.010	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP201	SE200611.011	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP201	SE200611.012	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP201	SE200611.013	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP201	SE200611.014	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP201	SE200611.015	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP202	SE200611.016	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP202	SE200611.017	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP203	SE200611.018	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP204	SE200611.019	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP205	SE200611.020	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP206	SE200611.021	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019

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.

Moisture Content (continued)

Method: ME-(AU)-ENVJAN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP207	SE200611.023	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP207	SE200611.024	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP208	SE200611.026	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP209	SE200611.027	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	04 Dec 2019
TP209	SE200611.028	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	04 Dec 2019
TP210	SE200611.029	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	04 Dec 2019
TP211	SE200611.030	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	04 Dec 2019
TP212	SE200611.031	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	04 Dec 2019
TP213	SE200611.032	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	04 Dec 2019
DDS1	SE200611.033	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	04 Dec 2019
DDS2	SE200611.034	LB188888	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	07 Dec 2019	04 Dec 2019

OC Pesticides in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP102	SE200611.002	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP105	SE200611.005	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP106	SE200611.006	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP107	SE200611.007	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP109	SE200611.009	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.011	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.013	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.015	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP202	SE200611.016	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP203	SE200611.018	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP204	SE200611.019	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP205	SE200611.020	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP206	SE200611.021	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP207	SE200611.023	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP207	SE200611.024	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP209	SE200611.027	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP209	SE200611.028	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP211	SE200611.030	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP213	SE200611.032	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS1	SE200611.033	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS2	SE200611.034	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP102	SE200611.002	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP105	SE200611.005	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP106	SE200611.006	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP107	SE200611.007	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP109	SE200611.009	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.011	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.013	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.015	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP202	SE200611.016	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP203	SE200611.018	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP204	SE200611.019	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP205	SE200611.020	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP206	SE200611.021	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP207	SE200611.023	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP207	SE200611.024	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP209	SE200611.027	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP209	SE200611.028	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP211	SE200611.030	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP213	SE200611.032	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS1	SE200611.033	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS2	SE200611.034	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019

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.

PAH (Polynuclear Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RS2	SE200611.035	LB188919	29 Nov 2019	02 Dec 2019	06 Dec 2019	03 Dec 2019	12 Jan 2020	04 Dec 2019

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP102	SE200611.002	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP105	SE200611.005	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP106	SE200611.006	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP107	SE200611.007	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP109	SE200611.009	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.011	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.013	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.015	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP202	SE200611.016	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP203	SE200611.018	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP204	SE200611.019	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP205	SE200611.020	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP206	SE200611.021	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP207	SE200611.023	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP207	SE200611.024	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP209	SE200611.027	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP209	SE200611.028	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP211	SE200611.030	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP213	SE200611.032	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS1	SE200611.033	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS2	SE200611.034	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP102	SE200611.002	LB188977	29 Nov 2019	02 Dec 2019	06 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP103	SE200611.003	LB188977	29 Nov 2019	02 Dec 2019	06 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP106	SE200611.006	LB188977	29 Nov 2019	02 Dec 2019	06 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP107	SE200611.007	LB188977	29 Nov 2019	02 Dec 2019	06 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP109	SE200611.009	LB188977	29 Nov 2019	02 Dec 2019	06 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP110	SE200611.010	LB188977	29 Nov 2019	02 Dec 2019	06 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP201	SE200611.011	LB188977	29 Nov 2019	02 Dec 2019	06 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP201	SE200611.013	LB188977	29 Nov 2019	02 Dec 2019	06 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP203	SE200611.018	LB188977	29 Nov 2019	02 Dec 2019	06 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP204	SE200611.019	LB188977	29 Nov 2019	02 Dec 2019	06 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP206	SE200611.021	LB189064	29 Nov 2019	02 Dec 2019	06 Dec 2019	04 Dec 2019	05 Dec 2019	04 Dec 2019
TP209	SE200611.027	LB189064	29 Nov 2019	02 Dec 2019	06 Dec 2019	04 Dec 2019	05 Dec 2019	04 Dec 2019
TP211	SE200611.030	LB189064	29 Nov 2019	02 Dec 2019	06 Dec 2019	04 Dec 2019	05 Dec 2019	04 Dec 2019
TP213	SE200611.032	LB189064	29 Nov 2019	02 Dec 2019	06 Dec 2019	04 Dec 2019	05 Dec 2019	04 Dec 2019

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP101	SE200611.001	LB188900	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP102	SE200611.002	LB188900	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP103	SE200611.003	LB188900	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP104	SE200611.004	LB188900	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP105	SE200611.005	LB188900	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP106	SE200611.006	LB188900	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP107	SE200611.007	LB188900	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP108	SE200611.008	LB188900	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP109	SE200611.009	LB188900	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP110	SE200611.010	LB188900	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP201	SE200611.011	LB188900	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP201	SE200611.012	LB188900	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP201	SE200611.013	LB188900	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP201	SE200611.014	LB188900	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP201	SE200611.015	LB188900	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019

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.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP202	SE200611.016	LB188900	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP202	SE200611.017	LB188900	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP203	SE200611.018	LB188900	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP204	SE200611.019	LB188900	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP205	SE200611.020	LB188901	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP206	SE200611.021	LB188901	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP207	SE200611.023	LB188901	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP207	SE200611.024	LB188901	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP208	SE200611.026	LB188901	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP209	SE200611.027	LB188901	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP209	SE200611.028	LB188901	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP210	SE200611.029	LB188901	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP211	SE200611.030	LB188901	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP212	SE200611.031	LB188901	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
TP213	SE200611.032	LB188901	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
DDS1	SE200611.033	LB188901	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019
DDS2	SE200611.034	LB188901	29 Nov 2019	02 Dec 2019	27 May 2020	02 Dec 2019	27 May 2020	04 Dec 2019

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP102	SE200611.002	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP105	SE200611.005	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP106	SE200611.006	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP107	SE200611.007	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP109	SE200611.009	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.011	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.013	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.015	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP202	SE200611.016	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP203	SE200611.018	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP204	SE200611.019	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP205	SE200611.020	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP206	SE200611.021	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP207	SE200611.023	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP207	SE200611.024	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP209	SE200611.027	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP209	SE200611.028	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP211	SE200611.030	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP213	SE200611.032	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS1	SE200611.033	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS2	SE200611.034	LB188886	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP102	SE200611.002	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP106	SE200611.006	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP107	SE200611.007	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP109	SE200611.009	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.011	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.013	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP202	SE200611.016	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP203	SE200611.018	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP204	SE200611.019	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP206	SE200611.021	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP207	SE200611.023	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP209	SE200611.027	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP211	SE200611.030	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP213	SE200611.032	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS1	SE200611.033	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS2	SE200611.034	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TS2	SE200611.036	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019

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.

Volatiles Petroleum Hydrocarbons in Soil

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP102	SE200611.002	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP106	SE200611.006	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP107	SE200611.007	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP109	SE200611.009	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.011	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.013	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP202	SE200611.016	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP203	SE200611.018	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP204	SE200611.019	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP206	SE200611.021	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP207	SE200611.023	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP209	SE200611.027	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP211	SE200611.030	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP213	SE200611.032	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS1	SE200611.033	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS2	SE200611.034	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TS2	SE200611.036	LB188885	29 Nov 2019	02 Dec 2019	13 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	TP102	SE200611.002	%	60 - 130%	85
	TP106	SE200611.006	%	60 - 130%	87
	TP107	SE200611.007	%	60 - 130%	90
	TP109	SE200611.009	%	60 - 130%	93
	TP201	SE200611.011	%	60 - 130%	87
	TP201	SE200611.013	%	60 - 130%	80
	TP202	SE200611.016	%	60 - 130%	89
	TP203	SE200611.018	%	60 - 130%	83
	TP204	SE200611.019	%	60 - 130%	95
	TP206	SE200611.021	%	60 - 130%	85
	TP207	SE200611.023	%	60 - 130%	94
	TP209	SE200611.027	%	60 - 130%	79
	TP211	SE200611.030	%	60 - 130%	92
	TP213	SE200611.032	%	60 - 130%	82
	DDS1	SE200611.033	%	60 - 130%	77
DDS2	SE200611.034	%	60 - 130%	82	

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	TP105	SE200611.005	%	70 - 130%	89
	TP201	SE200611.015	%	70 - 130%	80
	TP205	SE200611.020	%	70 - 130%	85
	TP207	SE200611.024	%	70 - 130%	83
	TP209	SE200611.028	%	70 - 130%	85
d14-p-terphenyl (Surrogate)	TP105	SE200611.005	%	70 - 130%	82
	TP201	SE200611.015	%	70 - 130%	80
	TP205	SE200611.020	%	70 - 130%	85
	TP207	SE200611.024	%	70 - 130%	76
	TP209	SE200611.028	%	70 - 130%	80
d5-nitrobenzene (Surrogate)	TP105	SE200611.005	%	70 - 130%	66 ⊖
	TP201	SE200611.015	%	70 - 130%	85
	TP205	SE200611.020	%	70 - 130%	83
	TP207	SE200611.024	%	70 - 130%	76
	TP209	SE200611.028	%	70 - 130%	82

PAH (Polynuclear Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	RS2	SE200611.035	%	40 - 130%	42
d14-p-terphenyl (Surrogate)	RS2	SE200611.035	%	40 - 130%	72
d5-nitrobenzene (Surrogate)	RS2	SE200611.035	%	40 - 130%	40

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	TP102	SE200611.002	%	60 - 130%	85
	TP106	SE200611.006	%	60 - 130%	87
	TP107	SE200611.007	%	60 - 130%	90
	TP109	SE200611.009	%	60 - 130%	93
	TP201	SE200611.011	%	60 - 130%	87
	TP201	SE200611.013	%	60 - 130%	80
	TP202	SE200611.016	%	60 - 130%	89
	TP203	SE200611.018	%	60 - 130%	83
	TP204	SE200611.019	%	60 - 130%	95
	TP206	SE200611.021	%	60 - 130%	85
	TP207	SE200611.023	%	60 - 130%	94
	TP209	SE200611.027	%	60 - 130%	79
	TP211	SE200611.030	%	60 - 130%	92
	TP213	SE200611.032	%	60 - 130%	82
	DDS1	SE200611.033	%	60 - 130%	77
DDS2	SE200611.034	%	60 - 130%	82	

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units
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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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TP102	SE200611.002	%	60 - 130%	87
	TP106	SE200611.006	%	60 - 130%	87
	TP107	SE200611.007	%	60 - 130%	87
	TP109	SE200611.009	%	60 - 130%	84
	TP201	SE200611.011	%	60 - 130%	85
	TP201	SE200611.013	%	60 - 130%	83
	TP202	SE200611.016	%	60 - 130%	86
	TP203	SE200611.018	%	60 - 130%	88
	TP204	SE200611.019	%	60 - 130%	87
	TP206	SE200611.021	%	60 - 130%	87
	TP207	SE200611.023	%	60 - 130%	84
	TP209	SE200611.027	%	60 - 130%	87
	TP211	SE200611.030	%	60 - 130%	86
	TP213	SE200611.032	%	60 - 130%	86
	DDS1	SE200611.033	%	60 - 130%	87
	DDS2	SE200611.034	%	60 - 130%	87
TS2	SE200611.036	%	60 - 130%	88	
d4-1,2-dichloroethane (Surrogate)	TP102	SE200611.002	%	60 - 130%	84
	TP106	SE200611.006	%	60 - 130%	84
	TP107	SE200611.007	%	60 - 130%	86
	TP109	SE200611.009	%	60 - 130%	81
	TP201	SE200611.011	%	60 - 130%	82
	TP201	SE200611.013	%	60 - 130%	80
	TP202	SE200611.016	%	60 - 130%	82
	TP203	SE200611.018	%	60 - 130%	83
	TP204	SE200611.019	%	60 - 130%	84
	TP206	SE200611.021	%	60 - 130%	86
	TP207	SE200611.023	%	60 - 130%	80
	TP209	SE200611.027	%	60 - 130%	85
	TP211	SE200611.030	%	60 - 130%	84
	TP213	SE200611.032	%	60 - 130%	84
	DDS1	SE200611.033	%	60 - 130%	86
	DDS2	SE200611.034	%	60 - 130%	84
TS2	SE200611.036	%	60 - 130%	86	
d8-toluene (Surrogate)	TP102	SE200611.002	%	60 - 130%	86
	TP106	SE200611.006	%	60 - 130%	86
	TP107	SE200611.007	%	60 - 130%	87
	TP109	SE200611.009	%	60 - 130%	82
	TP201	SE200611.011	%	60 - 130%	85
	TP201	SE200611.013	%	60 - 130%	82
	TP202	SE200611.016	%	60 - 130%	84
	TP203	SE200611.018	%	60 - 130%	87
	TP204	SE200611.019	%	60 - 130%	87
	TP206	SE200611.021	%	60 - 130%	87
	TP207	SE200611.023	%	60 - 130%	84
	TP209	SE200611.027	%	60 - 130%	87
	TP211	SE200611.030	%	60 - 130%	86
	TP213	SE200611.032	%	60 - 130%	84
	DDS1	SE200611.033	%	60 - 130%	86
	DDS2	SE200611.034	%	60 - 130%	85
TS2	SE200611.036	%	60 - 130%	88	

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TP102	SE200611.002	%	60 - 130%	87
	TP106	SE200611.006	%	60 - 130%	87
	TP107	SE200611.007	%	60 - 130%	87
	TP109	SE200611.009	%	60 - 130%	84
	TP201	SE200611.011	%	60 - 130%	85
	TP201	SE200611.013	%	60 - 130%	83
	TP202	SE200611.016	%	60 - 130%	86
	TP202	SE200611.016	%	60 - 130%	86

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TP203	SE200611.018	%	60 - 130%	88
	TP204	SE200611.019	%	60 - 130%	87
	TP206	SE200611.021	%	60 - 130%	87
	TP207	SE200611.023	%	60 - 130%	84
	TP209	SE200611.027	%	60 - 130%	87
	TP211	SE200611.030	%	60 - 130%	86
	TP213	SE200611.032	%	60 - 130%	86
	DDS1	SE200611.033	%	60 - 130%	87
	DDS2	SE200611.034	%	60 - 130%	87
d4-1,2-dichloroethane (Surrogate)	TP102	SE200611.002	%	60 - 130%	84
	TP106	SE200611.006	%	60 - 130%	84
	TP107	SE200611.007	%	60 - 130%	86
	TP109	SE200611.009	%	60 - 130%	81
	TP201	SE200611.011	%	60 - 130%	82
	TP201	SE200611.013	%	60 - 130%	80
	TP202	SE200611.016	%	60 - 130%	82
	TP203	SE200611.018	%	60 - 130%	83
	TP204	SE200611.019	%	60 - 130%	84
	TP206	SE200611.021	%	60 - 130%	86
	TP207	SE200611.023	%	60 - 130%	80
	TP209	SE200611.027	%	60 - 130%	85
	TP211	SE200611.030	%	60 - 130%	84
	TP213	SE200611.032	%	60 - 130%	84
	DDS1	SE200611.033	%	60 - 130%	86
DDS2	SE200611.034	%	60 - 130%	84	
d8-toluene (Surrogate)	TP102	SE200611.002	%	60 - 130%	86
	TP106	SE200611.006	%	60 - 130%	86
	TP107	SE200611.007	%	60 - 130%	87
	TP109	SE200611.009	%	60 - 130%	82
	TP201	SE200611.011	%	60 - 130%	85
	TP201	SE200611.013	%	60 - 130%	82
	TP202	SE200611.016	%	60 - 130%	84
	TP203	SE200611.018	%	60 - 130%	87
	TP204	SE200611.019	%	60 - 130%	87
	TP206	SE200611.021	%	60 - 130%	87
	TP207	SE200611.023	%	60 - 130%	84
	TP209	SE200611.027	%	60 - 130%	87
	TP211	SE200611.030	%	60 - 130%	86
	TP213	SE200611.032	%	60 - 130%	84
	DDS1	SE200611.033	%	60 - 130%	86
DDS2	SE200611.034	%	60 - 130%	85	

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.

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Number	Parameter	Units	LOR	Result
LB188889.001	Exchangeable Sodium, Na	mg/kg	2	0
	Exchangeable Potassium, K	mg/kg	2	0
	Exchangeable Calcium, Ca	mg/kg	2	0
	Exchangeable Magnesium, Mg	mg/kg	2	0

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Number	Parameter	Units	LOR	Result
LB188911.001	Mercury	mg/L	0.0001	<0.0001

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB188902.001	Mercury	mg/kg	0.05	<0.05
LB188903.001	Mercury	mg/kg	0.05	<0.05

Metals in Water (Dissolved) by ICPOES

Method: ME-(AU)-[ENV]AN320

Sample Number	Parameter	Units	LOR	Result
LB189011.001	Arsenic, As	mg/L	0.02	<0.02
	Beryllium, Be	mg/L	0.005	<0.005
	Boron, B	mg/L	0.05	<0.05
	Cadmium, Cd	mg/L	0.001	<0.001
	Chromium, Cr	mg/L	0.005	<0.005
	Cobalt, Co	mg/L	0.01	<0.01
	Copper, Cu	mg/L	0.005	<0.005
	Lead, Pb	mg/L	0.02	<0.02
	Manganese, Mn	mg/L	0.005	<0.005
	Nickel, Ni	mg/L	0.005	<0.005
	Selenium, Se	mg/L	0.05	<0.05
	Zinc, Zn	mg/L	0.01	<0.01

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	
LB188886.001	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	
	Alpha BHC	mg/kg	0.1	<0.1	
	Lindane	mg/kg	0.1	<0.1	
	Heptachlor	mg/kg	0.1	<0.1	
	Aldrin	mg/kg	0.1	<0.1	
	Beta BHC	mg/kg	0.1	<0.1	
	Delta BHC	mg/kg	0.1	<0.1	
	Heptachlor epoxide	mg/kg	0.1	<0.1	
	Alpha Endosulfan	mg/kg	0.2	<0.2	
	Gamma Chlordane	mg/kg	0.1	<0.1	
	Alpha Chlordane	mg/kg	0.1	<0.1	
	p,p'-DDE	mg/kg	0.1	<0.1	
	Dieldrin	mg/kg	0.05	<0.05	
	Endrin	mg/kg	0.2	<0.2	
	Beta Endosulfan	mg/kg	0.2	<0.2	
	p,p'-DDD	mg/kg	0.1	<0.1	
	p,p'-DDT	mg/kg	0.1	<0.1	
	Endosulfan sulphate	mg/kg	0.1	<0.1	
	Endrin Aldehyde	mg/kg	0.1	<0.1	
	Methoxychlor	mg/kg	0.1	<0.1	
	Endrin Ketone	mg/kg	0.1	<0.1	
	Isodrin	mg/kg	0.1	<0.1	
	Mirex	mg/kg	0.1	<0.1	
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	79

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR
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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.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB188886.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Phenanthrene	mg/kg	0.1	<0.1
	Anthracene	mg/kg	0.1	<0.1
	Fluoranthene	mg/kg	0.1	<0.1
	Pyrene	mg/kg	0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1	<0.1
	Chrysene	mg/kg	0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
	Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1	<0.1
	Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	-
2-fluorobiphenyl (Surrogate)		%	-	84
d14-p-terphenyl (Surrogate)		%	-	86

PAH (Polynuclear Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	
LB188919.001	Naphthalene	µg/L	0.1	<0.1	
	2-methylnaphthalene	µg/L	0.1	<0.1	
	1-methylnaphthalene	µg/L	0.1	<0.1	
	Acenaphthylene	µg/L	0.1	<0.1	
	Acenaphthene	µg/L	0.1	<0.1	
	Fluorene	µg/L	0.1	<0.1	
	Phenanthrene	µg/L	0.1	<0.1	
	Anthracene	µg/L	0.1	<0.1	
	Fluoranthene	µg/L	0.1	<0.1	
	Pyrene	µg/L	0.1	<0.1	
	Benzo(a)anthracene	µg/L	0.1	<0.1	
	Chrysene	µg/L	0.1	<0.1	
	Benzo(a)pyrene	µg/L	0.1	<0.1	
	Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1	
	Dibenzo(ah)anthracene	µg/L	0.1	<0.1	
	Benzo(ghi)perylene	µg/L	0.1	<0.1	
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	44
		2-fluorobiphenyl (Surrogate)	%	-	44
d14-p-terphenyl (Surrogate)		%	-	66	

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB188886.001	Arochlor 1016	mg/kg	0.2	<0.2
	Arochlor 1221	mg/kg	0.2	<0.2
	Arochlor 1232	mg/kg	0.2	<0.2
	Arochlor 1242	mg/kg	0.2	<0.2
	Arochlor 1248	mg/kg	0.2	<0.2
	Arochlor 1254	mg/kg	0.2	<0.2
	Arochlor 1260	mg/kg	0.2	<0.2
	Arochlor 1262	mg/kg	0.2	<0.2
	Arochlor 1268	mg/kg	0.2	<0.2
	Total PCBs (Arochlors)	mg/kg	1	<1
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	79

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB188900.001	Arsenic, As	mg/kg	1	<1
	Beryllium, Be	mg/kg	0.5	<0.5
	Cadmium, Cd	mg/kg	0.3	<0.3

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.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB188900.001	Cobalt, Co	mg/kg	0.5	<0.5
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Manganese, Mn	mg/kg	1	<1
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Selenium, Se	mg/kg	3	<3
	Zinc, Zn	mg/kg	2	<2
LB188901.001	Arsenic, As	mg/kg	1	<1
	Beryllium, Be	mg/kg	0.5	<0.5
	Cadmium, Cd	mg/kg	0.3	<0.3
	Cobalt, Co	mg/kg	0.5	<0.5
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Manganese, Mn	mg/kg	1	<1
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Selenium, Se	mg/kg	3	<3
	Zinc, Zn	mg/kg	2	<2

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB188886.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	
LB188885.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
	Polycyclic VOCs	o-xylene	mg/kg	0.1	<0.1
		Naphthalene	mg/kg	0.1	<0.1
		Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-
	d8-toluene (Surrogate)		%	-	93
	Bromofluorobenzene (Surrogate)		%	-	94
	Totals	Total BTEX	mg/kg	0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result
LB188885.001	TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

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: $MAD = 100 \times SDL / Mean + LR$

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200615.004	LB188911.008	Mercury	µg/L	0.0001	0.0344	0.0366	156	6

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200611.010	LB188902.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE200611.019	LB188902.024	Mercury	mg/kg	0.05	0.13	0.12	70	7
SE200611.031	LB188903.014	Mercury	mg/kg	0.05	0.14	0.14	66	0
SE200614.002	LB188903.022	Mercury	mg/kg	0.05	0.00978648190.0127674218		200	0

Metals in Water (Dissolved) by ICPOES

Method: ME-(AU)-[ENV]AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200611.035	LB189011.014	Arsenic, As	mg/L	0.02	<0.02	<0.02	200	0
		Beryllium, Be	mg/L	0.005	<0.005	<0.005	200	0
		Boron, B	mg/L	0.05	<0.05	<0.05	200	0
		Cadmium, Cd	mg/L	0.001	<0.001	<0.001	200	0
		Chromium, Cr	mg/L	0.005	<0.005	<0.005	200	0
		Cobalt, Co	mg/L	0.01	<0.01	<0.01	200	0
		Copper, Cu	mg/L	0.005	<0.005	<0.005	200	0
		Lead, Pb	mg/L	0.02	<0.02	<0.02	200	0
		Manganese, Mn	mg/L	0.005	<0.005	<0.005	200	0
		Nickel, Ni	mg/L	0.005	<0.005	<0.005	200	0
		Selenium, Se	mg/L	0.05	<0.05	<0.05	200	0
		Zinc, Zn	mg/L	0.01	<0.01	<0.01	200	0
		SE200689.004	LB189011.019	Arsenic, As	mg/L	0.02	<0.02	<0.02
Lead, Pb	mg/L			0.02	<0.02	<0.02	200	0
Manganese, Mn	mg/L			0.005	<0.005	<0.005	200	0

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200611.010	LB188888.011	% Moisture	%w/w	1	9.5	9.9	40	4
SE200611.020	LB188888.022	% Moisture	%w/w	1	5.6	5.0	49	12
SE200611.032	LB188888.033	% Moisture	%w/w	1	7.0	7.4	44	6
SE200611.034	LB188888.036	% Moisture	%w/w	1	8.3	8.1	42	2

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200611.018	LB188888.014	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Dieldrin	mg/kg	0.05	<0.05	<0.05	200	0
		Endrin	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

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: $MAD = 100 \times SDL / Mean + LR$

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil (continued)

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200611.018	LB188886.014	Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
		Mirex	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.12	30
SE200611.033	LB188886.028	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Dieldrin	mg/kg	0.05	0.19	<0.05	135	0
		Endrin	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
Mirex	mg/kg	0.1	<0.1	<0.1	200	0		
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.12	0.12	30	3	

PCBs in Soil

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200611.018	LB188886.014	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	1	
SE200611.033	LB188886.028	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	3	

pH in soil (1:5)

Method: ME-(AU)-ENVJAN101

Original	Duplicate	Parameter	Units	LOR
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Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

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: $MAD = 100 \times SDL / Mean + LR$

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

pH In soil (1:5) (continued)

Method: ME-(AU)-[ENV]AN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200430.019	LB188977.020	pH	pH Units	0.1	7.801	7.836	31	0
SE200611.019	LB188977.021	pH	pH Units	0.1	7.8	8.2	31	5
SE200611.032	LB189064.022	pH	pH Units	0.1	7.8	7.9	31	0
SE200678.003	LB189064.021	pH	pH Units	0.1	8.6	8.5	31	1

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200611.010	LB188900.014	Arsenic, As	mg/kg	1	3	3	62	15
		Boron, B	mg/kg	5	14	11	70	30
		Beryllium, Be	mg/kg	0.5	0.7	0.7	107	0
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Cobalt, Co	mg/kg	0.5	7.2	7.9	37	9
		Chromium, Cr	mg/kg	0.5	8.8	9.5	35	7
		Copper, Cu	mg/kg	0.5	6.6	6.7	38	1
		Manganese, Mn	mg/kg	1	310	320	30	4
		Nickel, Ni	mg/kg	0.5	7.6	7.7	37	2
		Lead, Pb	mg/kg	1	9	9	41	1
		Selenium, Se	mg/kg	3	<3	<3	200	0
		Zinc, Zn	mg/kg	2	26	26	38	1
		SE200611.019	LB188900.024	Arsenic, As	mg/kg	1	4	3
Boron, B	mg/kg			5	29	26	48	10
Beryllium, Be	mg/kg			0.5	0.5	0.5	127	2
Cadmium, Cd	mg/kg			0.3	<0.3	<0.3	200	0
Cobalt, Co	mg/kg			0.5	14	14	34	1
Chromium, Cr	mg/kg			0.5	13	10	34	26
Copper, Cu	mg/kg			0.5	41	33	31	24
Manganese, Mn	mg/kg			1	480	420	30	13
Nickel, Ni	mg/kg			0.5	23	21	32	9
Lead, Pb	mg/kg			1	26	27	34	4
Selenium, Se	mg/kg			3	<3	<3	200	0
Zinc, Zn	mg/kg			2	54	61	33	13
SE200611.031	LB188901.014			Arsenic, As	mg/kg	1	4	4
		Boron, B	mg/kg	5	8	9	86	14
		Beryllium, Be	mg/kg	0.5	<0.5	<0.5	172	0
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Cobalt, Co	mg/kg	0.5	4.4	5.0	41	13
		Chromium, Cr	mg/kg	0.5	5.8	6.6	38	12
		Copper, Cu	mg/kg	0.5	14	13	34	5
		Manganese, Mn	mg/kg	1	220	260	30	13
		Nickel, Ni	mg/kg	0.5	5.3	5.8	39	8
		Lead, Pb	mg/kg	1	90	87	31	3
		Selenium, Se	mg/kg	3	<3	<3	200	0
		Zinc, Zn	mg/kg	2	93	110	32	15
		SE200614.002	LB188901.022	Arsenic, As	mg/kg	1	2.47536032113.1536094364	
Cadmium, Cd	mg/kg			0.3	0.09597925720.0562441490		200	0
Chromium, Cr	mg/kg			0.5	15.06522582820.6556637333		33	31
Copper, Cu	mg/kg			0.5	2.80952893942.1980213443		50	24
Nickel, Ni	mg/kg			0.5	0.21607895610.1141756225		200	0
Lead, Pb	mg/kg			1	11.47680762794.2353941205		38	21
Zinc, Zn	mg/kg			2	3.80298962864.4736596143		78	16

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE200611.018	LB188886.014	TRH C10-C14	mg/kg	20	<20	<20	200	0	
		TRH C15-C28	mg/kg	45	<45	<45	200	0	
		TRH C29-C36	mg/kg	45	<45	<45	200	0	
		TRH C37-C40	mg/kg	100	<100	<100	200	0	
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0	
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0	
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0	
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0	

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

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: $MAD = 100 \times SDL / Mean + LR$

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN403

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE200611.018	LB188886.014	TRH F Bands	TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE200611.034	LB188886.029		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE200611.021	LB188885.014	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
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.6	9.0	50	5
			d8-toluene (Surrogate)	mg/kg	-	8.7	9.1	50	5
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	9.0	50	4
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
SE200611.034	LB188885.023	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
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.4	8.9	50	5
			d8-toluene (Surrogate)	mg/kg	-	8.5	9.1	50	7
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	9.2	50	6
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE200611.021	LB188885.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.6	9.0	30	5
			d8-toluene (Surrogate)	mg/kg	-	8.7	9.1	30	5
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	9.0	30	4
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE200611.034	LB188885.023		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.4	8.9	30	5
			d8-toluene (Surrogate)	mg/kg	-	8.5	9.1	30	7
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	9.2	30	6
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	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.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188902.002	Mercury	mg/kg	0.05	0.22	0.2	70 - 130	108
LB188903.002	Mercury	mg/kg	0.05	0.23	0.2	70 - 130	115

Metals in Water (Dissolved) by ICPOES

Method: ME-(AU)-[ENV]AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB189011.002	Arsenic, As	mg/L	0.02	0.49	0.5	80 - 120	97
	Beryllium, Be	mg/L	0.005	0.49	0.5	80 - 120	98
	Boron, B	mg/L	0.05	0.46	0.5	80 - 120	92
	Cadmium, Cd	mg/L	0.001	0.46	0.5	80 - 120	93
	Chromium, Cr	mg/L	0.005	0.47	0.5	80 - 120	95
	Cobalt, Co	mg/L	0.01	0.47	0.5	80 - 120	94
	Copper, Cu	mg/L	0.005	0.48	0.5	80 - 120	97
	Lead, Pb	mg/L	0.02	0.47	0.5	80 - 120	93
	Manganese, Mn	mg/L	0.005	0.48	0.5	80 - 120	95
	Nickel, Ni	mg/L	0.005	0.46	0.5	80 - 120	93
	Selenium, Se	mg/L	0.05	0.49	0.5	80 - 120	98
	Zinc, Zn	mg/L	0.01	0.49	0.5	80 - 120	98

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188886.002	Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	85
	Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	80
	Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	80
	Dieldrin	mg/kg	0.05	0.16	0.2	60 - 140	80
	Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	80
	p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	75
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.15	40 - 130	87

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB188886.002	Naphthalene	mg/kg	0.1	4.0	4	60 - 140	101	
	Acenaphthylene	mg/kg	0.1	4.0	4	60 - 140	101	
	Acenaphthene	mg/kg	0.1	4.4	4	60 - 140	110	
	Phenanthrene	mg/kg	0.1	4.4	4	60 - 140	109	
	Anthracene	mg/kg	0.1	4.0	4	60 - 140	101	
	Fluoranthene	mg/kg	0.1	4.1	4	60 - 140	103	
	Pyrene	mg/kg	0.1	4.2	4	60 - 140	106	
	Benzo(a)pyrene	mg/kg	0.1	4.2	4	60 - 140	105	
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	80
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	78
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	76	

PAH (Polynuclear Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB188919.002	Naphthalene	µg/L	0.1	36	40	60 - 140	89	
	Acenaphthylene	µg/L	0.1	38	40	60 - 140	94	
	Acenaphthene	µg/L	0.1	39	40	60 - 140	99	
	Phenanthrene	µg/L	0.1	37	40	60 - 140	92	
	Anthracene	µg/L	0.1	37	40	60 - 140	92	
	Fluoranthene	µg/L	0.1	36	40	60 - 140	90	
	Pyrene	µg/L	0.1	38	40	60 - 140	94	
	Benzo(a)pyrene	µg/L	0.1	42	40	60 - 140	104	
	Surrogates	d5-nitrobenzene (Surrogate)	µg/L	-	0.2	0.5	40 - 130	42
		2-fluorobiphenyl (Surrogate)	µg/L	-	0.3	0.5	40 - 130	50
	d14-p-terphenyl (Surrogate)	µg/L	-	0.4	0.5	40 - 130	72	

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188886.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	108

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.

pH In soil (1:5)

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188977.003	pH	pH Units	0.1	7.4	7.415	98 - 102	100
LB189064.003	pH	pH Units	0.1	7.3	7.415	98 - 102	99

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188900.002	Arsenic, As	mg/kg	1	330	318.22	80 - 120	104
	Boron, B	mg/kg	5	42	37.13	80 - 120	113
	Beryllium, Be	mg/kg	0.5	4.1	4.17	80 - 120	99
	Cadmium, Cd	mg/kg	0.3	4.8	4.62	80 - 120	103
	Cobalt, Co	mg/kg	0.5	21	20.71	80 - 120	103
	Chromium, Cr	mg/kg	0.5	34	38.31	80 - 120	89
	Copper, Cu	mg/kg	0.5	310	290	80 - 120	108
	Manganese, Mn	mg/kg	1	700	660	80 - 120	106
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	103
	Lead, Pb	mg/kg	1	96	89.9	80 - 120	107
	Selenium, Se	mg/kg	3	81	83.3	80 - 120	97
	Zinc, Zn	mg/kg	2	280	273	80 - 120	102
LB188901.002	Arsenic, As	mg/kg	1	310	318.22	80 - 120	98
	Boron, B	mg/kg	5	30	37.13	80 - 120	81
	Beryllium, Be	mg/kg	0.5	4.2	4.17	80 - 120	100
	Cadmium, Cd	mg/kg	0.3	5.0	4.62	80 - 120	107
	Cobalt, Co	mg/kg	0.5	20	20.71	80 - 120	98
	Chromium, Cr	mg/kg	0.5	33	38.31	80 - 120	85
	Copper, Cu	mg/kg	0.5	300	290	80 - 120	102
	Manganese, Mn	mg/kg	1	670	660	80 - 120	102
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	101
	Lead, Pb	mg/kg	1	95	89.9	80 - 120	105
	Selenium, Se	mg/kg	3	79	83.3	80 - 120	95
	Zinc, Zn	mg/kg	2	260	273	80 - 120	96

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188886.002	TRH C10-C14	mg/kg	20	40	40	60 - 140	100
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	90
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	98
	TRH F Bands						
	TRH >C10-C16	mg/kg	25	40	40	60 - 140	100
	TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	83
	TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	115

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188885.002	Monocyclic						
	Benzene	mg/kg	0.1	4.4	5	60 - 140	88
	Aromatic						
	Toluene	mg/kg	0.1	4.4	5	60 - 140	87
	Ethylbenzene	mg/kg	0.1	4.4	5	60 - 140	87
	m/p-xylene	mg/kg	0.2	8.8	10	60 - 140	88
	o-xylene	mg/kg	0.1	4.4	5	60 - 140	88
	Surrogates						
d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.9	10	70 - 130	89	
d8-toluene (Surrogate)	mg/kg	-	9.0	10	70 - 130	90	
Bromofluorobenzene (Surrogate)	mg/kg	-	8.9	10	70 - 130	89	

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188885.002	TRH C6-C10	mg/kg	25	78	92.5	60 - 140	84
	TRH C6-C9	mg/kg	20	68	80	60 - 140	86
	Surrogates						
	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.9	10	70 - 130	89
	Bromofluorobenzene (Surrogate)	mg/kg	-	8.9	10	70 - 130	89
	VPH F Bands						
TRH C6-C10 minus BTEX (F1)	mg/kg	25	52	62.5	60 - 140	83	

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE200611.001	LB188902.004	Mercury	mg/kg	0.05	0.27	0.07	0.2	98
SE200611.020	LB188903.004	Mercury	mg/kg	0.05	0.23	<0.05	0.2	100

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE200611.002	LB188886.004	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
		Lindane	mg/kg	0.1	<0.1	<0.1	-	-
		Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	85
		Aldrin	mg/kg	0.1	0.2	<0.1	0.2	90
		Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
		Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	85
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
		Dieldrin	mg/kg	0.05	0.47	0.27	0.2	100
		Endrin	mg/kg	0.2	<0.2	<0.2	0.2	80
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	-
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDT	mg/kg	0.1	0.1	<0.1	0.2	60
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	-	-
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
		Endrin Ketone	mg/kg	0.1	<0.1	<0.1	-	-
		Isodrin	mg/kg	0.1	<0.1	<0.1	-	-
		Mirex	mg/kg	0.1	<0.1	<0.1	-	-
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.13	-	87

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE200611.002	LB188886.004	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1260	mg/kg	0.2	0.5	<0.2	0.4	120
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	-	-
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	-	-
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	-	85

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE200611.001	LB188900.004	Arsenic, As	mg/kg	1	50	3	50	94
		Boron, B	mg/kg	5	54	8	50	90
		Beryllium, Be	mg/kg	0.5	46	<0.5	50	91
		Cadmium, Cd	mg/kg	0.3	41	<0.3	50	82
		Cobalt, Co	mg/kg	0.5	53	6.3	50	94
		Chromium, Cr	mg/kg	0.5	54	8.3	50	92
		Copper, Cu	mg/kg	0.5	58	15	50	85
		Manganese, Mn	mg/kg	1	330	310	50	35 @
		Nickel, Ni	mg/kg	0.5	52	7.8	50	88
		Lead, Pb	mg/kg	1	110	48	50	124
		Selenium, Se	mg/kg	3	40	<3	50	80

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE200611.001	LB188900.004	Zinc, Zn	mg/kg	2	150	97	50	100

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE200611.002	LB188886.004	TRH C10-C14	mg/kg	20	35	<20	40	88
		TRH C15-C28	mg/kg	45	<45	<45	40	98
		TRH C29-C36	mg/kg	45	<45	<45	40	105
		TRH C37-C40	mg/kg	100	<100	<100	-	-
		TRH C10-C36 Total	mg/kg	110	<110	<110	-	-
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
		TRH F Bands						
		TRH >C10-C16	mg/kg	25	38	<25	40	95
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	38	<25	-	-
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	93
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE200611.002	LB188885.004	Monocyclic						
		Benzene	mg/kg	0.1	4.4	<0.1	5	88
		Aromatic						
		Toluene	mg/kg	0.1	4.4	<0.1	5	88
		Ethylbenzene	mg/kg	0.1	4.4	<0.1	5	89
		m/p-xylene	mg/kg	0.2	9.0	<0.2	10	90
		o-xylene	mg/kg	0.1	4.5	<0.1	5	89
		Polycyclic						
		Naphthalene	mg/kg	0.1	4.5	<0.1	-	-
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.1	8.4	10	91
		d8-toluene (Surrogate)	mg/kg	-	9.2	8.6	10	92
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.3	8.7	10	93
		Totals						
		Total Xylenes	mg/kg	0.3	13	<0.3	-	-
		Total BTEX	mg/kg	0.6	27	<0.6	-	-

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE200611.002	LB188885.004	TRH C6-C10	mg/kg	25	77	<25	92.5	83
		TRH C6-C9	mg/kg	20	68	<20	80	85
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.1	8.4	10	91
		d8-toluene (Surrogate)	mg/kg	-	9.2	8.6	10	92
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.3	8.7	-	93
		VPH F						
		Benzene (F0)	mg/kg	0.1	4.4	<0.1	-	-
		Bands						
		TRH C6-C10 minus BTEX (F1)	mg/kg	25	50	<25	62.5	81

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

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: $MAD = 100 \times SDL / Mean + LR$

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spike duplicates were required for this job.

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.
 - 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 At least 2 of 3 surrogates 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).
 - † Refer to Analytical Report comments for further information.

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CLIENT DETAILS

LABORATORY DETAILS

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Email	john.xu@geotech.com.au	Email	au.environmental.sydney@sgs.com
Project	14578/1 Penrith	SGS Reference	SE200611 R1
Order Number	(Not specified)	Date Received	02 Dec 2019
Samples	16	Date Reported	05 Dec 2019

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

This report cancels and supersedes the report No.SE200611 R0 dated 04/12/19 issued by SGS Environment, Health and Safety due to amended sampling dates as per COC.

No respirable fibres detected in all soil samples using trace analysis technique.

Sample 25: No trace asbestos fibres detected using trace analysis technique.

Sample 1: Approx 3 mm x 0.2mm fibre bundle found loose in sample.

Sample 7: Asbestos found in approx 40x15x2mm cement sheet fragments.

Sample 30: Asbestos found in approx 10x6x3mm cement sheet fragments.

Asbestos analysed by Approved Identifiers Ravee Sivasubramaniam and Yusuf Kuthupudin .

SIGNATORIES



Akheeqr BENIAMEEN
Chemist



Dong LIANG
Metals/Inorganics Team Leader



Huong CRAWFORD
Production Manager



Ly Kim HA
Organic Section Head



Ravee SIVASUBRAMANIAM
Hygiene Team Leader

RESULTS

Fibre ID in bulk materials

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE200611.022	FCP-TP207	Other	80x60x4mm Cement Sheet Fragment	29 Nov 2019	Chrysotile Asbestos Detected	
SE200611.025	FCP-TP208	Other	25x20x4mm Cement Sheet Fragment	29 Nov 2019	No Asbestos Detected	

RESULTS

Fibre Identification in soil

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE200611.001	TP101	Other	647g Sand,Soil,Rocks	29 Nov 2019	Chrysotile Asbestos Found	<0.01
SE200611.002	TP102	Other	580g Sand,Soil,Rocks	29 Nov 2019	No Asbestos Found	<0.01
SE200611.006	TP106	Other	665g Clay,Sand,Soil, Rocks	29 Nov 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE200611.007	TP107	Other	867g Sand,Soil,Rocks	29 Nov 2019	Chrysotile Asbestos Found	>0.01
SE200611.018	TP203	Other	730g Clay,Soil,Rocks	29 Nov 2019	No Asbestos Found	<0.01
SE200611.019	TP204	Other	828g Clay,Soil,Rocks	29 Nov 2019	No Asbestos Found	<0.01
SE200611.021	TP206	Other	737g Sand,Soil,Rocks ,Cement Mixture	29 Nov 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE200611.023	TP207	Other	782g Clay,Sand,Soil, Rocks	29 Nov 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE200611.026	TP208	Other	890g Clay,Sand,Soil, Rocks	29 Nov 2019	No Asbestos Found	<0.01
SE200611.027	TP209	Other	681g Clay,Sand,Soil, Rocks	29 Nov 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE200611.029	TP210	Other	786g Clay,Sand,Soil, Rocks,Bitumen	29 Nov 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE200611.030	TP211	Other	804g Clay,Sand,Soil, Rocks	29 Nov 2019	Chrysotile & Crocidolite Asbestos Found	>0.01
SE200611.031	TP212	Other	763g Clay,Sand,Soil, Rocks	29 Nov 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE200611.032	TP213	Other	726g Clay,Sand,Soil, Rocks	29 Nov 2019	No Asbestos Found Organic Fibres Detected	<0.01

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP101	TP102	TP106	TP107	TP203
			CLAY 0.0-0.15 29/11/2019 SE200611.001	CLAY 0.0-0.15 29/11/2019 SE200611.002	CLAY 0.0-0.15 29/11/2019 SE200611.006	CLAY 0.0-0.15 29/11/2019 SE200611.007	CLAY 0.0-0.15 29/11/2019 SE200611.018
Total Sample Weight*	g	1	647	580	665	867	730
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	1.33	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	0.0009	<0.0001	<0.0001	0.0754	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	0.02	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	0.009	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	0.009	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	TP204	TP206	TP207	TP208	TP209
			CLAY 0.0-0.15 29/11/2019 SE200611.019	CLAY 0.0-0.15 29/11/2019 SE200611.021	CLAY 0.0-0.15 29/11/2019 SE200611.023	CLAY 0.0-0.15 29/11/2019 SE200611.026	CLAY 0.0-0.15 29/11/2019 SE200611.027
Total Sample Weight*	g	1	828	737	782	890	681
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	TP210	TP211	TP212	TP213
			CLAY 0.0-0.15 29/11/2019 SE200611.029	CLAY 0.0-0.15 29/11/2019 SE200611.030	CLAY 0.0-0.15 29/11/2019 SE200611.031	CLAY 0.0-0.15 29/11/2019 SE200611.032
Total Sample Weight*	g	1	786	804	763	726
ACM in >7mm Sample*	g	0.01	<0.01	0.81	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	0.02	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-

METHOD

METHODOLOGY SUMMARY

AN602	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	Fibres/material that cannot be unequivocally 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	AS4964.2004 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 limit 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	The sample can be reported "no asbestos found at the reporting limit of 0.1 g/kg" (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- <ul style="list-style-type: none"> (a) no trace asbestos fibres have been detected (i.e. no 'respirable' fibres); (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 (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.
AN605	This technique gravimetrically determines the mass of Asbestos Containing Material retained on a 7mm Sieve and assumes that 15% of this ACM is asbestos. This calculated asbestos weight is then calculated as a percentage of the total sample weight.
AN605	This technique also gravimetrically determines the mass of Fibrous Asbestos (FA) and Asbestos Fines (AF) Containing Material retained on and passing a 2mm sieve post 7mm sieving. Assumes that FA and AF are 100% asbestos containing. This calculated asbestos weight is then calculated as a percentage of the total sample weight. This does not include free fibres which are only observed by standard trace analysis as per AN 602.
AN605	Insofar as is technically feasible, this report is consistent with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009.

FOOTNOTES

Amosite	-	Brown Asbestos	NA	-	Not Analysed
Chrysotile	-	White Asbestos	LNR	-	Listed, Not Required
Crocidolite	-	Blue Asbestos	*	-	NATA accreditation does not cover the performance of this service .
Amphiboles	-	Amosite and/or Crocidolite	**	-	Indicative data, theoretical holding time exceeded.

(In reference to soil samples only) This report does not comply with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment and Remediation and Management of Asbestos Contaminated sites in Western Australia - May 2009.

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.

Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy, including dispersion staining.

Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

Even after disintegration it can be very difficult, or impossible, to detect the presence of asbestos in some asbestos-containing bulk materials using polarised light microscopy. This is due to the low grade or small length or diameter of asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials.

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/pv.sqsvr/en-gb/environment.

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E-MAILED
2/12/19 10:12:58

GEOTECHNIQUE PTY LTD

1 LEMMO PLACE PENRITH NSW 2750

Tel: (02) 4722 2700

SR 200611

CHAIN OF CUSTODY

Results Required By: 24 hrs

Date: Tuesday, 3 December 2019

Except pH Results Required By -

Date:

Your Reference No.:

TO: SGS UNIT 16, 33 MADDOX STREET ALEXANDRIA NSW 2015 Tel: 02 8594 0400										Sampled By: JH Ref No: 14578/1 Location: Penrith Project Manager: JOHN XU														
Location	Depth (m)	Date	Soil	Water	Material	Metals As Cd Cr Cu Pb Hg Ni Zn	pH	CEC	CL8 TRH BTEX PAH	CL10 Metals* TRH BTEX PAH	CL16 Metals* TRH BTEX PAH OC PCB	Be B Co Mn Se	Mn	Asbestos 0.001% ww	Asbestos	BTEX	TRH & BTEX	PAH	OCP & PCB	Phenol	Cyanide	VOC	OCP OPP & PCB	
TP101	0.0-0.15	29/1/19	GP		Clay	✓						✓												
TP101	0.55-0.65	29/1/19	G		Clay																			
TP102	0.0-0.15	29/1/19	GP		Clay		✓					✓												
TP102	0.55-0.65	29/1/19	G		Clay																			
TP103	0.05-0.15	29/1/19	GP		Sand	✓						✓												
TP103	0.2-0.3	29/1/19	G		Clay																			
TP104	0.05-0.2	29/1/19	GP		Sand	✓						✓												
TP104	0.25-0.35	29/1/19	G		Clay																			
TP105	0.0-0.15	29/1/19	GP		Clay	✓						✓												
TP105	0.55-0.65	29/1/19	G		Clay																			
TP106	0.0-0.15	29/1/19	GP		Clay		✓					✓												
TP106	0.55-0.65	29/1/19	G		Clay																			
TP107	0.0-0.15	29/1/19	GP		Clay		✓					✓												
TP107	0.55-0.65	29/1/19	G		Clay																			
TP108	0.05-0.2	29/1/19	GP		Sand	✓						✓												
TP108	0.25-0.35	29/1/19	G		Clay																			

1
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GEOTECHNIQUE PTY LTD

1 LEMKO PLACE PENRITH NSW 2750

Tel: (02) 4722 2700

CHAIN OF CUSTODY

Results Required By: 24 hrs

Date: Tuesday, 3 December 2019

Except pH Results Required By -

Your Reference No.:

Date:

TO: SGS UNIT 16, 33 MADDOX STREET ALEXANDRIA NSW 2015		Tel: 02 8594 0400		Sampled By: JH		Ref No: 14578/1		Project Manager: JOHN XU																	
Location	Depth (m)	Date	Soil	Water	Material	Metals As Cd Cr Cu Pb Hg Ni Zn	pH	CEC	CL8 TRH BTEX PAH	CL10 Metals* TRH BTEX PAH	CL16 Metals* TRH BTEX PAH OC PCB	Be B Co Mn Se	Mn	Asbestos 0.001% w/w	Asbestos	BTEX	TRH & BTEX	PAH	OCP & PCB	Phenol	Cyanide	VOC	OCP & PCB		
9	TP109	0.1-0.25	29/1/19	GP	Sand		✓	✓																	
	TP109	0.35-0.45	29/1/19	G	Clay																				
10	TP110	0.1-0.25	29/1/19	GP	Clay		✓	✓																	
11	TP201	0.0-0.15	29/1/19	GP	Clay		✓	✓																	
12	TP201	0.5-0.8	29/1/19	GP	Clay		✓	✓																	
12	TP201	0.5-0.8	29/1/19	GP	Clay		✓	✓																	
13	TP201	1.0-1.3	29/1/19	GP	Clay		✓	✓																	
14	TP201	1.5-1.8	29/1/19	GP	Clay		✓	✓																	
15	TP201	2.0-2.2	29/1/19	GP	Clay		✓	✓																	
16	TP202	0.0-0.15	29/1/19	GP	Clay																				
17	TP202	0.5-0.8	29/1/19	GP	Clay																				
17	TP202	1.05-1.15	29/1/19	GP	Clay																				
18	TP203	0.0-0.15	29/1/19	GP	Clay		✓	✓																	
18	TP203	0.45-0.55	29/1/19	G	Clay																				
19	TP204	0.0-0.15	29/1/19	GP	Clay		✓	✓																	
19	TP204	0.45-0.55	29/1/19	G	Clay																				
20	TP205	0.0-0.15	29/1/19	GP	Clay		✓	✓																	



1 LEMKO PLACE PENRITH NSW 2750

Tel: (02) 4722 2700

CHAIN OF CUSTODY

Results Required By: 24 hrs

Date: Tuesday, 3 December 2019

Except pH Results Required By -

Your Reference No.:

Date:

TO: SGS UNIT 16, 33 MADDOX STREET ALEXANDRIA, NSW 2015		Tel: 02 8594 0400		Sampled By: JH		Ref No.: 14578/1		Location: Penrith		Project Manager: JOHN XU													
Location	Depth (m)	Date	Soil	Water	Material	Metals: As, Cd, Cr, Cu, Pb, Hg, Ni, Zn	pH	CEC	GL8 TRH, BTEX, PAH	CL10 Metals, TRH, BTEX, PAH	CL16 Metals, TRH, BTEX, PAH, OC, PCBs	Be, B, Co, Mn, Ni, Se	Asbestos 0.001% w/w	Asbestos	BTEX	TRH & BTEX	PAH	OCF & PCB	Phenol	Cyanide	VOC	OCF, OPP & PCB	
TP205	0.55-0.65	29/11/19	G		Clay																		
TP206	0.0-0.15	29/11/19	GP		Clay		✓	✓															
TP206	0.55-0.65	29/11/19	G		Clay																		
FCP-TP207	0.0-0.15	29/11/19	P		FCP																		
TP207	0.0-0.15	29/11/19	GP		Clay																		
TP207	0.5-0.7	29/11/19	GP		Clay		✓																
TP207	0.75-0.65	29/11/19	G		Clay																		
FCP-TP208	0.0-0.15	29/11/19	P		FCP																		
TP208	0.0-0.15	29/11/19	GP		Clay		✓																
TP208	0.55-0.65	29/11/19	G		Clay																		
TP209	0.0-0.15	29/11/19	GP		Clay		✓																
TP209	0.5-0.7	29/11/19	GP		Clay		✓																
TP209	0.75-0.85	29/11/19	G		Clay																		
TP210	0.0-0.15	29/11/19	GP		Clay		✓																
TP210	0.25-0.35	29/11/19	G		Clay																		
TP211	0.0-0.15	29/11/19	GP		Clay		✓																

GEOTECHNIQUE PTY LTD

1 LEMKO PLACE PENRITH NSW 2750 Tel: (02) 4722 2700

CHAIN OF CUSTODY

Results Required By: 24 hrs
Except pH Results Required By:

Your Reference No.:

Date: Tuesday, 3 December 2019
Date:

TO: SGS UNIT 16, 33 MADDOX STREET ALEXANDRIA NSW 2015		Tel: 02 8594 0400		Sampled By: JH		Ref No: 145784		Location: Penrith		Project Manager: JOHN XU															
Location	Depth (m)	Date	Soil	Water	Material	Metals As Cd Cr Cu Pb Hg Ni Zn	pH	GEC	Cl. 8 TRH BTEX PAH	Cl. 10 Metals* TRH BTEX PAH	Cl. 16 Metals* TRH BTEX PAH OC PCB	Ba B Co Mn Se	Mn	Asbestos 0.001% w/w	Asbestos	BTEX & TRH BTEX	TRH PAH	OCP & PCB	OCP & PCB	Phenol	Cyanide	VOC	OCP & PCB		
TP211	0.35-0.45	29/11/19	G		Clay																				
TP212	0.0-0.15	29/11/19	GP		Clay																				
TP212	0.55-0.65	29/11/19	G		Clay																				
TP213	0.0-0.15	29/11/19	GP		Clay																				
TP213	0.55-0.65	29/11/19	G		Clay																				
DDS1		29/11/19	G		Clay																				
DDS2		29/11/19	G		Clay																				
RS2		29/11/19		WGN/Al																					
TS2		29/11/19																							

Relinquished by: _____ Signature: _____ Date: _____

Received by: **Suba** Signature: _____ Date: **02/12/19 @ 11.20**

W3: Water sample (glass bottle) G Soil sample (glass jar) FCP Fibre Content Piece (plastic bag)
W4: Water sample (plastic bottle) P Soil sample (plastic bag) Test required

* As, Cd, Cr, Cu, Pb, Hg, Ni & Zn (6 metals)



SAMPLE RECEIPT ADVICE

SE200611

CLIENT DETAILS

Contact John Xu
Client Geotechnique
Address P.O. Box 880
NSW 2751

Telephone 02 4722 2700
Facsimile 02 4722 6161
Email john.xu@geotech.com.au

Project **14578/1 Penrith**
Order Number (Not specified)
Samples 36

LABORATORY DETAILS

Manager Huong Crawford
Laboratory SGS Alexandria Environmental
Address Unit 16, 33 Maddox St
Alexandria NSW 2015

Telephone +61 2 8594 0400
Facsimile +61 2 8594 0499
Email au.environmental.sydney@sgs.com

Samples Received Mon 2/12/2019
Report Due Wed 4/12/2019
SGS Reference **SE200611**

SUBMISSION DETAILS

This is to confirm that 36 samples were received on Monday 2/12/2019. Results are expected to be ready by COB Wednesday 4/12/2019. Please quote SGS reference SE200611 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	28 Clay, 5 Sand, 1 Water, 2
Date documentation received	02/12/2019@12:58pm	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	4.3°C	Sufficient sample for analysis	Yes
Turnaround time requested	Two Days		

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

21 soil samples have been placed on hold as no tests have been assigned for them by the client. These samples will not be processed.

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/en/Terms-and-Conditions.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

CLIENT DETAILS

Client **Geotechnique**

Project **14578/1 Penrith**

SUMMARY OF ANALYSIS

No.	Sample ID	Exchangeable Cations and Cation Exchange Capacity	OC Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	pH in soil (1:5)	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
002	TP102 0.0-0.15	13	28	-	11	1	10	11	7
003	TP103 0.0-0.15	13	-	-	-	1	-	-	-
005	TP105 0.0-0.15	-	-	26	-	-	-	-	-
006	TP106 0.0-0.15	13	28	-	11	1	10	11	7
007	TP107 0.0-0.15	13	28	-	11	1	10	11	7
009	TP109 0.1-0.25	13	28	-	11	1	10	11	7
010	TP110 0.1-0.25	13	-	-	-	1	-	-	-
011	TP201 0.0-0.15	13	28	-	11	1	10	11	7
013	TP201 1.0-1.3	13	28	-	11	1	10	11	7
015	TP201 2.0-2.2	-	-	26	-	-	-	-	-
016	TP202 0.0-0.15	-	28	-	11	-	10	11	7
018	TP203 0.0-0.15	13	28	-	11	1	10	11	7
019	TP204 0.0-0.15	13	28	-	11	1	10	11	7
020	TP205 0.0-0.15	-	-	26	-	-	-	-	-
021	TP206 0.0-0.15	13	28	-	11	1	10	11	7
023	TP207 0.0-0.15	-	28	-	11	-	10	11	7
024	TP207 0.5-0.7	-	-	26	-	-	-	-	-

CONTINUED OVERLEAF

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.

CLIENT DETAILS

Client **Geotechnique**

Project **14578/1 Penrith**

SUMMARY OF ANALYSIS

No.	Sample ID	Exchangeable Cations and Cation Exchange Capacity	OC Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	pH in soil (1:5)	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
027	TP209 0.0-0.15	13	28	-	11	1	10	11	7
028	TP209 0.5-0.7	-	-	26	-	-	-	-	-
030	TP211 0.0-0.15	13	28	-	11	1	10	11	7
032	TP213 0.0-0.15	13	28	-	11	1	10	11	7
033	DDS1	-	28	-	11	-	10	11	7
034	DDS2	-	28	-	11	-	10	11	7
036	TS2	-	-	-	-	-	-	11	-

CONTINUED OVERLEAF

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CLIENT DETAILS

Client **Geotechnique**

Project **14578/1 Penrith**

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre ID in bulk materials	Fibre Identification in soil	Gravimetric Determination of Asbestos in Soil	Mercury in Soil	Moisture Content	Total Recoverable Elements in Soil/Waste
001	TP101 0.0-0.15	-	2	9	1	1	12
002	TP102 0.0-0.15	-	2	9	1	1	12
003	TP103 0.0-0.15	-	-	-	1	1	12
004	TP104 0.05-0.2	-	-	-	1	1	12
005	TP105 0.0-0.15	-	-	-	1	1	12
006	TP106 0.0-0.15	-	2	9	1	1	12
007	TP107 0.0-0.15	-	2	9	1	1	12
008	TP108 0.05-0.2	-	-	-	1	1	12
009	TP109 0.1-0.25	-	-	-	1	1	12
010	TP110 0.1-0.25	-	-	-	1	1	12
011	TP201 0.0-0.15	-	-	-	1	1	12
012	TP201 0.5-0.8	-	-	-	1	1	12
013	TP201 1.0-1.3	-	-	-	1	1	12
014	TP201 1.5-1.8	-	-	-	1	1	12
015	TP201 2.0-2.2	-	-	-	1	1	12
016	TP202 0.0-0.15	-	-	-	1	1	12
017	TP202 0.5-0.8	-	-	-	1	1	12
018	TP203 0.0-0.15	-	2	9	1	1	12
019	TP204 0.0-0.15	-	2	9	1	1	12
020	TP205 0.0-0.15	-	-	-	1	1	12
021	TP206 0.0-0.15	-	2	9	1	1	12
022	FCP-TP207 0.0-0.15	1	-	-	-	-	-
023	TP207 0.0-0.15	-	2	9	1	1	12
024	TP207 0.5-0.7	-	-	-	1	1	12

CONTINUED OVERLEAF

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CLIENT DETAILS

Client **Geotechnique**

Project **14578/1 Penrith**

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre ID in bulk materials	Fibre Identification in soil	Gravimetric Determination of Asbestos in Soil	Mercury in Soil	Moisture Content	Total Recoverable Elements in Soil/Waste
025	FCP-TP208 0.0-0.15	1	-	-	-	-	-
026	TP208 0.0-0.15	-	2	9	1	1	12
027	TP209 0.0-0.15	-	2	9	1	1	12
028	TP209 0.5-0.7	-	-	-	1	1	12
029	TP210 0.0-0.15	-	2	9	1	1	12
030	TP211 0.0-0.15	-	2	9	1	1	12
031	TP212 0.0-0.15	-	2	9	1	1	12
032	TP213 0.0-0.15	-	2	9	1	1	12
033	DDS1	-	-	-	1	1	12
034	DDS2	-	-	-	1	1	12

CONTINUED OVERLEAF

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.



SAMPLE RECEIPT ADVICE

SE200611

CLIENT DETAILS

Client **Geotechnique**

Project **14578/1 Penrith**

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water	Metals in Water (Dissolved) by ICPOES	PAH (Polynuclear Aromatic Hydrocarbons) in Water
035	RS2	1	12	22

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.

CLIENT DETAILS

LABORATORY DETAILS

Contact **John Xu**
 Client **Geotechnique**
 Address **P.O. Box 880
 NSW 2751**

Telephone **02 4722 2700**
 Facsimile **02 4722 6161**
 Email **john.xu@geotech.com.au**

Project **14578/1 Penrith**
 Order Number **(Not specified)**
 Samples **36**

Manager **Huong Crawford**
 Laboratory **SGS Alexandria Environmental**
 Address **Unit 16, 33 Maddox St
 Alexandria NSW 2015**

Telephone **+61 2 8594 0400**
 Facsimile **+61 2 8594 0499**
 Email **au.environmental.sydney@sgs.com**

SGS Reference **SE200611 R0**
 Date Received **2/12/2019**
 Date Reported **4/12/2019**

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

No respirable fibres detected in all soil samples using trace analysis technique.

Sample 25: No trace asbestos fibres detected using trace analysis technique.

Sample 1: Approx 3 mm x 0.2mm fibre bundle found loose in sample.
 Sample 7: Asbestos found in approx 40x15x2mm cement sheet fragments.
 Sample 30: Asbestos found in approx 10x6x3mm cement sheet fragments.
 Asbestos analysed by Approved Identifiers Ravee Sivasubramaniam and Yusuf Kuthpudin .

SIGNATORIES

Akheeqaq BENIAMREEN
 Chemist

Dong LIANG
 Metals/Inorganics Team Leader

Huong CRAWFORD
 Production Manager

Ly Kim HA
 Organic Section Head

Ravee SIVASUBRAMANIAM
 Hygiene Team Leader

VOC's in Soil [AN433] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP102	TP106	TP107	TP109	TP201
			CLAY 0.0-0.15 2/12/2019 SE200611.002	CLAY 0.0-0.15 2/12/2019 SE200611.006	CLAY 0.0-0.15 2/12/2019 SE200611.007	SAND 0.1-0.25 2/12/2019 SE200611.009	CLAY 0.0-0.15 2/12/2019 SE200611.011
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	TP201	TP202	TP203	TP204	TP206
			CLAY 1.0-1.3 2/12/2019 SE200611.013	CLAY 0.0-0.15 2/12/2019 SE200611.016	CLAY 0.0-0.15 2/12/2019 SE200611.018	CLAY 0.0-0.15 2/12/2019 SE200611.019	CLAY 0.0-0.15 2/12/2019 SE200611.021
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	TP207	TP209	TP211	TP213	DDS1
			CLAY 0.0-0.15 2/12/2019 SE200611.023	CLAY 0.0-0.15 2/12/2019 SE200611.027	CLAY 0.0-0.15 2/12/2019 SE200611.030	CLAY 0.0-0.15 2/12/2019 SE200611.032	CLAY - 2/12/2019 SE200611.033
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	DDS2	TS2
			CLAY - 2/12/2019 SE200611.034	CLAY - 2/12/2019 SE200611.036
Benzene	mg/kg	0.1	<0.1	[112%]
Toluene	mg/kg	0.1	<0.1	[117%]
Ethylbenzene	mg/kg	0.1	<0.1	[120%]
m/p-xylene	mg/kg	0.2	<0.2	[119%]
o-xylene	mg/kg	0.1	<0.1	[114%]
Total Xylenes	mg/kg	0.3	<0.3	-
Total BTEX	mg/kg	0.6	<0.6	-
Naphthalene	mg/kg	0.1	<0.1	-

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP102	TP106	TP107	TP109	TP201
			CLAY 0.0-0.15 2/12/2019 SE200611.002	CLAY 0.0-0.15 2/12/2019 SE200611.006	CLAY 0.0-0.15 2/12/2019 SE200611.007	SAND 0.1-0.25 2/12/2019 SE200611.009	CLAY 0.0-0.15 2/12/2019 SE200611.011
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	TP201	TP202	TP203	TP204	TP206
			CLAY 1.0-1.3 2/12/2019 SE200611.013	CLAY 0.0-0.15 2/12/2019 SE200611.016	CLAY 0.0-0.15 2/12/2019 SE200611.018	CLAY 0.0-0.15 2/12/2019 SE200611.019	CLAY 0.0-0.15 2/12/2019 SE200611.021
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	TP207	TP209	TP211	TP213	DDS1
			CLAY 0.0-0.15 2/12/2019 SE200611.023	CLAY 0.0-0.15 2/12/2019 SE200611.027	CLAY 0.0-0.15 2/12/2019 SE200611.030	CLAY 0.0-0.15 2/12/2019 SE200611.032	CLAY - 2/12/2019 SE200611.033
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	DDS2
			CLAY - 2/12/2019 SE200611.034
TRH C6-C9	mg/kg	20	<20
Benzene (F0)	mg/kg	0.1	<0.1
TRH C6-C10	mg/kg	25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP102	TP106	TP107	TP109	TP201
			CLAY 0.0-0.15 2/12/2019 SE200611.002	CLAY 0.0-0.15 2/12/2019 SE200611.006	CLAY 0.0-0.15 2/12/2019 SE200611.007	SAND 0.1-0.25 2/12/2019 SE200611.009	CLAY 0.0-0.15 2/12/2019 SE200611.011
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	TP201	TP202	TP203	TP204	TP206
			CLAY 1.0-1.3 2/12/2019 SE200611.013	CLAY 0.0-0.15 2/12/2019 SE200611.016	CLAY 0.0-0.15 2/12/2019 SE200611.018	CLAY 0.0-0.15 2/12/2019 SE200611.019	CLAY 0.0-0.15 2/12/2019 SE200611.021
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	47	79
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	TP207	TP209	TP211	TP213	DDS1
			CLAY 0.0-0.15 2/12/2019 SE200611.023	CLAY 0.0-0.15 2/12/2019 SE200611.027	CLAY 0.0-0.15 2/12/2019 SE200611.030	CLAY 0.0-0.15 2/12/2019 SE200611.032	CLAY - 2/12/2019 SE200611.033
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 2/12/2019 (continued)

PARAMETER	UOM	LOR	DDS2
			CLAY - 2/12/2019 SE200611.034
TRH C10-C14	mg/kg	20	<20
TRH C15-C28	mg/kg	45	<45
TRH C29-C36	mg/kg	45	<45
TRH C37-C40	mg/kg	100	<100
TRH >C10-C16	mg/kg	25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120
TRH C10-C36 Total	mg/kg	110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP105	TP201	TP205	TP207	TP209
			CLAY 0.0-0.15 2/12/2019 SE200611.005	CLAY 2.0-2.2 2/12/2019 SE200611.015	CLAY 0.0-0.15 2/12/2019 SE200611.020	CLAY 0.5-0.7 2/12/2019 SE200611.024	CLAY 0.5-0.7 2/12/2019 SE200611.028
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<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	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<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	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<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	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP102	TP105	TP106	TP107	TP109
			CLAY 0.0-0.15 2/12/2019 SE200611.002	CLAY 0.0-0.15 2/12/2019 SE200611.005	CLAY 0.0-0.15 2/12/2019 SE200611.006	CLAY 0.0-0.15 2/12/2019 SE200611.007	SAND 0.1-0.25 2/12/2019 SE200611.009
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.05	0.27	-	0.28	0.68	<0.05
Endrin	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1

OC Pesticides in Soil [AN420] Tested: 2/12/2019 (continued)

PARAMETER	UOM	LOR	TP201	TP201	TP201	TP202	TP203
			CLAY 0.0-0.15 2/12/2019 SE200611.011	CLAY 1.0-1.3 2/12/2019 SE200611.013	CLAY 2.0-2.2 2/12/2019 SE200611.015	CLAY 0.0-0.15 2/12/2019 SE200611.016	CLAY 0.0-0.15 2/12/2019 SE200611.018
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Dieldrin	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05
Endrin	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1

OC Pesticides in Soil [AN420] Tested: 2/12/2019 (continued)

PARAMETER	UOM	LOR	TP204	TP205	TP206	TP207	TP207
			CLAY 0.0-0.15 2/12/2019 SE200611.019	CLAY 0.0-0.15 2/12/2019 SE200611.020	CLAY 0.0-0.15 2/12/2019 SE200611.021	CLAY 0.0-0.15 2/12/2019 SE200611.023	CLAY 0.5-0.7 2/12/2019 SE200611.024
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Alpha BHC	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Lindane	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Heptachlor	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Aldrin	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Beta BHC	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Delta BHC	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Heptachlor epoxide	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
o,p'-DDE	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Alpha Endosulfan	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Gamma Chlordane	mg/kg	0.1	<0.1	-	<0.1	0.3	-
Alpha Chlordane	mg/kg	0.1	<0.1	-	<0.1	0.3	-
trans-Nonachlor	mg/kg	0.1	<0.1	-	<0.1	0.1	-
p,p'-DDE	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Dieldrin	mg/kg	0.05	<0.05	-	<0.05	<0.05	-
Endrin	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
o,p'-DDD	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
o,p'-DDT	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Beta Endosulfan	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
p,p'-DDD	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
p,p'-DDT	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Endosulfan sulphate	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Endrin Aldehyde	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Methoxychlor	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Endrin Ketone	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Isodrin	mg/kg	0.1	<0.1	-	<0.1	<0.1	-
Mirex	mg/kg	0.1	<0.1	-	<0.1	<0.1	-

OC Pesticides in Soil [AN420] Tested: 2/12/2019 (continued)

PARAMETER	UOM	LOR	TP209	TP209	TP211	TP213	DDS1
			CLAY 0.0-0.15 2/12/2019 SE200611.027	CLAY 0.5-0.7 2/12/2019 SE200611.028	CLAY 0.0-0.15 2/12/2019 SE200611.030	CLAY 0.0-0.15 2/12/2019 SE200611.032	CLAY - 2/12/2019 SE200611.033
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	-	0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.05	0.21	-	1.5	0.14	0.19
Endrin	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1

OC Pesticides in Soil [AN420] Tested: 2/12/2019 (continued)

PARAMETER	UOM	LOR	DDS2
			CLAY - 2/12/2019 SE200611.034
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1
Lindane	mg/kg	0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1
Aldrin	mg/kg	0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1
Dieldrin	mg/kg	0.05	<0.05
Endrin	mg/kg	0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1
Isodrin	mg/kg	0.1	<0.1
Mirex	mg/kg	0.1	<0.1

PCBs in Soil [AN420] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP102	TP105	TP106	TP107	TP109
			CLAY 0.0-0.15 2/12/2019 SE200611.002	CLAY 0.0-0.15 2/12/2019 SE200611.005	CLAY 0.0-0.15 2/12/2019 SE200611.006	CLAY 0.0-0.15 2/12/2019 SE200611.007	SAND 0.1-0.25 2/12/2019 SE200611.009
Arochlor 1016	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	-	<1	<1	<1

PARAMETER	UOM	LOR	TP201	TP201	TP201	TP202	TP203
			CLAY 0.0-0.15 2/12/2019 SE200611.011	CLAY 1.0-1.3 2/12/2019 SE200611.013	CLAY 2.0-2.2 2/12/2019 SE200611.015	CLAY 0.0-0.15 2/12/2019 SE200611.016	CLAY 0.0-0.15 2/12/2019 SE200611.018
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	-	<1	<1

PARAMETER	UOM	LOR	TP204	TP205	TP206	TP207	TP207
			CLAY 0.0-0.15 2/12/2019 SE200611.019	CLAY 0.0-0.15 2/12/2019 SE200611.020	CLAY 0.0-0.15 2/12/2019 SE200611.021	CLAY 0.0-0.15 2/12/2019 SE200611.023	CLAY 0.5-0.7 2/12/2019 SE200611.024
Arochlor 1016	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Arochlor 1221	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Arochlor 1232	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Arochlor 1242	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Arochlor 1248	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Arochlor 1254	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Arochlor 1260	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Arochlor 1262	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Arochlor 1268	mg/kg	0.2	<0.2	-	<0.2	<0.2	-
Total PCBs (Arochlors)	mg/kg	1	<1	-	<1	<1	-

PCBs in Soil [AN420] Tested: 2/12/2019 (continued)

PARAMETER	UOM	LOR	TP209	TP209	TP211	TP213	DDS1
			CLAY 0.0-0.15 2/12/2019 SE200611.027	CLAY 0.5-0.7 2/12/2019 SE200611.028	CLAY 0.0-0.15 2/12/2019 SE200611.030	CLAY 0.0-0.15 2/12/2019 SE200611.032	CLAY - 2/12/2019 SE200611.033
Arochlor 1016	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	-	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	-	<1	<1	<1

PARAMETER	UOM	LOR	DDS2
			CLAY - 2/12/2019 SE200611.034
Arochlor 1016	mg/kg	0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1

pH in soil (1:5) [AN101] Tested: 3/12/2019

			TP102	TP103	TP106	TP107	TP109
			CLAY 0.0-0.15 2/12/2019	SAND 0.0-0.15 2/12/2019	CLAY 0.0-0.15 2/12/2019	CLAY 0.0-0.15 2/12/2019	SAND 0.1-0.25 2/12/2019
PARAMETER	UOM	LOR	SE200611.002	SE200611.003	SE200611.006	SE200611.007	SE200611.009
pH	pH Units	0.1	8.6	7.3	8.0	8.7	8.4

			TP110	TP201	TP201	TP203	TP204
			CLAY 0.1-0.25 2/12/2019	CLAY 0.0-0.15 2/12/2019	CLAY 1.0-1.3 2/12/2019	CLAY 0.0-0.15 2/12/2019	CLAY 0.0-0.15 2/12/2019
PARAMETER	UOM	LOR	SE200611.010	SE200611.011	SE200611.013	SE200611.018	SE200611.019
pH	pH Units	0.1	8.4	6.5	6.2	6.6	7.8

			TP206	TP209	TP211	TP213
			CLAY 0.0-0.15 2/12/2019	CLAY 0.0-0.15 2/12/2019	CLAY 0.0-0.15 2/12/2019	CLAY 0.0-0.15 2/12/2019
PARAMETER	UOM	LOR	SE200611.021	SE200611.027	SE200611.030	SE200611.032
pH	pH Units	0.1	9.5	8.0	8.2	7.8

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) [AN122] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP102	TP103	TP106	TP107	TP109
			CLAY 0.0-0.15 2/12/2019 SE200611.002	SAND 0.0-0.15 2/12/2019 SE200611.003	CLAY 0.0-0.15 2/12/2019 SE200611.006	CLAY 0.0-0.15 2/12/2019 SE200611.007	SAND 0.1-0.25 2/12/2019 SE200611.009
Exchangeable Sodium, Na	mg/kg	2	90	59	73	38	77
Exchangeable Sodium, Na	meq/100g	0.01	0.39	0.25	0.32	0.16	0.33
Exchangeable Sodium Percentage*	%	0.1	2.9	4.4	1.4	0.5	1.3
Exchangeable Potassium, K	mg/kg	2	140	220	230	240	240
Exchangeable Potassium, K	meq/100g	0.01	0.36	0.55	0.58	0.62	0.61
Exchangeable Potassium Percentage*	%	0.1	2.7	9.5	2.5	2.0	2.4
Exchangeable Calcium, Ca	mg/kg	2	2400	840	4200	6100	4700
Exchangeable Calcium, Ca	meq/100g	0.01	12	4.2	21	30	24
Exchangeable Calcium Percentage*	%	0.1	88.0	72.5	92.5	96.0	93.7
Exchangeable Magnesium, Mg	mg/kg	2	110	97	100	58	77
Exchangeable Magnesium, Mg	meq/100g	0.02	0.88	0.79	0.82	0.48	0.63
Exchangeable Magnesium Percentage*	%	0.1	6.5	13.6	3.6	1.5	2.5
Cation Exchange Capacity	meq/100g	0.02	14	5.8	23	32	25

PARAMETER	UOM	LOR	TP110	TP201	TP201	TP203	TP204
			CLAY 0.1-0.25 2/12/2019 SE200611.010	CLAY 0.0-0.15 2/12/2019 SE200611.011	CLAY 1.0-1.3 2/12/2019 SE200611.013	CLAY 0.0-0.15 2/12/2019 SE200611.018	CLAY 0.0-0.15 2/12/2019 SE200611.019
Exchangeable Sodium, Na	mg/kg	2	54	190	180	470	180
Exchangeable Sodium, Na	meq/100g	0.01	0.23	0.84	0.78	2.0	0.79
Exchangeable Sodium Percentage*	%	0.1	3.2	12.3	10.3	20.4	2.8
Exchangeable Potassium, K	mg/kg	2	110	100	120	130	130
Exchangeable Potassium, K	meq/100g	0.01	0.27	0.25	0.30	0.33	0.34
Exchangeable Potassium Percentage*	%	0.1	3.7	3.7	4.0	3.3	1.2
Exchangeable Calcium, Ca	mg/kg	2	1200	830	830	890	5000
Exchangeable Calcium, Ca	meq/100g	0.01	5.9	4.1	4.1	4.4	25
Exchangeable Calcium Percentage*	%	0.1	80.0	60.4	54.4	44.2	86.8
Exchangeable Magnesium, Mg	mg/kg	2	120	200	290	390	330
Exchangeable Magnesium, Mg	meq/100g	0.02	0.97	1.6	2.4	3.2	2.7
Exchangeable Magnesium Percentage*	%	0.1	13.1	23.6	31.3	32.2	9.3
Cation Exchange Capacity	meq/100g	0.02	7.4	6.8	7.6	10	29

PARAMETER	UOM	LOR	TP206	TP209	TP211	TP213
			CLAY 0.0-0.15 2/12/2019 SE200611.021	CLAY 0.0-0.15 2/12/2019 SE200611.027	CLAY 0.0-0.15 2/12/2019 SE200611.030	CLAY 0.0-0.15 2/12/2019 SE200611.032
Exchangeable Sodium, Na	mg/kg	2	260	89	150	140
Exchangeable Sodium, Na	meq/100g	0.01	1.2	0.39	0.67	0.61
Exchangeable Sodium Percentage*	%	0.1	1.4	1.5	1.4	1.5
Exchangeable Potassium, K	mg/kg	2	570	230	430	330
Exchangeable Potassium, K	meq/100g	0.01	1.5	0.60	1.1	0.85
Exchangeable Potassium Percentage*	%	0.1	1.8	2.3	2.3	2.0
Exchangeable Calcium, Ca	mg/kg	2	16000	4700	9100	7600
Exchangeable Calcium, Ca	meq/100g	0.01	78	23	45	38
Exchangeable Calcium Percentage*	%	0.1	96.2	90.5	94.7	91.7
Exchangeable Magnesium, Mg	mg/kg	2	54	180	95	240
Exchangeable Magnesium, Mg	meq/100g	0.02	0.44	1.5	0.78	2.0
Exchangeable Magnesium Percentage*	%	0.1	0.5	5.7	1.6	4.8
Cation Exchange Capacity	meq/100g	0.02	81	26	48	42

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP101	TP102	TP103	TP104	TP105
			CLAY	CLAY	SAND	SAND	CLAY
			0.0-0.15 2/12/2019 SE200611.001	0.0-0.15 2/12/2019 SE200611.002	0.0-0.15 2/12/2019 SE200611.003	0.05-0.2 2/12/2019 SE200611.004	0.0-0.15 2/12/2019 SE200611.005
Arsenic, As	mg/kg	1	3	3	4	<1	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	8.3	6.2	11	3.2	7.9
Copper, Cu	mg/kg	0.5	15	9.7	5.8	<0.5	11
Lead, Pb	mg/kg	1	48	39	13	2	16
Nickel, Ni	mg/kg	0.5	7.8	5.7	5.0	<0.5	7.0
Zinc, Zn	mg/kg	2	97	58	41	<2	36
Beryllium, Be	mg/kg	0.5	<0.5	<0.5	0.6	<0.5	0.5
Boron, B	mg/kg	5	8	8	11	<5	12
Cobalt, Co	mg/kg	0.5	6.3	5.2	9.0	0.6	6.2
Manganese, Mn	mg/kg	1	310	230	230	10	250
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

PARAMETER	UOM	LOR	TP106	TP107	TP108	TP109	TP110
			CLAY	CLAY	SAND	SAND	CLAY
			0.0-0.15 2/12/2019 SE200611.006	0.0-0.15 2/12/2019 SE200611.007	0.05-0.2 2/12/2019 SE200611.008	0.1-0.25 2/12/2019 SE200611.009	0.1-0.25 2/12/2019 SE200611.010
Arsenic, As	mg/kg	1	4	3	<1	3	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	8.7	7.1	3.3	8.5	8.8
Copper, Cu	mg/kg	0.5	16	6.4	<0.5	14	6.6
Lead, Pb	mg/kg	1	210	9	3	90	9
Nickel, Ni	mg/kg	0.5	7.2	6.1	<0.5	6.5	7.6
Zinc, Zn	mg/kg	2	88	26	<2	73	26
Beryllium, Be	mg/kg	0.5	0.5	0.5	<0.5	0.5	0.7
Boron, B	mg/kg	5	9	8	<5	8	14
Cobalt, Co	mg/kg	0.5	6.5	5.8	<0.5	5.4	7.2
Manganese, Mn	mg/kg	1	310	240	8	290	310
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

PARAMETER	UOM	LOR	TP201	TP201	TP201	TP201	TP201
			CLAY	CLAY	CLAY	CLAY	CLAY
			0.0-0.15 2/12/2019 SE200611.011	0.5-0.8 2/12/2019 SE200611.012	1.0-1.3 2/12/2019 SE200611.013	1.5-1.8 2/12/2019 SE200611.014	2.0-2.2 2/12/2019 SE200611.015
Arsenic, As	mg/kg	1	4	7	5	5	4
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	5.2	8.2	9.9	9.0	5.2
Copper, Cu	mg/kg	0.5	10	15	15	12	13
Lead, Pb	mg/kg	1	7	45	24	22	7
Nickel, Ni	mg/kg	0.5	0.7	5.9	3.5	4.0	0.6
Zinc, Zn	mg/kg	2	5	77	28	29	6
Beryllium, Be	mg/kg	0.5	<0.5	<0.5	0.5	<0.5	<0.5
Boron, B	mg/kg	5	11	22	19	20	15
Cobalt, Co	mg/kg	0.5	<0.5	4.8	5.6	5.2	<0.5
Manganese, Mn	mg/kg	1	18	160	280	210	18
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP202	TP202	TP203	TP204	TP205
			CLAY 0.0-0.15 2/12/2019 SE200611.016	CLAY 0.5-0.8 2/12/2019 SE200611.017	CLAY 0.0-0.15 2/12/2019 SE200611.018	CLAY 0.0-0.15 2/12/2019 SE200611.019	CLAY 0.0-0.15 2/12/2019 SE200611.020
Arsenic, As	mg/kg	1	2	4	5	4	4
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	4.9	7.0	4.9	13	5.3
Copper, Cu	mg/kg	0.5	12	11	25	41	30
Lead, Pb	mg/kg	1	13	140	10	26	12
Nickel, Ni	mg/kg	0.5	2.8	11	4.8	23	7.8
Zinc, Zn	mg/kg	2	15	53	22	54	32
Beryllium, Be	mg/kg	0.5	<0.5	0.5	<0.5	0.5	0.6
Boron, B	mg/kg	5	12	13	19	29	16
Cobalt, Co	mg/kg	0.5	2.3	11	5.3	14	6.3
Manganese, Mn	mg/kg	1	55	230	110	480	150
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

PARAMETER	UOM	LOR	TP206	TP207	TP207	TP208	TP209
			CLAY 0.0-0.15 2/12/2019 SE200611.021	CLAY 0.0-0.15 2/12/2019 SE200611.023	CLAY 0.5-0.7 2/12/2019 SE200611.024	CLAY 0.0-0.15 2/12/2019 SE200611.026	CLAY 0.0-0.15 2/12/2019 SE200611.027
Arsenic, As	mg/kg	1	3	3	2	2	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	10	12	19	4.1	8.1
Copper, Cu	mg/kg	0.5	22	13	20	13	13
Lead, Pb	mg/kg	1	28	30	150	27	26
Nickel, Ni	mg/kg	0.5	9.2	9.7	19	4.2	8.6
Zinc, Zn	mg/kg	2	64	50	68	37	49
Beryllium, Be	mg/kg	0.5	0.5	0.6	0.7	<0.5	0.5
Boron, B	mg/kg	5	15	19	18	7	16
Cobalt, Co	mg/kg	0.5	4.9	8.3	8.8	3.2	7.6
Manganese, Mn	mg/kg	1	200	420	340	120	380
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

PARAMETER	UOM	LOR	TP209	TP210	TP211	TP212	TP213
			CLAY 0.5-0.7 2/12/2019 SE200611.028	CLAY 0.0-0.15 2/12/2019 SE200611.029	CLAY 0.0-0.15 2/12/2019 SE200611.030	CLAY 0.0-0.15 2/12/2019 SE200611.031	CLAY 0.0-0.15 2/12/2019 SE200611.032
Arsenic, As	mg/kg	1	4	3	3	4	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	4.2	7.8	9.3	5.8	12
Copper, Cu	mg/kg	0.5	13	23	16	14	16
Lead, Pb	mg/kg	1	11	64	72	90	45
Nickel, Ni	mg/kg	0.5	1.9	7.8	5.9	5.3	8.2
Zinc, Zn	mg/kg	2	11	60	140	93	62
Beryllium, Be	mg/kg	0.5	<0.5	0.5	<0.5	<0.5	0.5
Boron, B	mg/kg	5	11	13	11	8	16
Cobalt, Co	mg/kg	0.5	1.4	6.3	5.0	4.4	5.8
Manganese, Mn	mg/kg	1	55	360	260	220	300
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 2/12/2019

PARAMETER	UOM	LOR	DDS1	DDS2
			CLAY - 2/12/2019 SE200611.033	CLAY - 2/12/2019 SE200611.034
Arsenic, As	mg/kg	1	3	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	6.6	5.2
Copper, Cu	mg/kg	0.5	12	11
Lead, Pb	mg/kg	1	48	11
Nickel, Ni	mg/kg	0.5	5.3	2.5
Zinc, Zn	mg/kg	2	64	14
Beryllium, Be	mg/kg	0.5	<0.5	<0.5
Boron, B	mg/kg	5	10	13
Cobalt, Co	mg/kg	0.5	4.9	1.9
Manganese, Mn	mg/kg	1	240	46
Selenium, Se	mg/kg	3	<3	<3

Mercury in Soil [AN312] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP101	TP102	TP103	TP104	TP105
			CLAY 0.0-0.15 2/12/2019 SE200611.001	CLAY 0.0-0.15 2/12/2019 SE200611.002	SAND 0.0-0.15 2/12/2019 SE200611.003	SAND 0.05-0.2 2/12/2019 SE200611.004	CLAY 0.0-0.15 2/12/2019 SE200611.005
Mercury	mg/kg	0.05	0.07	0.06	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	TP106	TP107	TP108	TP109	TP110
			CLAY 0.0-0.15 2/12/2019 SE200611.006	CLAY 0.0-0.15 2/12/2019 SE200611.007	SAND 0.05-0.2 2/12/2019 SE200611.008	SAND 0.1-0.25 2/12/2019 SE200611.009	CLAY 0.1-0.25 2/12/2019 SE200611.010
Mercury	mg/kg	0.05	0.07	<0.05	<0.05	0.08	<0.05

PARAMETER	UOM	LOR	TP201	TP201	TP201	TP201	TP201
			CLAY 0.0-0.15 2/12/2019 SE200611.011	CLAY 0.5-0.8 2/12/2019 SE200611.012	CLAY 1.0-1.3 2/12/2019 SE200611.013	CLAY 1.5-1.8 2/12/2019 SE200611.014	CLAY 2.0-2.2 2/12/2019 SE200611.015
Mercury	mg/kg	0.05	<0.05	0.10	<0.05	0.05	<0.05

PARAMETER	UOM	LOR	TP202	TP202	TP203	TP204	TP205
			CLAY 0.0-0.15 2/12/2019 SE200611.016	CLAY 0.5-0.8 2/12/2019 SE200611.017	CLAY 0.0-0.15 2/12/2019 SE200611.018	CLAY 0.0-0.15 2/12/2019 SE200611.019	CLAY 0.0-0.15 2/12/2019 SE200611.020
Mercury	mg/kg	0.05	0.24	<0.05	<0.05	0.13	<0.05

PARAMETER	UOM	LOR	TP206	TP207	TP207	TP208	TP209
			CLAY 0.0-0.15 2/12/2019 SE200611.021	CLAY 0.0-0.15 2/12/2019 SE200611.023	CLAY 0.5-0.7 2/12/2019 SE200611.024	CLAY 0.0-0.15 2/12/2019 SE200611.026	CLAY 0.0-0.15 2/12/2019 SE200611.027
Mercury	mg/kg	0.05	<0.05	0.09	0.07	0.07	<0.05

PARAMETER	UOM	LOR	TP209	TP210	TP211	TP212	TP213
			CLAY 0.5-0.7 2/12/2019 SE200611.028	CLAY 0.0-0.15 2/12/2019 SE200611.029	CLAY 0.0-0.15 2/12/2019 SE200611.030	CLAY 0.0-0.15 2/12/2019 SE200611.031	CLAY 0.0-0.15 2/12/2019 SE200611.032
Mercury	mg/kg	0.05	<0.05	0.07	0.06	0.14	<0.05

PARAMETER	UOM	LOR	DDS1	DDS2
			CLAY - 2/12/2019 SE200611.033	CLAY - 2/12/2019 SE200611.034
Mercury	mg/kg	0.05	0.09	0.19

Moisture Content [AN002] Tested: 2/12/2019

			TP101	TP102	TP103	TP104	TP105
			CLAY 0.0-0.15 2/12/2019	CLAY 0.0-0.15 2/12/2019	SAND 0.0-0.15 2/12/2019	SAND 0.05-0.2 2/12/2019	CLAY 0.0-0.15 2/12/2019
PARAMETER	UOM	LOR	SE200611.001	SE200611.002	SE200611.003	SE200611.004	SE200611.005
% Moisture	%w/w	1	8.2	8.1	10.7	4.4	10.9

			TP106	TP107	TP108	TP109	TP110
			CLAY 0.0-0.15 2/12/2019	CLAY 0.0-0.15 2/12/2019	SAND 0.05-0.2 2/12/2019	SAND 0.1-0.25 2/12/2019	CLAY 0.1-0.25 2/12/2019
PARAMETER	UOM	LOR	SE200611.006	SE200611.007	SE200611.008	SE200611.009	SE200611.010
% Moisture	%w/w	1	4.4	5.3	3.1	13.0	9.5

			TP201	TP201	TP201	TP201	TP201
			CLAY 0.0-0.15 2/12/2019	CLAY 0.5-0.8 2/12/2019	CLAY 1.0-1.3 2/12/2019	CLAY 1.5-1.8 2/12/2019	CLAY 2.0-2.2 2/12/2019
PARAMETER	UOM	LOR	SE200611.011	SE200611.012	SE200611.013	SE200611.014	SE200611.015
% Moisture	%w/w	1	8.6	9.2	9.2	8.0	7.8

			TP202	TP202	TP203	TP204	TP205
			CLAY 0.0-0.15 2/12/2019	CLAY 0.5-0.8 2/12/2019	CLAY 0.0-0.15 2/12/2019	CLAY 0.0-0.15 2/12/2019	CLAY 0.0-0.15 2/12/2019
PARAMETER	UOM	LOR	SE200611.016	SE200611.017	SE200611.018	SE200611.019	SE200611.020
% Moisture	%w/w	1	6.6	7.3	5.5	3.9	5.6

			TP206	TP207	TP207	TP208	TP209
			CLAY 0.0-0.15 2/12/2019	CLAY 0.0-0.15 2/12/2019	CLAY 0.5-0.7 2/12/2019	CLAY 0.0-0.15 2/12/2019	CLAY 0.0-0.15 2/12/2019
PARAMETER	UOM	LOR	SE200611.021	SE200611.023	SE200611.024	SE200611.026	SE200611.027
% Moisture	%w/w	1	4.7	5.3	7.4	4.3	4.1

			TP209	TP210	TP211	TP212	TP213
			CLAY 0.5-0.7 2/12/2019	CLAY 0.0-0.15 2/12/2019	CLAY 0.0-0.15 2/12/2019	CLAY 0.0-0.15 2/12/2019	CLAY 0.0-0.15 2/12/2019
PARAMETER	UOM	LOR	SE200611.028	SE200611.029	SE200611.030	SE200611.031	SE200611.032
% Moisture	%w/w	1	7.4	5.3	6.6	4.4	7.0

			DDS1	DDS2
			CLAY - 2/12/2019	CLAY - 2/12/2019
PARAMETER	UOM	LOR	SE200611.033	SE200611.034
% Moisture	%w/w	1	6.3	8.3

Fibre ID in bulk materials [AN602] Tested: 4/12/2019

PARAMETER	UOM	LOR	FCP-TP207	FCP-TP208
			MATERIAL 0.0-0.15 2/12/2019 SE200611.022	MATERIAL 0.0-0.15 2/12/2019 SE200611.025
Asbestos Detected	No unit	-	Yes	No

Fibre Identification in soil [AN602] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP101	TP102	TP106	TP107	TP203
			CLAY 0.0-0.15 2/12/2019 SE200611.001	CLAY 0.0-0.15 2/12/2019 SE200611.002	CLAY 0.0-0.15 2/12/2019 SE200611.006	CLAY 0.0-0.15 2/12/2019 SE200611.007	CLAY 0.0-0.15 2/12/2019 SE200611.018
Asbestos Detected	No unit	-	Yes	No	No	Yes	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	>0.01	<0.01

PARAMETER	UOM	LOR	TP204	TP206	TP207	TP208	TP209
			CLAY 0.0-0.15 2/12/2019 SE200611.019	CLAY 0.0-0.15 2/12/2019 SE200611.021	CLAY 0.0-0.15 2/12/2019 SE200611.023	CLAY 0.0-0.15 2/12/2019 SE200611.026	CLAY 0.0-0.15 2/12/2019 SE200611.027
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	TP210	TP211	TP212	TP213
			CLAY 0.0-0.15 2/12/2019 SE200611.029	CLAY 0.0-0.15 2/12/2019 SE200611.030	CLAY 0.0-0.15 2/12/2019 SE200611.031	CLAY 0.0-0.15 2/12/2019 SE200611.032
Asbestos Detected	No unit	-	No	Yes	No	No
Estimated Fibres*	%w/w	0.01	<0.01	>0.01	<0.01	<0.01

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP101	TP102	TP106	TP107	TP203
			CLAY 0.0-0.15 2/12/2019 SE200611.001	CLAY 0.0-0.15 2/12/2019 SE200611.002	CLAY 0.0-0.15 2/12/2019 SE200611.006	CLAY 0.0-0.15 2/12/2019 SE200611.007	CLAY 0.0-0.15 2/12/2019 SE200611.018
Total Sample Weight*	g	1	647	580	665	867	730
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	1.33	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	0.0009	<0.0001	<0.0001	0.0754	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	0.02	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	0.009	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	0.009	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	TP204	TP206	TP207	TP208	TP209
			CLAY 0.0-0.15 2/12/2019 SE200611.019	CLAY 0.0-0.15 2/12/2019 SE200611.021	CLAY 0.0-0.15 2/12/2019 SE200611.023	CLAY 0.0-0.15 2/12/2019 SE200611.026	CLAY 0.0-0.15 2/12/2019 SE200611.027
Total Sample Weight*	g	1	828	737	782	890	681
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	TP210	TP211	TP212	TP213
			CLAY 0.0-0.15 2/12/2019 SE200611.029	CLAY 0.0-0.15 2/12/2019 SE200611.030	CLAY 0.0-0.15 2/12/2019 SE200611.031	CLAY 0.0-0.15 2/12/2019 SE200611.032
Total Sample Weight*	g	1	786	804	763	726
ACM in >7mm Sample*	g	0.01	<0.01	0.81	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	0.02	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-

PAH (Polynuclear Aromatic Hydrocarbons) in Water [AN420] Tested: 3/12/2019

PARAMETER	UOM	LOR	RS2
			WATER - 2/12/2019 SE200611.035
Naphthalene	µg/L	0.1	<0.1
2-methylnaphthalene	µg/L	0.1	<0.1
1-methylnaphthalene	µg/L	0.1	<0.1
Acenaphthylene	µg/L	0.1	<0.1
Acenaphthene	µg/L	0.1	<0.1
Fluorene	µg/L	0.1	<0.1
Phenanthrene	µg/L	0.1	<0.1
Anthracene	µg/L	0.1	<0.1
Fluoranthene	µg/L	0.1	<0.1
Pyrene	µg/L	0.1	<0.1
Benzo(a)anthracene	µg/L	0.1	<0.1
Chrysene	µg/L	0.1	<0.1
Benzo(b&j)fluoranthene	µg/L	0.1	<0.1
Benzo(k)fluoranthene	µg/L	0.1	<0.1
Benzo(a)pyrene	µg/L	0.1	<0.1
Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1
Dibenzo(ah)anthracene	µg/L	0.1	<0.1
Benzo(ghi)perylene	µg/L	0.1	<0.1
Total PAH (18)	µg/L	1	<1

Metals in Water (Dissolved) by ICPOES [AN320] Tested: 4/12/2019

PARAMETER	UOM	LOR	RS2
			WATER - 2/12/2019 SE200611.035
Arsenic, As	mg/L	0.02	<0.02
Cadmium, Cd	mg/L	0.001	<0.001
Chromium, Cr	mg/L	0.005	<0.005
Copper, Cu	mg/L	0.005	<0.005
Lead, Pb	mg/L	0.02	<0.02
Nickel, Ni	mg/L	0.005	<0.005
Zinc, Zn	mg/L	0.01	<0.01
Beryllium, Be	mg/L	0.005	<0.005
Boron, B	mg/L	0.05	<0.05
Cobalt, Co	mg/L	0.01	<0.01
Manganese, Mn	mg/L	0.005	<0.005
Selenium, Se	mg/L	0.05	<0.05

Mercury (dissolved) in Water [AN311(Perth)/AN312] Tested: 3/12/2019

			RS2
			WATER
			-
			2/12/2019
PARAMETER	UOM	LOR	SE200611.035
Mercury	mg/L	0.0001	<0.0001

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.
- AN020** Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
- AN040/AN320** A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
- AN040** A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
- AN101** pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode and is calibrated against 3 buffers purchased commercially. For soils, sediments and sludges, an extract with water (or 0.01M CaCl₂) is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
- AN122** Exchangeable Cations, CEC and ESP: Soil sample is extracted in 1M Ammonium Acetate at pH=7 (or 1M Ammonium Chloride at pH=7) with cations (Na, K, Ca & Mg) then determined by ICP OES/ICP MS and reported as Exchangeable Cations. For saline soils, these results can be corrected for water soluble cations and reported as Exchangeable cations in meq/100g or soil can be pre-treated (aqueous ethanol/aqueous glycerol) prior to extraction. Cation Exchange Capacity (CEC) is the sum of the exchangeable cations in meq/100g.
- AN122** The Exchangeable Sodium Percentage (ESP) is calculated as the exchangeable sodium divided by the CEC (all in meq/100g) times 100.
ESP can be used to categorise the sodicity of the soil as below :
- | | |
|-----------|----------------|
| ESP < 6% | non-sodic |
| ESP 6-15% | sodic |
| ESP >15% | strongly sodic |
- Method is referenced to Rayment and Lyons, 2011, sections 15D3 and 15N1.-
- AN311(Perth)/AN312** Mercury by Cold Vapour AAS in Waters: Mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500.
- AN312** Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
- AN320** Metals by ICP-OES: Samples are preserved with 10% nitric acid for a wide range of metals and some non-metals. This solution is measured by Inductively Coupled Plasma. Solutions are aspirated into an argon plasma at 8000-10000K and emit characteristic energy or light as a result of electron transitions through unique energy levels. The emitted light is focused onto a diffraction grating where it is separated into components.
- AN320** Photomultipliers or CCDs are used to measure the light intensity at specific wavelengths. This intensity is directly proportional to concentration. Corrections are required to compensate for spectral overlap between elements. Reference APHA 3120 B.
- AN403** Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
- AN403** Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
- AN403** The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
- AN420** (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).

AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC's are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN602	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	Fibres/material that cannot be unequivocally 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	AS4964.2004 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 limit 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	The sample can be reported "no asbestos found at the reporting limit of 0.1 g/kg" (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no 'respirable' fibres); (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 (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.
AN605	This technique gravimetrically determines the mass of Asbestos Containing Material retained on a 7mm Sieve and assumes that 15% of this ACM is asbestos. This calculated asbestos weight is then calculated as a percentage of the total sample weight.
AN605	This technique also gravimetrically determines the mass of Fibrous Asbestos (FA) and Asbestos Fines (AF) Containing Material retained on and passing a 2mm sieve post 7mm sieving. Assumes that FA and AF are 100% asbestos containing. This calculated asbestos weight is then calculated as a percentage of the total sample weight. This does not include free fibres which are only observed by standard trace analysis as per AN 602.
AN605	Insofar as is technically feasible, this report is consistent with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
		IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

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 calculated 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/pv.sgsvr/en-gb/environment.

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STATEMENT OF QA/QC PERFORMANCE

SE200611 R0

CLIENT DETAILS

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Project **14578/1 Penrith**
Order Number (Not specified)
Samples 36

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SGS Reference **SE200611 R0**
Date Received 02 Dec 2019
Date Reported 04 Dec 2019

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	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	1 item
Matrix Spike	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item

SAMPLE SUMMARY

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	28 Clay, 5 Sand, 1 V
Date documentation received	02/12/2019@12:58p	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	4.3°C	Sufficient sample for analysis	Yes
Turnaround time requested	Two Days		

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.

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP102	SE200611.002	LB188889	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	03 Dec 2019
TP103	SE200611.003	LB188889	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	03 Dec 2019
TP106	SE200611.006	LB188889	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	03 Dec 2019
TP107	SE200611.007	LB188889	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	03 Dec 2019
TP109	SE200611.009	LB188889	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	03 Dec 2019
TP110	SE200611.010	LB188889	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	03 Dec 2019
TP201	SE200611.011	LB188889	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	03 Dec 2019
TP201	SE200611.013	LB188889	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	03 Dec 2019
TP203	SE200611.018	LB188889	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	03 Dec 2019
TP204	SE200611.019	LB188889	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	03 Dec 2019
TP206	SE200611.021	LB188889	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	03 Dec 2019
TP209	SE200611.027	LB188889	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	03 Dec 2019
TP211	SE200611.030	LB188889	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	03 Dec 2019
TP213	SE200611.032	LB188889	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	03 Dec 2019

Fibre ID in bulk materials

Method: ME-(AU)-[ENV]AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
FCP-TP207	SE200611.022	LB189020	02 Dec 2019	02 Dec 2019	01 Dec 2020	04 Dec 2019	01 Dec 2020	04 Dec 2019
FCP-TP208	SE200611.025	LB189020	02 Dec 2019	02 Dec 2019	01 Dec 2020	04 Dec 2019	01 Dec 2020	04 Dec 2019

Fibre Identification in soil

Method: ME-(AU)-[ENV]AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP101	SE200611.001	LB188883	02 Dec 2019	02 Dec 2019	01 Dec 2020	02 Dec 2019	01 Dec 2020	04 Dec 2019
TP102	SE200611.002	LB188883	02 Dec 2019	02 Dec 2019	01 Dec 2020	02 Dec 2019	01 Dec 2020	04 Dec 2019
TP106	SE200611.006	LB188883	02 Dec 2019	02 Dec 2019	01 Dec 2020	02 Dec 2019	01 Dec 2020	04 Dec 2019
TP107	SE200611.007	LB188883	02 Dec 2019	02 Dec 2019	01 Dec 2020	02 Dec 2019	01 Dec 2020	04 Dec 2019
TP203	SE200611.018	LB188883	02 Dec 2019	02 Dec 2019	01 Dec 2020	02 Dec 2019	01 Dec 2020	04 Dec 2019
TP204	SE200611.019	LB188883	02 Dec 2019	02 Dec 2019	01 Dec 2020	02 Dec 2019	01 Dec 2020	04 Dec 2019
TP206	SE200611.021	LB188883	02 Dec 2019	02 Dec 2019	01 Dec 2020	02 Dec 2019	01 Dec 2020	04 Dec 2019
TP207	SE200611.023	LB188883	02 Dec 2019	02 Dec 2019	01 Dec 2020	02 Dec 2019	01 Dec 2020	04 Dec 2019
TP208	SE200611.026	LB188883	02 Dec 2019	02 Dec 2019	01 Dec 2020	02 Dec 2019	01 Dec 2020	04 Dec 2019
TP209	SE200611.027	LB188883	02 Dec 2019	02 Dec 2019	01 Dec 2020	02 Dec 2019	01 Dec 2020	04 Dec 2019
TP210	SE200611.029	LB188883	02 Dec 2019	02 Dec 2019	01 Dec 2020	02 Dec 2019	01 Dec 2020	04 Dec 2019
TP211	SE200611.030	LB188883	02 Dec 2019	02 Dec 2019	01 Dec 2020	02 Dec 2019	01 Dec 2020	04 Dec 2019
TP212	SE200611.031	LB188883	02 Dec 2019	02 Dec 2019	01 Dec 2020	02 Dec 2019	01 Dec 2020	04 Dec 2019
TP213	SE200611.032	LB188883	02 Dec 2019	02 Dec 2019	01 Dec 2020	02 Dec 2019	01 Dec 2020	04 Dec 2019

Gravimetric Determination of Asbestos in Soil

Method: ME-(AU)-[ENV]AN605

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP101	SE200611.001	LB188883	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP102	SE200611.002	LB188883	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP106	SE200611.006	LB188883	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP107	SE200611.007	LB188883	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP203	SE200611.018	LB188883	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP204	SE200611.019	LB188883	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP206	SE200611.021	LB188883	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP207	SE200611.023	LB188883	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP208	SE200611.026	LB188883	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP209	SE200611.027	LB188883	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP210	SE200611.029	LB188883	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP211	SE200611.030	LB188883	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP212	SE200611.031	LB188883	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP213	SE200611.032	LB188883	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RS2	SE200611.035	LB188911	02 Dec 2019	02 Dec 2019	30 Dec 2019	03 Dec 2019	30 Dec 2019	03 Dec 2019

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref
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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.

Mercury in Soil (continued)

Method: ME-(AU)-ENVJAN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP101	SE200611.001	LB188902	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP102	SE200611.002	LB188902	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP103	SE200611.003	LB188902	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP104	SE200611.004	LB188902	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP105	SE200611.005	LB188902	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP106	SE200611.006	LB188902	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP107	SE200611.007	LB188902	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP108	SE200611.008	LB188902	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP109	SE200611.009	LB188902	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP110	SE200611.010	LB188902	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP201	SE200611.011	LB188902	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP201	SE200611.012	LB188902	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP201	SE200611.013	LB188902	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP201	SE200611.014	LB188902	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP201	SE200611.015	LB188902	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP202	SE200611.016	LB188902	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP202	SE200611.017	LB188902	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP203	SE200611.018	LB188902	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP204	SE200611.019	LB188902	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP205	SE200611.020	LB188903	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP206	SE200611.021	LB188903	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP207	SE200611.023	LB188903	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP207	SE200611.024	LB188903	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP208	SE200611.026	LB188903	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP209	SE200611.027	LB188903	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP209	SE200611.028	LB188903	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP210	SE200611.029	LB188903	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP211	SE200611.030	LB188903	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP212	SE200611.031	LB188903	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
TP213	SE200611.032	LB188903	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
DDS1	SE200611.033	LB188903	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019
DDS2	SE200611.034	LB188903	02 Dec 2019	02 Dec 2019	30 Dec 2019	02 Dec 2019	30 Dec 2019	04 Dec 2019

Metals in Water (Dissolved) by ICPOES

Method: ME-(AU)-ENVJAN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RS2	SE200611.035	LB189011	02 Dec 2019	02 Dec 2019	30 May 2020	04 Dec 2019	30 May 2020	04 Dec 2019

Moisture Content

Method: ME-(AU)-ENVJAN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP101	SE200611.001	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP102	SE200611.002	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP103	SE200611.003	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP104	SE200611.004	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP105	SE200611.005	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP106	SE200611.006	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP107	SE200611.007	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP108	SE200611.008	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP109	SE200611.009	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP110	SE200611.010	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP201	SE200611.011	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP201	SE200611.012	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP201	SE200611.013	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP201	SE200611.014	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP201	SE200611.015	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP202	SE200611.016	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP202	SE200611.017	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP203	SE200611.018	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP204	SE200611.019	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP205	SE200611.020	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP206	SE200611.021	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019

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.

Moisture Content (continued)

Method: ME-(AU)-ENVJAN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP207	SE200611.023	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP207	SE200611.024	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP208	SE200611.026	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	03 Dec 2019
TP209	SE200611.027	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	04 Dec 2019
TP209	SE200611.028	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	04 Dec 2019
TP210	SE200611.029	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	04 Dec 2019
TP211	SE200611.030	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	04 Dec 2019
TP212	SE200611.031	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	04 Dec 2019
TP213	SE200611.032	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	04 Dec 2019
DDS1	SE200611.033	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	04 Dec 2019
DDS2	SE200611.034	LB188888	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	07 Dec 2019	04 Dec 2019

OC Pesticides in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP102	SE200611.002	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP105	SE200611.005	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP106	SE200611.006	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP107	SE200611.007	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP109	SE200611.009	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.011	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.013	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.015	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP202	SE200611.016	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP203	SE200611.018	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP204	SE200611.019	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP205	SE200611.020	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP206	SE200611.021	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP207	SE200611.023	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP207	SE200611.024	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP209	SE200611.027	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP209	SE200611.028	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP211	SE200611.030	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP213	SE200611.032	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS1	SE200611.033	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS2	SE200611.034	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP102	SE200611.002	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP105	SE200611.005	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP106	SE200611.006	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP107	SE200611.007	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP109	SE200611.009	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.011	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.013	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.015	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP202	SE200611.016	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP203	SE200611.018	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP204	SE200611.019	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP205	SE200611.020	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP206	SE200611.021	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP207	SE200611.023	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP207	SE200611.024	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP209	SE200611.027	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP209	SE200611.028	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP211	SE200611.030	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP213	SE200611.032	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS1	SE200611.033	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS2	SE200611.034	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019

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.

PAH (Polynuclear Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RS2	SE200611.035	LB188919	02 Dec 2019	02 Dec 2019	09 Dec 2019	03 Dec 2019	12 Jan 2020	04 Dec 2019

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP102	SE200611.002	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP105	SE200611.005	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP106	SE200611.006	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP107	SE200611.007	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP109	SE200611.009	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.011	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.013	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.015	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP202	SE200611.016	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP203	SE200611.018	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP204	SE200611.019	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP205	SE200611.020	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP206	SE200611.021	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP207	SE200611.023	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP207	SE200611.024	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP209	SE200611.027	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP209	SE200611.028	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP211	SE200611.030	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP213	SE200611.032	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS1	SE200611.033	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS2	SE200611.034	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP102	SE200611.002	LB188977	02 Dec 2019	02 Dec 2019	09 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP103	SE200611.003	LB188977	02 Dec 2019	02 Dec 2019	09 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP106	SE200611.006	LB188977	02 Dec 2019	02 Dec 2019	09 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP107	SE200611.007	LB188977	02 Dec 2019	02 Dec 2019	09 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP109	SE200611.009	LB188977	02 Dec 2019	02 Dec 2019	09 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP110	SE200611.010	LB188977	02 Dec 2019	02 Dec 2019	09 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP201	SE200611.011	LB188977	02 Dec 2019	02 Dec 2019	09 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP201	SE200611.013	LB188977	02 Dec 2019	02 Dec 2019	09 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP203	SE200611.018	LB188977	02 Dec 2019	02 Dec 2019	09 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP204	SE200611.019	LB188977	02 Dec 2019	02 Dec 2019	09 Dec 2019	03 Dec 2019	04 Dec 2019	03 Dec 2019
TP206	SE200611.021	LB189064	02 Dec 2019	02 Dec 2019	09 Dec 2019	04 Dec 2019	05 Dec 2019	04 Dec 2019
TP209	SE200611.027	LB189064	02 Dec 2019	02 Dec 2019	09 Dec 2019	04 Dec 2019	05 Dec 2019	04 Dec 2019
TP211	SE200611.030	LB189064	02 Dec 2019	02 Dec 2019	09 Dec 2019	04 Dec 2019	05 Dec 2019	04 Dec 2019
TP213	SE200611.032	LB189064	02 Dec 2019	02 Dec 2019	09 Dec 2019	04 Dec 2019	05 Dec 2019	04 Dec 2019

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP101	SE200611.001	LB188900	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP102	SE200611.002	LB188900	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP103	SE200611.003	LB188900	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP104	SE200611.004	LB188900	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP105	SE200611.005	LB188900	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP106	SE200611.006	LB188900	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP107	SE200611.007	LB188900	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP108	SE200611.008	LB188900	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP109	SE200611.009	LB188900	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP110	SE200611.010	LB188900	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP201	SE200611.011	LB188900	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP201	SE200611.012	LB188900	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP201	SE200611.013	LB188900	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP201	SE200611.014	LB188900	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP201	SE200611.015	LB188900	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019

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.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP202	SE200611.016	LB188900	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP202	SE200611.017	LB188900	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP203	SE200611.018	LB188900	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP204	SE200611.019	LB188900	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP205	SE200611.020	LB188901	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP206	SE200611.021	LB188901	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP207	SE200611.023	LB188901	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP207	SE200611.024	LB188901	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP208	SE200611.026	LB188901	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP209	SE200611.027	LB188901	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP209	SE200611.028	LB188901	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP210	SE200611.029	LB188901	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP211	SE200611.030	LB188901	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP212	SE200611.031	LB188901	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
TP213	SE200611.032	LB188901	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
DDS1	SE200611.033	LB188901	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019
DDS2	SE200611.034	LB188901	02 Dec 2019	02 Dec 2019	30 May 2020	02 Dec 2019	30 May 2020	04 Dec 2019

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN430

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP102	SE200611.002	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP105	SE200611.005	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP106	SE200611.006	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP107	SE200611.007	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP109	SE200611.009	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.011	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.013	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.015	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP202	SE200611.016	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP203	SE200611.018	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP204	SE200611.019	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP205	SE200611.020	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP206	SE200611.021	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP207	SE200611.023	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP207	SE200611.024	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP209	SE200611.027	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP209	SE200611.028	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP211	SE200611.030	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP213	SE200611.032	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS1	SE200611.033	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS2	SE200611.034	LB188886	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP102	SE200611.002	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP106	SE200611.006	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP107	SE200611.007	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP109	SE200611.009	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.011	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.013	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP202	SE200611.016	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP203	SE200611.018	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP204	SE200611.019	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP206	SE200611.021	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP207	SE200611.023	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP209	SE200611.027	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP211	SE200611.030	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP213	SE200611.032	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS1	SE200611.033	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS2	SE200611.034	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TS2	SE200611.036	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019

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.

Volatiles Petroleum Hydrocarbons in Soil

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP102	SE200611.002	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP106	SE200611.006	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP107	SE200611.007	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP109	SE200611.009	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.011	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP201	SE200611.013	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP202	SE200611.016	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP203	SE200611.018	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP204	SE200611.019	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP206	SE200611.021	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP207	SE200611.023	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP209	SE200611.027	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP211	SE200611.030	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TP213	SE200611.032	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS1	SE200611.033	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
DDS2	SE200611.034	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019
TS2	SE200611.036	LB188885	02 Dec 2019	02 Dec 2019	16 Dec 2019	02 Dec 2019	11 Jan 2020	04 Dec 2019

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	TP102	SE200611.002	%	60 - 130%	85
	TP106	SE200611.006	%	60 - 130%	87
	TP107	SE200611.007	%	60 - 130%	90
	TP109	SE200611.009	%	60 - 130%	93
	TP201	SE200611.011	%	60 - 130%	87
	TP201	SE200611.013	%	60 - 130%	80
	TP202	SE200611.016	%	60 - 130%	89
	TP203	SE200611.018	%	60 - 130%	83
	TP204	SE200611.019	%	60 - 130%	95
	TP206	SE200611.021	%	60 - 130%	85
	TP207	SE200611.023	%	60 - 130%	94
	TP209	SE200611.027	%	60 - 130%	79
	TP211	SE200611.030	%	60 - 130%	92
	TP213	SE200611.032	%	60 - 130%	82
	DDS1	SE200611.033	%	60 - 130%	77
DDS2	SE200611.034	%	60 - 130%	82	

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	TP105	SE200611.005	%	70 - 130%	89
	TP201	SE200611.015	%	70 - 130%	80
	TP205	SE200611.020	%	70 - 130%	85
	TP207	SE200611.024	%	70 - 130%	83
	TP209	SE200611.028	%	70 - 130%	85
d14-p-terphenyl (Surrogate)	TP105	SE200611.005	%	70 - 130%	82
	TP201	SE200611.015	%	70 - 130%	80
	TP205	SE200611.020	%	70 - 130%	85
	TP207	SE200611.024	%	70 - 130%	76
	TP209	SE200611.028	%	70 - 130%	80
d5-nitrobenzene (Surrogate)	TP105	SE200611.005	%	70 - 130%	66 ⊖
	TP201	SE200611.015	%	70 - 130%	85
	TP205	SE200611.020	%	70 - 130%	83
	TP207	SE200611.024	%	70 - 130%	76
	TP209	SE200611.028	%	70 - 130%	82

PAH (Polynuclear Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	RS2	SE200611.035	%	40 - 130%	42
d14-p-terphenyl (Surrogate)	RS2	SE200611.035	%	40 - 130%	72
d5-nitrobenzene (Surrogate)	RS2	SE200611.035	%	40 - 130%	40

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	TP102	SE200611.002	%	60 - 130%	85
	TP106	SE200611.006	%	60 - 130%	87
	TP107	SE200611.007	%	60 - 130%	90
	TP109	SE200611.009	%	60 - 130%	93
	TP201	SE200611.011	%	60 - 130%	87
	TP201	SE200611.013	%	60 - 130%	80
	TP202	SE200611.016	%	60 - 130%	89
	TP203	SE200611.018	%	60 - 130%	83
	TP204	SE200611.019	%	60 - 130%	95
	TP206	SE200611.021	%	60 - 130%	85
	TP207	SE200611.023	%	60 - 130%	94
	TP209	SE200611.027	%	60 - 130%	79
	TP211	SE200611.030	%	60 - 130%	92
	TP213	SE200611.032	%	60 - 130%	82
	DDS1	SE200611.033	%	60 - 130%	77
DDS2	SE200611.034	%	60 - 130%	82	

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units
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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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TP102	SE200611.002	%	60 - 130%	87
	TP106	SE200611.006	%	60 - 130%	87
	TP107	SE200611.007	%	60 - 130%	87
	TP109	SE200611.009	%	60 - 130%	84
	TP201	SE200611.011	%	60 - 130%	85
	TP201	SE200611.013	%	60 - 130%	83
	TP202	SE200611.016	%	60 - 130%	86
	TP203	SE200611.018	%	60 - 130%	88
	TP204	SE200611.019	%	60 - 130%	87
	TP206	SE200611.021	%	60 - 130%	87
	TP207	SE200611.023	%	60 - 130%	84
	TP209	SE200611.027	%	60 - 130%	87
	TP211	SE200611.030	%	60 - 130%	86
	TP213	SE200611.032	%	60 - 130%	86
	DDS1	SE200611.033	%	60 - 130%	87
	DDS2	SE200611.034	%	60 - 130%	87
TS2	SE200611.036	%	60 - 130%	88	
d4-1,2-dichloroethane (Surrogate)	TP102	SE200611.002	%	60 - 130%	84
	TP106	SE200611.006	%	60 - 130%	84
	TP107	SE200611.007	%	60 - 130%	86
	TP109	SE200611.009	%	60 - 130%	81
	TP201	SE200611.011	%	60 - 130%	82
	TP201	SE200611.013	%	60 - 130%	80
	TP202	SE200611.016	%	60 - 130%	82
	TP203	SE200611.018	%	60 - 130%	83
	TP204	SE200611.019	%	60 - 130%	84
	TP206	SE200611.021	%	60 - 130%	86
	TP207	SE200611.023	%	60 - 130%	80
	TP209	SE200611.027	%	60 - 130%	85
	TP211	SE200611.030	%	60 - 130%	84
	TP213	SE200611.032	%	60 - 130%	84
	DDS1	SE200611.033	%	60 - 130%	86
	DDS2	SE200611.034	%	60 - 130%	84
TS2	SE200611.036	%	60 - 130%	86	
d8-toluene (Surrogate)	TP102	SE200611.002	%	60 - 130%	86
	TP106	SE200611.006	%	60 - 130%	86
	TP107	SE200611.007	%	60 - 130%	87
	TP109	SE200611.009	%	60 - 130%	82
	TP201	SE200611.011	%	60 - 130%	85
	TP201	SE200611.013	%	60 - 130%	82
	TP202	SE200611.016	%	60 - 130%	84
	TP203	SE200611.018	%	60 - 130%	87
	TP204	SE200611.019	%	60 - 130%	87
	TP206	SE200611.021	%	60 - 130%	87
	TP207	SE200611.023	%	60 - 130%	84
	TP209	SE200611.027	%	60 - 130%	87
	TP211	SE200611.030	%	60 - 130%	86
	TP213	SE200611.032	%	60 - 130%	84
	DDS1	SE200611.033	%	60 - 130%	86
	DDS2	SE200611.034	%	60 - 130%	85
TS2	SE200611.036	%	60 - 130%	88	

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TP102	SE200611.002	%	60 - 130%	87
	TP106	SE200611.006	%	60 - 130%	87
	TP107	SE200611.007	%	60 - 130%	87
	TP109	SE200611.009	%	60 - 130%	84
	TP201	SE200611.011	%	60 - 130%	85
	TP201	SE200611.013	%	60 - 130%	83
	TP202	SE200611.016	%	60 - 130%	86
	TP202	SE200611.016	%	60 - 130%	86

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TP203	SE200611.018	%	60 - 130%	88
	TP204	SE200611.019	%	60 - 130%	87
	TP206	SE200611.021	%	60 - 130%	87
	TP207	SE200611.023	%	60 - 130%	84
	TP209	SE200611.027	%	60 - 130%	87
	TP211	SE200611.030	%	60 - 130%	86
	TP213	SE200611.032	%	60 - 130%	86
	DDS1	SE200611.033	%	60 - 130%	87
	DDS2	SE200611.034	%	60 - 130%	87
d4-1,2-dichloroethane (Surrogate)	TP102	SE200611.002	%	60 - 130%	84
	TP106	SE200611.006	%	60 - 130%	84
	TP107	SE200611.007	%	60 - 130%	86
	TP109	SE200611.009	%	60 - 130%	81
	TP201	SE200611.011	%	60 - 130%	82
	TP201	SE200611.013	%	60 - 130%	80
	TP202	SE200611.016	%	60 - 130%	82
	TP203	SE200611.018	%	60 - 130%	83
	TP204	SE200611.019	%	60 - 130%	84
	TP206	SE200611.021	%	60 - 130%	86
	TP207	SE200611.023	%	60 - 130%	80
	TP209	SE200611.027	%	60 - 130%	85
	TP211	SE200611.030	%	60 - 130%	84
	TP213	SE200611.032	%	60 - 130%	84
	DDS1	SE200611.033	%	60 - 130%	86
DDS2	SE200611.034	%	60 - 130%	84	
d8-toluene (Surrogate)	TP102	SE200611.002	%	60 - 130%	86
	TP106	SE200611.006	%	60 - 130%	86
	TP107	SE200611.007	%	60 - 130%	87
	TP109	SE200611.009	%	60 - 130%	82
	TP201	SE200611.011	%	60 - 130%	85
	TP201	SE200611.013	%	60 - 130%	82
	TP202	SE200611.016	%	60 - 130%	84
	TP203	SE200611.018	%	60 - 130%	87
	TP204	SE200611.019	%	60 - 130%	87
	TP206	SE200611.021	%	60 - 130%	87
	TP207	SE200611.023	%	60 - 130%	84
	TP209	SE200611.027	%	60 - 130%	87
	TP211	SE200611.030	%	60 - 130%	86
	TP213	SE200611.032	%	60 - 130%	84
	DDS1	SE200611.033	%	60 - 130%	86
DDS2	SE200611.034	%	60 - 130%	85	

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.

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Number	Parameter	Units	LOR	Result
LB188889.001	Exchangeable Sodium, Na	mg/kg	2	0
	Exchangeable Potassium, K	mg/kg	2	0
	Exchangeable Calcium, Ca	mg/kg	2	0
	Exchangeable Magnesium, Mg	mg/kg	2	0

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Number	Parameter	Units	LOR	Result
LB188911.001	Mercury	mg/L	0.0001	<0.0001

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB188902.001	Mercury	mg/kg	0.05	<0.05
LB188903.001	Mercury	mg/kg	0.05	<0.05

Metals in Water (Dissolved) by ICPOES

Method: ME-(AU)-[ENV]AN320

Sample Number	Parameter	Units	LOR	Result
LB189011.001	Arsenic, As	mg/L	0.02	<0.02
	Beryllium, Be	mg/L	0.005	<0.005
	Boron, B	mg/L	0.05	<0.05
	Cadmium, Cd	mg/L	0.001	<0.001
	Chromium, Cr	mg/L	0.005	<0.005
	Cobalt, Co	mg/L	0.01	<0.01
	Copper, Cu	mg/L	0.005	<0.005
	Lead, Pb	mg/L	0.02	<0.02
	Manganese, Mn	mg/L	0.005	<0.005
	Nickel, Ni	mg/L	0.005	<0.005
	Selenium, Se	mg/L	0.05	<0.05
	Zinc, Zn	mg/L	0.01	<0.01

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB188886.001	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
	Alpha BHC	mg/kg	0.1	<0.1
	Lindane	mg/kg	0.1	<0.1
	Heptachlor	mg/kg	0.1	<0.1
	Aldrin	mg/kg	0.1	<0.1
	Beta BHC	mg/kg	0.1	<0.1
	Delta BHC	mg/kg	0.1	<0.1
	Heptachlor epoxide	mg/kg	0.1	<0.1
	Alpha Endosulfan	mg/kg	0.2	<0.2
	Gamma Chlordane	mg/kg	0.1	<0.1
	Alpha Chlordane	mg/kg	0.1	<0.1
	p,p'-DDE	mg/kg	0.1	<0.1
	Dieldrin	mg/kg	0.05	<0.05
	Endrin	mg/kg	0.2	<0.2
	Beta Endosulfan	mg/kg	0.2	<0.2
	p,p'-DDD	mg/kg	0.1	<0.1
	p,p'-DDT	mg/kg	0.1	<0.1
	Endosulfan sulphate	mg/kg	0.1	<0.1
	Endrin Aldehyde	mg/kg	0.1	<0.1
	Methoxychlor	mg/kg	0.1	<0.1
	Endrin Ketone	mg/kg	0.1	<0.1
	Isodrin	mg/kg	0.1	<0.1
	Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR
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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.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB188886.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Phenanthrene	mg/kg	0.1	<0.1
	Anthracene	mg/kg	0.1	<0.1
	Fluoranthene	mg/kg	0.1	<0.1
	Pyrene	mg/kg	0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1	<0.1
	Chrysene	mg/kg	0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
	Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1	<0.1
	Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	-
2-fluorobiphenyl (Surrogate)		%	-	84
d14-p-terphenyl (Surrogate)		%	-	86

PAH (Polynuclear Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	
LB188919.001	Naphthalene	µg/L	0.1	<0.1	
	2-methylnaphthalene	µg/L	0.1	<0.1	
	1-methylnaphthalene	µg/L	0.1	<0.1	
	Acenaphthylene	µg/L	0.1	<0.1	
	Acenaphthene	µg/L	0.1	<0.1	
	Fluorene	µg/L	0.1	<0.1	
	Phenanthrene	µg/L	0.1	<0.1	
	Anthracene	µg/L	0.1	<0.1	
	Fluoranthene	µg/L	0.1	<0.1	
	Pyrene	µg/L	0.1	<0.1	
	Benzo(a)anthracene	µg/L	0.1	<0.1	
	Chrysene	µg/L	0.1	<0.1	
	Benzo(a)pyrene	µg/L	0.1	<0.1	
	Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1	
	Dibenzo(ah)anthracene	µg/L	0.1	<0.1	
	Benzo(ghi)perylene	µg/L	0.1	<0.1	
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	44
		2-fluorobiphenyl (Surrogate)	%	-	44
d14-p-terphenyl (Surrogate)		%	-	66	

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB188886.001	Arochlor 1016	mg/kg	0.2	<0.2
	Arochlor 1221	mg/kg	0.2	<0.2
	Arochlor 1232	mg/kg	0.2	<0.2
	Arochlor 1242	mg/kg	0.2	<0.2
	Arochlor 1248	mg/kg	0.2	<0.2
	Arochlor 1254	mg/kg	0.2	<0.2
	Arochlor 1260	mg/kg	0.2	<0.2
	Arochlor 1262	mg/kg	0.2	<0.2
	Arochlor 1268	mg/kg	0.2	<0.2
	Total PCBs (Arochlors)	mg/kg	1	<1
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	79

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB188900.001	Arsenic, As	mg/kg	1	<1
	Beryllium, Be	mg/kg	0.5	<0.5
	Cadmium, Cd	mg/kg	0.3	<0.3

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.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB188900.001	Cobalt, Co	mg/kg	0.5	<0.5
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Manganese, Mn	mg/kg	1	<1
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Selenium, Se	mg/kg	3	<3
LB188901.001	Zinc, Zn	mg/kg	2	<2
	Arsenic, As	mg/kg	1	<1
	Beryllium, Be	mg/kg	0.5	<0.5
	Cadmium, Cd	mg/kg	0.3	<0.3
	Cobalt, Co	mg/kg	0.5	<0.5
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Manganese, Mn	mg/kg	1	<1
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Selenium, Se	mg/kg	3	<3
Zinc, Zn	mg/kg	2	<2	

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB188886.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	
LB188885.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
	Polycyclic VOCs	o-xylene	mg/kg	0.1	<0.1
		Naphthalene	mg/kg	0.1	<0.1
		Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-
	d8-toluene (Surrogate)		%	-	93
	Bromofluorobenzene (Surrogate)		%	-	94
	Totals	Total BTEX	mg/kg	0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result
LB188885.001	TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

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: $MAD = 100 \times SDL / Mean + LR$

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200615.004	LB188911.008	Mercury	µg/L	0.0001	0.0344	0.0366	156	6

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200611.010	LB188902.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE200611.019	LB188902.024	Mercury	mg/kg	0.05	0.13	0.12	70	7
SE200611.031	LB188903.014	Mercury	mg/kg	0.05	0.14	0.14	66	0
SE200614.002	LB188903.022	Mercury	mg/kg	0.05	0.00978648190.0127674218		200	0

Metals in Water (Dissolved) by ICPOES

Method: ME-(AU)-[ENV]AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200611.035	LB189011.014	Arsenic, As	mg/L	0.02	<0.02	<0.02	200	0
		Beryllium, Be	mg/L	0.005	<0.005	<0.005	200	0
		Boron, B	mg/L	0.05	<0.05	<0.05	200	0
		Cadmium, Cd	mg/L	0.001	<0.001	<0.001	200	0
		Chromium, Cr	mg/L	0.005	<0.005	<0.005	200	0
		Cobalt, Co	mg/L	0.01	<0.01	<0.01	200	0
		Copper, Cu	mg/L	0.005	<0.005	<0.005	200	0
		Lead, Pb	mg/L	0.02	<0.02	<0.02	200	0
		Manganese, Mn	mg/L	0.005	<0.005	<0.005	200	0
		Nickel, Ni	mg/L	0.005	<0.005	<0.005	200	0
		Selenium, Se	mg/L	0.05	<0.05	<0.05	200	0
		Zinc, Zn	mg/L	0.01	<0.01	<0.01	200	0
		SE200689.004	LB189011.019	Arsenic, As	mg/L	0.02	<0.02	<0.02
Lead, Pb	mg/L			0.02	<0.02	<0.02	200	0
Manganese, Mn	mg/L			0.005	<0.005	<0.005	200	0

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200611.010	LB188888.011	% Moisture	%w/w	1	9.5	9.9	40	4
SE200611.020	LB188888.022	% Moisture	%w/w	1	5.6	5.0	49	12
SE200611.032	LB188888.033	% Moisture	%w/w	1	7.0	7.4	44	6
SE200611.034	LB188888.036	% Moisture	%w/w	1	8.3	8.1	42	2

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200611.018	LB188888.014	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Dieldrin	mg/kg	0.05	<0.05	<0.05	200	0
		Endrin	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

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: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil (continued)

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200611.018	LB188886.014	Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
		Mirex	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.12	30
SE200611.033	LB188886.028	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Dieldrin	mg/kg	0.05	0.19	<0.05	135	0
		Endrin	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
Mirex	mg/kg	0.1	<0.1	<0.1	200	0		
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.12	0.12	30	3	

PCBs in Soil

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200611.018	LB188886.014	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	1	
SE200611.033	LB188886.028	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	3	

pH in soil (1:5)

Method: ME-(AU)-ENVJAN101

Original	Duplicate	Parameter	Units	LOR
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Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

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: $MAD = 100 \times SDL / Mean + LR$

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

pH In soil (1:5) (continued)

Method: ME-(AU)-[ENV]AN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200430.019	LB188977.020	pH	pH Units	0.1	7.801	7.836	31	0
SE200611.019	LB188977.021	pH	pH Units	0.1	7.8	8.2	31	5
SE200611.032	LB189064.022	pH	pH Units	0.1	7.8	7.9	31	0
SE200678.003	LB189064.021	pH	pH Units	0.1	8.618	8.509	31	1

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE200611.010	LB188900.014	Arsenic, As	mg/kg	1	3	3	62	15
		Boron, B	mg/kg	5	14	11	70	30
		Beryllium, Be	mg/kg	0.5	0.7	0.7	107	0
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Cobalt, Co	mg/kg	0.5	7.2	7.9	37	9
		Chromium, Cr	mg/kg	0.5	8.8	9.5	35	7
		Copper, Cu	mg/kg	0.5	6.6	6.7	38	1
		Manganese, Mn	mg/kg	1	310	320	30	4
		Nickel, Ni	mg/kg	0.5	7.6	7.7	37	2
		Lead, Pb	mg/kg	1	9	9	41	1
		Selenium, Se	mg/kg	3	<3	<3	200	0
		Zinc, Zn	mg/kg	2	26	26	38	1
		SE200611.019	LB188900.024	Arsenic, As	mg/kg	1	4	3
Boron, B	mg/kg			5	29	26	48	10
Beryllium, Be	mg/kg			0.5	0.5	0.5	127	2
Cadmium, Cd	mg/kg			0.3	<0.3	<0.3	200	0
Cobalt, Co	mg/kg			0.5	14	14	34	1
Chromium, Cr	mg/kg			0.5	13	10	34	26
Copper, Cu	mg/kg			0.5	41	33	31	24
Manganese, Mn	mg/kg			1	480	420	30	13
Nickel, Ni	mg/kg			0.5	23	21	32	9
Lead, Pb	mg/kg			1	26	27	34	4
Selenium, Se	mg/kg			3	<3	<3	200	0
Zinc, Zn	mg/kg			2	54	61	33	13
SE200611.031	LB188901.014			Arsenic, As	mg/kg	1	4	4
		Boron, B	mg/kg	5	8	9	86	14
		Beryllium, Be	mg/kg	0.5	<0.5	<0.5	172	0
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Cobalt, Co	mg/kg	0.5	4.4	5.0	41	13
		Chromium, Cr	mg/kg	0.5	5.8	6.6	38	12
		Copper, Cu	mg/kg	0.5	14	13	34	5
		Manganese, Mn	mg/kg	1	220	260	30	13
		Nickel, Ni	mg/kg	0.5	5.3	5.8	39	8
		Lead, Pb	mg/kg	1	90	87	31	3
		Selenium, Se	mg/kg	3	<3	<3	200	0
		Zinc, Zn	mg/kg	2	93	110	32	15
		SE200614.002	LB188901.022	Arsenic, As	mg/kg	1	2.47536032113.1536094364	
Cadmium, Cd	mg/kg			0.3	0.09597925720.0562441490		200	0
Chromium, Cr	mg/kg			0.5	15.06522582820.6556637333		33	31
Copper, Cu	mg/kg			0.5	2.80952893942.1980213443		50	24
Nickel, Ni	mg/kg			0.5	0.21607895610.1141756225		200	0
Lead, Pb	mg/kg			1	11.47680762794.2353941205		38	21
Zinc, Zn	mg/kg			2	3.80298962864.4736596143		78	16

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE200611.018	LB188886.014	TRH C10-C14	mg/kg	20	<20	<20	200	0	
		TRH C15-C28	mg/kg	45	<45	<45	200	0	
		TRH C29-C36	mg/kg	45	<45	<45	200	0	
		TRH C37-C40	mg/kg	100	<100	<100	200	0	
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0	
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0	
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0	
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0	

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

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: $MAD = 100 \times SDL / Mean + LR$

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-ENVJAN403

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE200611.018	LB188886.014	TRH F Bands	TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE200611.034	LB188886.029		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

VOC's in Soil

Method: ME-(AU)-ENVJAN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE200611.021	LB188885.014	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
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.6	9.0	50	5
			d8-toluene (Surrogate)	mg/kg	-	8.7	9.1	50	5
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	9.0	50	4
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
SE200611.034	LB188885.023	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
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.4	8.9	50	5
			d8-toluene (Surrogate)	mg/kg	-	8.5	9.1	50	7
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	9.2	50	6
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-ENVJAN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE200611.021	LB188885.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.6	9.0	30	5
			d8-toluene (Surrogate)	mg/kg	-	8.7	9.1	30	5
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	9.0	30	4
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE200611.034	LB188885.023		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.4	8.9	30	5
			d8-toluene (Surrogate)	mg/kg	-	8.5	9.1	30	7
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	9.2	30	6
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	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.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188902.002	Mercury	mg/kg	0.05	0.22	0.2	70 - 130	108
LB188903.002	Mercury	mg/kg	0.05	0.23	0.2	70 - 130	115

Metals in Water (Dissolved) by ICPOES

Method: ME-(AU)-[ENV]AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB189011.002	Arsenic, As	mg/L	0.02	0.49	0.5	80 - 120	97
	Beryllium, Be	mg/L	0.005	0.49	0.5	80 - 120	98
	Boron, B	mg/L	0.05	0.46	0.5	80 - 120	92
	Cadmium, Cd	mg/L	0.001	0.46	0.5	80 - 120	93
	Chromium, Cr	mg/L	0.005	0.47	0.5	80 - 120	95
	Cobalt, Co	mg/L	0.01	0.47	0.5	80 - 120	94
	Copper, Cu	mg/L	0.005	0.48	0.5	80 - 120	97
	Lead, Pb	mg/L	0.02	0.47	0.5	80 - 120	93
	Manganese, Mn	mg/L	0.005	0.48	0.5	80 - 120	95
	Nickel, Ni	mg/L	0.005	0.46	0.5	80 - 120	93
	Selenium, Se	mg/L	0.05	0.49	0.5	80 - 120	98
	Zinc, Zn	mg/L	0.01	0.49	0.5	80 - 120	98

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188886.002	Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	85
	Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	80
	Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	80
	Dieldrin	mg/kg	0.05	0.16	0.2	60 - 140	80
	Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	80
	p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	75
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.15	40 - 130	87

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB188886.002	Naphthalene	mg/kg	0.1	4.0	4	60 - 140	101	
	Acenaphthylene	mg/kg	0.1	4.0	4	60 - 140	101	
	Acenaphthene	mg/kg	0.1	4.4	4	60 - 140	110	
	Phenanthrene	mg/kg	0.1	4.4	4	60 - 140	109	
	Anthracene	mg/kg	0.1	4.0	4	60 - 140	101	
	Fluoranthene	mg/kg	0.1	4.1	4	60 - 140	103	
	Pyrene	mg/kg	0.1	4.2	4	60 - 140	106	
	Benzo(a)pyrene	mg/kg	0.1	4.2	4	60 - 140	105	
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	80
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	78
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	76	

PAH (Polynuclear Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB188919.002	Naphthalene	µg/L	0.1	36	40	60 - 140	89	
	Acenaphthylene	µg/L	0.1	38	40	60 - 140	94	
	Acenaphthene	µg/L	0.1	39	40	60 - 140	99	
	Phenanthrene	µg/L	0.1	37	40	60 - 140	92	
	Anthracene	µg/L	0.1	37	40	60 - 140	92	
	Fluoranthene	µg/L	0.1	36	40	60 - 140	90	
	Pyrene	µg/L	0.1	38	40	60 - 140	94	
	Benzo(a)pyrene	µg/L	0.1	42	40	60 - 140	104	
	Surrogates	d5-nitrobenzene (Surrogate)	µg/L	-	0.2	0.5	40 - 130	42
		2-fluorobiphenyl (Surrogate)	µg/L	-	0.3	0.5	40 - 130	50
	d14-p-terphenyl (Surrogate)	µg/L	-	0.4	0.5	40 - 130	72	

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188886.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	108

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.

pH In soil (1:5)

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188977.003	pH	pH Units	0.1	7.4	7.415	98 - 102	100
LB189064.003	pH	pH Units	0.1	7.3	7.415	98 - 102	99

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188900.002	Arsenic, As	mg/kg	1	330	318.22	80 - 120	104
	Boron, B	mg/kg	5	42	37.13	80 - 120	113
	Beryllium, Be	mg/kg	0.5	4.1	4.17	80 - 120	99
	Cadmium, Cd	mg/kg	0.3	4.8	4.62	80 - 120	103
	Cobalt, Co	mg/kg	0.5	21	20.71	80 - 120	103
	Chromium, Cr	mg/kg	0.5	34	38.31	80 - 120	89
	Copper, Cu	mg/kg	0.5	310	290	80 - 120	108
	Manganese, Mn	mg/kg	1	700	660	80 - 120	106
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	103
	Lead, Pb	mg/kg	1	96	89.9	80 - 120	107
	Selenium, Se	mg/kg	3	81	83.3	80 - 120	97
	Zinc, Zn	mg/kg	2	280	273	80 - 120	102
LB188901.002	Arsenic, As	mg/kg	1	310	318.22	80 - 120	98
	Boron, B	mg/kg	5	30	37.13	80 - 120	81
	Beryllium, Be	mg/kg	0.5	4.2	4.17	80 - 120	100
	Cadmium, Cd	mg/kg	0.3	5.0	4.62	80 - 120	107
	Cobalt, Co	mg/kg	0.5	20	20.71	80 - 120	98
	Chromium, Cr	mg/kg	0.5	33	38.31	80 - 120	85
	Copper, Cu	mg/kg	0.5	300	290	80 - 120	102
	Manganese, Mn	mg/kg	1	670	660	80 - 120	102
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	101
	Lead, Pb	mg/kg	1	95	89.9	80 - 120	105
	Selenium, Se	mg/kg	3	79	83.3	80 - 120	95
	Zinc, Zn	mg/kg	2	260	273	80 - 120	96

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188886.002	TRH C10-C14	mg/kg	20	40	40	60 - 140	100
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	90
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	98
	TRH F Bands						
	TRH >C10-C16	mg/kg	25	40	40	60 - 140	100
	TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	83
	TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	115

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188885.002	Monocyclic						
	Benzene	mg/kg	0.1	4.4	5	60 - 140	88
	Aromatic						
	Toluene	mg/kg	0.1	4.4	5	60 - 140	87
	Ethylbenzene	mg/kg	0.1	4.4	5	60 - 140	87
	m/p-xylene	mg/kg	0.2	8.8	10	60 - 140	88
	o-xylene	mg/kg	0.1	4.4	5	60 - 140	88
	Surrogates						
d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.9	10	70 - 130	89	
d8-toluene (Surrogate)	mg/kg	-	9.0	10	70 - 130	90	
Bromofluorobenzene (Surrogate)	mg/kg	-	8.9	10	70 - 130	89	

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB188885.002	TRH C6-C10	mg/kg	25	78	92.5	60 - 140	84
	TRH C6-C9	mg/kg	20	68	80	60 - 140	86
	Surrogates						
	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.9	10	70 - 130	89
	Bromofluorobenzene (Surrogate)	mg/kg	-	8.9	10	70 - 130	89
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	52	62.5	60 - 140

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE200611.001	LB188902.004	Mercury	mg/kg	0.05	0.27	0.07	0.2	98
SE200611.020	LB188903.004	Mercury	mg/kg	0.05	0.23	<0.05	0.2	100

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE200611.002	LB188886.004	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
		Lindane	mg/kg	0.1	<0.1	<0.1	-	-
		Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	85
		Aldrin	mg/kg	0.1	0.2	<0.1	0.2	90
		Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
		Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	85
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
		Dieldrin	mg/kg	0.05	0.47	0.27	0.2	100
		Endrin	mg/kg	0.2	<0.2	<0.2	0.2	80
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	-
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDT	mg/kg	0.1	0.1	<0.1	0.2	60
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	-	-
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
		Endrin Ketone	mg/kg	0.1	<0.1	<0.1	-	-
		Isodrin	mg/kg	0.1	<0.1	<0.1	-	-
		Mirex	mg/kg	0.1	<0.1	<0.1	-	-
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.13	-	87

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE200611.002	LB188886.004	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1260	mg/kg	0.2	0.5	<0.2	0.4	120
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	-	-
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	-	-
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	-	85

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE200611.001	LB188900.004	Arsenic, As	mg/kg	1	50	3	50	94
		Boron, B	mg/kg	5	54	8	50	90
		Beryllium, Be	mg/kg	0.5	46	<0.5	50	91
		Cadmium, Cd	mg/kg	0.3	41	<0.3	50	82
		Cobalt, Co	mg/kg	0.5	53	6.3	50	94
		Chromium, Cr	mg/kg	0.5	54	8.3	50	92
		Copper, Cu	mg/kg	0.5	58	15	50	85
		Manganese, Mn	mg/kg	1	330	310	50	35 @
		Nickel, Ni	mg/kg	0.5	52	7.8	50	88
		Lead, Pb	mg/kg	1	110	48	50	124
		Selenium, Se	mg/kg	3	40	<3	50	80

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE200611.001	LB188900.004	Zinc, Zn	mg/kg	2	150	97	50	100

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE200611.002	LB188886.004	TRH C10-C14	mg/kg	20	35	<20	40	88
		TRH C15-C28	mg/kg	45	<45	<45	40	98
		TRH C29-C36	mg/kg	45	<45	<45	40	105
		TRH C37-C40	mg/kg	100	<100	<100	-	-
		TRH C10-C36 Total	mg/kg	110	<110	<110	-	-
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
		TRH F Bands						
		TRH >C10-C16	mg/kg	25	38	<25	40	95
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	38	<25	-	-
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	93
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE200611.002	LB188885.004	Monocyclic						
		Benzene	mg/kg	0.1	4.4	<0.1	5	88
		Aromatic						
		Toluene	mg/kg	0.1	4.4	<0.1	5	88
		Ethylbenzene	mg/kg	0.1	4.4	<0.1	5	89
		m/p-xylene	mg/kg	0.2	9.0	<0.2	10	90
		o-xylene	mg/kg	0.1	4.5	<0.1	5	89
		Polycyclic						
		Naphthalene	mg/kg	0.1	4.5	<0.1	-	-
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.1	8.4	10	91
		d8-toluene (Surrogate)	mg/kg	-	9.2	8.6	10	92
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.3	8.7	10	93
		Totals						
		Total Xylenes	mg/kg	0.3	13	<0.3	-	-
		Total BTEX	mg/kg	0.6	27	<0.6	-	-

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE200611.002	LB188885.004	TRH C6-C10	mg/kg	25	77	<25	92.5	83
		TRH C6-C9	mg/kg	20	68	<20	80	85
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.1	8.4	10	91
		d8-toluene (Surrogate)	mg/kg	-	9.2	8.6	10	92
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.3	8.7	-	93
		VPH F						
		Benzene (F0)	mg/kg	0.1	4.4	<0.1	-	-
		Bands						
		TRH C6-C10 minus BTEX (F1)	mg/kg	25	50	<25	62.5	81

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

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: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spike duplicates were required for this job.

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.
 - 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 At least 2 of 3 surrogates 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).
 - † Refer to Analytical Report comments for further information.

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CLIENT DETAILS

LABORATORY DETAILS

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Client	Geotechnique	Laboratory	SGS Alexandria Environmental
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Email	john.xu@geotech.com.au	Email	au.environmental.sydney@sgs.com
Project	14578/1 Penrith	SGS Reference	SE200611 R0
Order Number	(Not specified)	Date Received	02 Dec 2019
Samples	16	Date Reported	04 Dec 2019

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

No respirable fibres detected in all soil samples using trace analysis technique.

Sample 25: No trace asbestos fibres detected using trace analysis technique.

Sample 1: Approx 3 mm x 0.2mm fibre bundle found loose in sample.
 Sample 7: Asbestos found in approx 40x15x2mm cement sheet fragments.
 Sample 30: Asbestos found in approx 10x6x3mm cement sheet fragments.
 Asbestos analysed by Approved Identifiers Ravee Sivasubramaniam and Yusuf Kuthpudin .

SIGNATORIES

Akheevar BENIAMEEN
Chemist

Dong LIANG
Metals/Inorganics Team Leader

Huong CRAWFORD
Production Manager

Ly Kim HA
Organic Section Head

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

RESULTS

Fibre ID in bulk materials

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE200611.022	FCP-TP207	Other	80x60x4mm Cement Sheet Fragment	02 Dec 2019	Chrysotile Asbestos Detected	
SE200611.025	FCP-TP208	Other	25x20x4mm Cement Sheet Fragment	02 Dec 2019	No Asbestos Detected	

RESULTS

Fibre Identification in soil

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE200611.001	TP101	Other	647g Sand,Soil,Rocks	02 Dec 2019	Chrysotile Asbestos Found	<0.01
SE200611.002	TP102	Other	580g Sand,Soil,Rocks	02 Dec 2019	No Asbestos Found	<0.01
SE200611.006	TP106	Other	665g Clay,Sand,Soil, Rocks	02 Dec 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE200611.007	TP107	Other	867g Sand,Soil,Rocks	02 Dec 2019	Chrysotile Asbestos Found	>0.01
SE200611.018	TP203	Other	730g Clay,Soil,Rocks	02 Dec 2019	No Asbestos Found	<0.01
SE200611.019	TP204	Other	828g Clay,Soil,Rocks	02 Dec 2019	No Asbestos Found	<0.01
SE200611.021	TP206	Other	737g Sand,Soil,Rocks ,Cement Mixture	02 Dec 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE200611.023	TP207	Other	782g Clay,Sand,Soil, Rocks	02 Dec 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE200611.026	TP208	Other	890g Clay,Sand,Soil, Rocks	02 Dec 2019	No Asbestos Found	<0.01
SE200611.027	TP209	Other	681g Clay,Sand,Soil, Rocks	02 Dec 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE200611.029	TP210	Other	786g Clay,Sand,Soil, Rocks,Bitumen	02 Dec 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE200611.030	TP211	Other	804g Clay,Sand,Soil, Rocks	02 Dec 2019	Chrysotile & Crocidolite Asbestos Found	>0.01
SE200611.031	TP212	Other	763g Clay,Sand,Soil, Rocks	02 Dec 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE200611.032	TP213	Other	726g Clay,Sand,Soil, Rocks	02 Dec 2019	No Asbestos Found Organic Fibres Detected	<0.01

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 2/12/2019

PARAMETER	UOM	LOR	TP101	TP102	TP106	TP107	TP203
			CLAY 0.0-0.15 2/12/2019 SE200611.001	CLAY 0.0-0.15 2/12/2019 SE200611.002	CLAY 0.0-0.15 2/12/2019 SE200611.006	CLAY 0.0-0.15 2/12/2019 SE200611.007	CLAY 0.0-0.15 2/12/2019 SE200611.018
Total Sample Weight*	g	1	647	580	665	867	730
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	1.33	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	0.0009	<0.0001	<0.0001	0.0754	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	0.02	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	0.009	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	0.009	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	TP204	TP206	TP207	TP208	TP209
			CLAY 0.0-0.15 2/12/2019 SE200611.019	CLAY 0.0-0.15 2/12/2019 SE200611.021	CLAY 0.0-0.15 2/12/2019 SE200611.023	CLAY 0.0-0.15 2/12/2019 SE200611.026	CLAY 0.0-0.15 2/12/2019 SE200611.027
Total Sample Weight*	g	1	828	737	782	890	681
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	TP210	TP211	TP212	TP213
			CLAY 0.0-0.15 2/12/2019 SE200611.029	CLAY 0.0-0.15 2/12/2019 SE200611.030	CLAY 0.0-0.15 2/12/2019 SE200611.031	CLAY 0.0-0.15 2/12/2019 SE200611.032
Total Sample Weight*	g	1	786	804	763	726
ACM in >7mm Sample*	g	0.01	<0.01	0.81	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	0.02	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-

METHOD

METHODOLOGY SUMMARY

AN602	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	Fibres/material that cannot be unequivocally 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	AS4964.2004 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 limit 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	The sample can be reported "no asbestos found at the reporting limit of 0.1 g/kg" (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- <ul style="list-style-type: none"> (a) no trace asbestos fibres have been detected (i.e. no 'respirable' fibres); (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 (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.
AN605	This technique gravimetrically determines the mass of Asbestos Containing Material retained on a 7mm Sieve and assumes that 15% of this ACM is asbestos. This calculated asbestos weight is then calculated as a percentage of the total sample weight.
AN605	This technique also gravimetrically determines the mass of Fibrous Asbestos (FA) and Asbestos Fines (AF) Containing Material retained on and passing a 2mm sieve post 7mm sieving. Assumes that FA and AF are 100% asbestos containing. This calculated asbestos weight is then calculated as a percentage of the total sample weight. This does not include free fibres which are only observed by standard trace analysis as per AN 602.
AN605	Insofar as is technically feasible, this report is consistent with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009.

FOOTNOTES

Amosite	-	Brown Asbestos	NA	-	Not Analysed
Chrysotile	-	White Asbestos	LNR	-	Listed, Not Required
Crocidolite	-	Blue Asbestos	*	-	NATA accreditation does not cover the performance of this service .
Amphiboles	-	Amosite and/or Crocidolite	**	-	Indicative data, theoretical holding time exceeded.

(In reference to soil samples only) This report does not comply with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment and Remediation and Management of Asbestos Contaminated sites in Western Australia - May 2009.

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.

Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy, including dispersion staining.

Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

Even after disintegration it can be very difficult, or impossible, to detect the presence of asbestos in some asbestos-containing bulk materials using polarised light microscopy. This is due to the low grade or small length or diameter of asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials.

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/pv.sqsvr/en-gb/environment.

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E-MAILED
2/12/19 10:12:58

GEOTECHNIQUE PTY LTD

1 LEMMO PLACE PENRITH NSW 2750

Tel: (02) 4722 2700

SR 200611

CHAIN OF CUSTODY

Results Required By: 24 hrs

Date: Tuesday, 3 December 2019

Except pH Results Required By -

Date:

Your Reference No.:

TO: SGS UNIT 16, 33 MADDOX STREET ALEXANDRIA NSW 2015		Tel: 02 8594 0400		Sampled By: JH		Ref No: 14578/1		Location: Penrith		Project Manager: JOHN XU															
Location	Depth (m)	Date	Soil	Water	Material	Metals As Cd Cr Cu Pb Hg Ni Zn	pH	CEC	CL8 TRH BTEX PAH	CL10 Metals* TRH BTEX PAH	CL16 Metals* TRH BTEX PAH OC PCB	Be B Co Mn Se	Mn	Asbestos 0.001% ww	Asbestos	BTEX	TRH & BTEX	PAH	OCP & PCB	Phenol	Cyanide	VOC	OCP OPP & PCB		
TP101	0.0-0.15	29/11/19	GP		Clay	✓						✓													
TP101	0.55-0.65	29/11/19	G		Clay																				
TP102	0.0-0.15	29/11/19	GP		Clay		✓					✓													
TP102	0.55-0.65	29/11/19	G		Clay																				
TP103	0.05-0.15	29/11/19	GP		Sand	✓						✓													
TP103	0.2-0.3	29/11/19	G		Clay																				
TP104	0.05-0.2	29/11/19	GP		Sand	✓						✓													
TP104	0.25-0.35	29/11/19	G		Clay																				
TP105	0.0-0.15	29/11/19	GP		Clay	✓						✓													
TP105	0.55-0.65	29/11/19	G		Clay																				
TP106	0.0-0.15	29/11/19	GP		Clay		✓					✓													
TP106	0.55-0.65	29/11/19	G		Clay																				
TP107	0.0-0.15	29/11/19	GP		Clay		✓					✓													
TP107	0.55-0.65	29/11/19	G		Clay																				
TP108	0.05-0.2	29/11/19	GP		Sand	✓						✓													
TP108	0.25-0.35	29/11/19	G		Clay																				

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GEOTECHNIQUE PTY LTD

1 LEMKO PLACE PENRITH NSW 2750

Tel: (02) 4722 2700

CHAIN OF CUSTODY

Results Required By: 24 hrs

Date: Tuesday, 3 December 2019

Except pH Results Required By -

Your Reference No.:

Date:

TO: SGS UNIT 16, 33 MADDOX STREET ALEXANDRIA NSW 2015		Tel: 02 8594 0400		Sampled By: JH		Ref No: 14578/1		Location: Penrith		Project Manager: JOHN XU															
Location	Depth (m)	Date	Soil	Water	Material	Metals As Cd Cr Cu Pb Hg Ni Zn	pH	CEC	CL8 TRH BTEX PAH	CL10 Metals* TRH BTEX PAH	CL16 Metals* TRH BTEX PAH OC PCB	Be B Co Mn Se	Mn	Asbestos 0.001% w/w	Asbestos	BTEX	TRH & BTEX	PAH	OCP & PCB	Phenol	Cyanide	VOC	OCP & PCB		
9	TP109	0.1-0.25	29/1/19	GP	Sand		✓	✓			✓	✓													
	TP109	0.35-0.45	29/1/19	G	Clay																				
10	TP110	0.1-0.25	29/1/19	GP	Clay		✓	✓			✓	✓													
11	TP201	0.0-0.15	29/1/19	GP	Clay		✓	✓			✓	✓													
12	TP201	0.5-0.8	29/1/19	GP	Clay		✓	✓			✓	✓													
12	TP201	0.5-0.8	29/1/19	GP	Clay		✓	✓			✓	✓													
13	TP201	1.0-1.3	29/1/19	GP	Clay		✓	✓			✓	✓													
14	TP201	1.5-1.8	29/1/19	GP	Clay		✓	✓			✓	✓													
15	TP201	2.0-2.2	29/1/19	GP	Clay		✓	✓			✓	✓													
16	TP202	0.0-0.15	29/1/19	GP	Clay						✓	✓													
17	TP202	0.5-0.8	29/1/19	GP	Clay						✓	✓													
17	TP202	1.05-1.15	29/1/19	GP	Clay						✓	✓													
18	TP203	0.0-0.15	29/1/19	GP	Clay		✓	✓			✓	✓													
18	TP203	0.45-0.55	29/1/19	G	Clay						✓	✓													
19	TP204	0.0-0.15	29/1/19	GP	Clay		✓	✓			✓	✓													
19	TP204	0.45-0.55	29/1/19	G	Clay						✓	✓													
20	TP205	0.0-0.15	29/1/19	GP	Clay		✓	✓			✓	✓													



1 LEMKO PLACE PENRITH NSW 2750

Tel: (02) 4722 2700

CHAIN OF CUSTODY

Results Required By: 24 hrs

Date: Tuesday, 3 December 2019

Except pH Results Required By -

Your Reference No.:

Date:

TO: SGS UNIT 16, 33 MADDOX STREET ALEXANDRIA, NSW 2015		Tel: 02 8594 0400		Sampled By: JH		Ref No.: 14578/1		Location: Penrith		Project Manager: JOHN XU													
Location	Depth (m)	Date	Soil	Water	Material	Metals: As, Cd, Cr, Cu, Pb, Hg, Ni, Zn	pH	CEC	GL8 TRH, BTEX, PAH	CL10 Metals, TRH, BTEX, PAH	CL16 Metals, TRH, BTEX, PAH, OC, PCBs	Be, B, Co, Mn, Ni, Se	Asbestos 0.001% w/w	Asbestos	BTEX	TRH & BTEX	PAH	OCF & PCB	Phenol	Cyanide	VOC	OCF, OPP & PCB	
20	TP205	0.55-0.65	29/11/19	G	Clay																		
21	TP206	0.0-0.15	29/11/19	GP	Clay		✓	✓															
	TP206	0.55-0.65	29/11/19	G	Clay																		
22	FCP-TP207	0.0-0.15	29/11/19	P	FCP																		
23	TP207	0.0-0.15	29/11/19	GP	Clay																		
24	TP207	0.5-0.7	29/11/19	GP	Clay		✓																
	TP207	0.75-0.65	29/11/19	G	Clay																		
25	FCP-TP208	0.0-0.15	29/11/19	P	FCP																		
26	TP208	0.0-0.15	29/11/19	GP	Clay		✓																
	TP208	0.55-0.65	29/11/19	G	Clay																		
27	TP209	0.0-0.15	29/11/19	GP	Clay		✓	✓															
28	TP209	0.5-0.7	29/11/19	GP	Clay		✓																
	TP209	0.75-0.85	29/11/19	G	Clay																		
29	TP210	0.0-0.15	29/11/19	GP	Clay		✓																
	TP210	0.25-0.35	29/11/19	G	Clay																		
30	TP211	0.0-0.15	29/11/19	GP	Clay		✓	✓															

GEOTECHNIQUE PTY LTD

1 LEMKO PLACE PENRITH NSW 2750 Tel: (02) 4722 2700

CHAIN OF CUSTODY

Results Required By: 24 hrs
Except pH Results Required By:

Your Reference No.:

Date: Tuesday, 3 December 2019
Date:

TO: SGS UNIT 16, 33 MADDOX STREET ALEXANDRIA NSW 2015		Tel: 02 8594 0400		Sampled By: JH		Ref No: 145784		Location: Penrith		Project Manager: JOHN XU															
Location	Depth (m)	Date	Soil	Water	Material	Metals As Cd Cr Cu Pb Hg Ni Zn	pH	GEC	Cl. 8 TRH BTEX PAH	Cl. 10 Metals* TRH BTEX PAH	Cl. 16 Metals* TRH BTEX PAH OC PCB	Ba B Co Mn Se	Mn	Asbestos 0.001% w/w	Asbestos	BTEX	TRH & BTEX	PAH	OCP & PCB	Phenol	Cyanide	VOC	OCP & PCB		
TP211	0.35-0.45	29/11/19	G		Clay																				
TP212	0.0-0.15	29/11/19	GP		Clay																				
TP212	0.55-0.65	29/11/19	G		Clay																				
TP213	0.0-0.15	29/11/19	GP		Clay																				
TP213	0.55-0.65	29/11/19	G		Clay																				
DDS1		29/11/19	G		Clay																				
DDS2		29/11/19	G		Clay																				
RS2		29/11/19		WGM/Al																					
TS2		29/11/19																							
Name		Relinquished by:		Signature		Date		Name		Signature		Date		Received by:		Signature		Date							
JOHN XU		JX		02/12/19		SUBA		[Signature]		02/12/19 @ 11.20		[Signature]													
W3: Water sample (glass bottle)		G		Soil sample (glass jar)		FCP		Fiber Content Piece (plastic bag)		* As, Cd, Cr, Cu, Pb, Hg, Ni & Zn (6 metals)															
W4: Water sample (plastic bottle)		P		Soil sample (plastic bag)		Test required																			



SAMPLE RECEIPT ADVICE

SE200611

CLIENT DETAILS

Contact John Xu
Client Geotechnique
Address P.O. Box 880
NSW 2751

Telephone 02 4722 2700
Facsimile 02 4722 6161
Email john.xu@geotech.com.au

Project **14578/1 Penrith**
Order Number (Not specified)
Samples 36

LABORATORY DETAILS

Manager Huong Crawford
Laboratory SGS Alexandria Environmental
Address Unit 16, 33 Maddox St
Alexandria NSW 2015

Telephone +61 2 8594 0400
Facsimile +61 2 8594 0499
Email au.environmental.sydney@sgs.com

Samples Received Mon 2/12/2019
Report Due Wed 4/12/2019
SGS Reference **SE200611**

SUBMISSION DETAILS

This is to confirm that 36 samples were received on Monday 2/12/2019. Results are expected to be ready by COB Wednesday 4/12/2019. Please quote SGS reference SE200611 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	28 Clay, 5 Sand, 1 Water, 2
Date documentation received	02/12/2019@12:58pm	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	4.3°C	Sufficient sample for analysis	Yes
Turnaround time requested	Two Days		

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

21 soil samples have been placed on hold as no tests have been assigned for them by the client. These samples will not be processed.

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/en/Terms-and-Conditions.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

CLIENT DETAILS

Client **Geotechnique**

Project **14578/1 Penrith**

SUMMARY OF ANALYSIS

No.	Sample ID	Exchangeable Cations and Cation Exchange Capacity	OC Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	pH in soil (1:5)	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
002	TP102 0.0-0.15	13	28	-	11	1	10	11	7
003	TP103 0.0-0.15	13	-	-	-	1	-	-	-
005	TP105 0.0-0.15	-	-	26	-	-	-	-	-
006	TP106 0.0-0.15	13	28	-	11	1	10	11	7
007	TP107 0.0-0.15	13	28	-	11	1	10	11	7
009	TP109 0.1-0.25	13	28	-	11	1	10	11	7
010	TP110 0.1-0.25	13	-	-	-	1	-	-	-
011	TP201 0.0-0.15	13	28	-	11	1	10	11	7
013	TP201 1.0-1.3	13	28	-	11	1	10	11	7
015	TP201 2.0-2.2	-	-	26	-	-	-	-	-
016	TP202 0.0-0.15	-	28	-	11	-	10	11	7
018	TP203 0.0-0.15	13	28	-	11	1	10	11	7
019	TP204 0.0-0.15	13	28	-	11	1	10	11	7
020	TP205 0.0-0.15	-	-	26	-	-	-	-	-
021	TP206 0.0-0.15	13	28	-	11	1	10	11	7
023	TP207 0.0-0.15	-	28	-	11	-	10	11	7
024	TP207 0.5-0.7	-	-	26	-	-	-	-	-

CONTINUED OVERLEAF

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.

CLIENT DETAILS

Client **Geotechnique**

Project **14578/1 Penrith**

SUMMARY OF ANALYSIS

No.	Sample ID	Exchangeable Cations and Cation Exchange Capacity	OC Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	pH in soil (1:5)	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
027	TP209 0.0-0.15	13	28	-	11	1	10	11	7
028	TP209 0.5-0.7	-	-	26	-	-	-	-	-
030	TP211 0.0-0.15	13	28	-	11	1	10	11	7
032	TP213 0.0-0.15	13	28	-	11	1	10	11	7
033	DDS1	-	28	-	11	-	10	11	7
034	DDS2	-	28	-	11	-	10	11	7
036	TS2	-	-	-	-	-	-	11	-

CONTINUED OVERLEAF

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CLIENT DETAILS

Client **Geotechnique**

Project **14578/1 Penrith**

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre ID in bulk materials	Fibre Identification in soil	Gravimetric Determination of Asbestos in Soil	Mercury in Soil	Moisture Content	Total Recoverable Elements in Soil/Waste
001	TP101 0.0-0.15	-	2	9	1	1	12
002	TP102 0.0-0.15	-	2	9	1	1	12
003	TP103 0.0-0.15	-	-	-	1	1	12
004	TP104 0.05-0.2	-	-	-	1	1	12
005	TP105 0.0-0.15	-	-	-	1	1	12
006	TP106 0.0-0.15	-	2	9	1	1	12
007	TP107 0.0-0.15	-	2	9	1	1	12
008	TP108 0.05-0.2	-	-	-	1	1	12
009	TP109 0.1-0.25	-	-	-	1	1	12
010	TP110 0.1-0.25	-	-	-	1	1	12
011	TP201 0.0-0.15	-	-	-	1	1	12
012	TP201 0.5-0.8	-	-	-	1	1	12
013	TP201 1.0-1.3	-	-	-	1	1	12
014	TP201 1.5-1.8	-	-	-	1	1	12
015	TP201 2.0-2.2	-	-	-	1	1	12
016	TP202 0.0-0.15	-	-	-	1	1	12
017	TP202 0.5-0.8	-	-	-	1	1	12
018	TP203 0.0-0.15	-	2	9	1	1	12
019	TP204 0.0-0.15	-	2	9	1	1	12
020	TP205 0.0-0.15	-	-	-	1	1	12
021	TP206 0.0-0.15	-	2	9	1	1	12
022	FCP-TP207 0.0-0.15	1	-	-	-	-	-
023	TP207 0.0-0.15	-	2	9	1	1	12
024	TP207 0.5-0.7	-	-	-	1	1	12

CONTINUED OVERLEAF

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CLIENT DETAILS

Client **Geotechnique**

Project **14578/1 Penrith**

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre ID in bulk materials	Fibre Identification in soil	Gravimetric Determination of Asbestos in Soil	Mercury in Soil	Moisture Content	Total Recoverable Elements in Soil/Waste
025	FCP-TP208 0.0-0.15	1	-	-	-	-	-
026	TP208 0.0-0.15	-	2	9	1	1	12
027	TP209 0.0-0.15	-	2	9	1	1	12
028	TP209 0.5-0.7	-	-	-	1	1	12
029	TP210 0.0-0.15	-	2	9	1	1	12
030	TP211 0.0-0.15	-	2	9	1	1	12
031	TP212 0.0-0.15	-	2	9	1	1	12
032	TP213 0.0-0.15	-	2	9	1	1	12
033	DDS1	-	-	-	1	1	12
034	DDS2	-	-	-	1	1	12

CONTINUED OVERLEAF

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.



SAMPLE RECEIPT ADVICE

SE200611

CLIENT DETAILS

Client **Geotechnique**

Project **14578/1 Penrith**

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water	Metals in Water (Dissolved) by ICPOES	PAH (Polynuclear Aromatic Hydrocarbons) in Water
035	RS2	1	12	22

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.



Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 231983

Client Details

Client	Geotechnique Pty Ltd
Attention	John Xu
Address	PO Box 880, Penrith, NSW, 2751

Sample Details

Your Reference	<u>14578/1, Penrith</u>
Number of Samples	3 Soil
Date samples received	29/11/2019
Date completed instructions received	29/11/2019

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	03/12/2019
Date of Issue	03/12/2019
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By

Diego Bigolin, Team Leader, Inorganics
Jaimie Loa-Kum-Cheung, Metals Supervisor
Josh Williams, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

Envirolab Reference: 231983
Revision No: R00



vTRH(C6-C10)/BTEXN in Soil		
Our Reference		231983-2
Your Reference	UNITS	DSS4
Date Sampled		29/11/2019
Type of sample		Soil
Date extracted	-	02/12/2019
Date analysed	-	03/12/2019
TRH C ₆ - C ₉	mg/kg	<25
TRH C ₆ - C ₁₀	mg/kg	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Total +ve Xylenes	mg/kg	<3
Surrogate aaa-Trifluorotoluene	%	75

svTRH (C10-C40) in Soil		
Our Reference		231983-2
Your Reference	UNITS	DSS4
Date Sampled		29/11/2019
Type of sample		Soil
Date extracted	-	02/12/2019
Date analysed	-	02/12/2019
TRH C ₁₀ - C ₁₄	mg/kg	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100
TRH >C ₁₀ -C ₁₆	mg/kg	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100
Total +ve TRH (>C10-C40)	mg/kg	<50
Surrogate o-Terphenyl	%	83

PAHs in Soil		
Our Reference		231983-2
Your Reference	UNITS	DSS4
Date Sampled		29/11/2019
Type of sample		Soil
Date extracted	-	02/12/2019
Date analysed	-	03/12/2019
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	0.2
Pyrene	mg/kg	0.2
Benzo(a)anthracene	mg/kg	0.1
Chrysene	mg/kg	0.1
Benzo(b,j+k)fluoranthene	mg/kg	0.3
Benzo(a)pyrene	mg/kg	0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	0.1
Total +ve PAH's	mg/kg	1.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	95

Organochlorine Pesticides in soil		
Our Reference		231983-2
Your Reference	UNITS	DSS4
Date Sampled		29/11/2019
Type of sample		Soil
Date extracted	-	02/12/2019
Date analysed	-	03/12/2019
alpha-BHC	mg/kg	<0.1
HCB	mg/kg	<0.1
beta-BHC	mg/kg	<0.1
gamma-BHC	mg/kg	<0.1
Heptachlor	mg/kg	<0.1
delta-BHC	mg/kg	<0.1
Aldrin	mg/kg	<0.1
Heptachlor Epoxide	mg/kg	<0.1
gamma-Chlordane	mg/kg	<0.1
alpha-chlordane	mg/kg	<0.1
Endosulfan I	mg/kg	<0.1
pp-DDE	mg/kg	<0.1
Dieldrin	mg/kg	<0.1
Endrin	mg/kg	<0.1
Endosulfan II	mg/kg	<0.1
pp-DDD	mg/kg	<0.1
Endrin Aldehyde	mg/kg	<0.1
pp-DDT	mg/kg	<0.1
Endosulfan Sulphate	mg/kg	<0.1
Methoxychlor	mg/kg	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1
Surrogate TCMX	%	98

PCBs in Soil		
Our Reference		231983-2
Your Reference	UNITS	DSS4
Date Sampled		29/11/2019
Type of sample		Soil
Date extracted	-	02/12/2019
Date analysed	-	03/12/2019
Aroclor 1016	mg/kg	<0.1
Aroclor 1221	mg/kg	<0.1
Aroclor 1232	mg/kg	<0.1
Aroclor 1242	mg/kg	<0.1
Aroclor 1248	mg/kg	<0.1
Aroclor 1254	mg/kg	<0.1
Aroclor 1260	mg/kg	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1
Surrogate TCMX	%	98

Acid Extractable metals in soil			
Our Reference		231983-1	231983-2
Your Reference	UNITS	DSS3	DSS4
Date Sampled		29/11/2019	29/11/2019
Type of sample		Soil	Soil
Date prepared	-	02/12/2019	02/12/2019
Date analysed	-	03/12/2019	03/12/2019
Arsenic	mg/kg	5	4
Beryllium	mg/kg	<1	<1
Boron	mg/kg	<3	<3
Cadmium	mg/kg	<0.4	<0.4
Cobalt	mg/kg	7	6
Chromium	mg/kg	11	11
Copper	mg/kg	19	15
Lead	mg/kg	30	42
Mercury	mg/kg	<0.1	<0.1
Manganese	mg/kg	340	300
Nickel	mg/kg	10	8
Selenium	mg/kg	<2	<2
Zinc	mg/kg	60	75

Moisture			
Our Reference		231983-1	231983-2
Your Reference	UNITS	DSS3	DSS4
Date Sampled		29/11/2019	29/11/2019
Type of sample		Soil	Soil
Date prepared	-	02/12/2019	02/12/2019
Date analysed	-	03/12/2019	03/12/2019
Moisture	%	5.5	4.2

Coal Tar		
Our Reference		231983-3
Your Reference	UNITS	TP307
Date Sampled		29/11/2019
Type of sample		Soil
Date prepared	-	02/12/2019
Date analysed	-	02/12/2019
Presence of Coal Tar*	-	Absent

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-012/017	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS.
Org-012/017	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-MS and/or GC-MS/MS. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.

Method ID	Methodology Summary
Org-012/017	<p>Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.</p> <p>For soil results:-</p> <ol style="list-style-type: none"> 1. 'EQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. <p>Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.</p>
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-016	<p>Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.</p> <p>Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.</p>
RTA T542	Determination of Phenol in core samples as per RTA test method T542. This procedure gives an indication of whether a sample of asphalt has been made with coal tar. The coal tar method gives an approximate result with a high degree of uncertainty.

Client Reference: 14578/1, Penrith

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil				Duplicate			Spike Recovery %			
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	[NT]
Date extracted	-			02/12/2019	2	02/12/2019	02/12/2019		02/12/2019	[NT]
Date analysed	-			03/12/2019	2	03/12/2019	03/12/2019		03/12/2019	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-016	<25	2	<25	<25	0	98	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-016	<25	2	<25	<25	0	98	[NT]
Benzene	mg/kg	0.2	Org-016	<0.2	2	<0.2	<0.2	0	102	[NT]
Toluene	mg/kg	0.5	Org-016	<0.5	2	<0.5	<0.5	0	100	[NT]
Ethylbenzene	mg/kg	1	Org-016	<1	2	<1	<1	0	93	[NT]
m+p-xylene	mg/kg	2	Org-016	<2	2	<2	<2	0	98	[NT]
o-Xylene	mg/kg	1	Org-016	<1	2	<1	<1	0	94	[NT]
naphthalene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	103	2	75	92	20	100	[NT]

Client Reference: 14578/1, Penrith

QUALITY CONTROL: svTRH (C10-C40) in Soil				Duplicate			Spike Recovery %			
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	[NT]
Date extracted	-			02/12/2019	2	02/12/2019	02/12/2019		02/12/2019	[NT]
Date analysed	-			02/12/2019	2	02/12/2019	02/12/2019		02/12/2019	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	2	<50	<50	0	129	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	2	<100	<100	0	116	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-003	<100	2	<100	<100	0	108	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	2	<50	<50	0	129	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	2	<100	<100	0	116	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	2	<100	<100	0	108	[NT]
Surrogate o-Terphenyl	%		Org-003	86	2	83	87	5	109	[NT]

Client Reference: 14578/1, Penrith

QUALITY CONTROL: PAHs in Soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	[NT]
Date extracted	-			02/12/2019	2	02/12/2019	02/12/2019		02/12/2019	[NT]
Date analysed	-			03/12/2019	2	03/12/2019	03/12/2019		03/12/2019	[NT]
Naphthalene	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	106	[NT]
Acenaphthylene	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	106	[NT]
Phenanthrene	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	112	[NT]
Anthracene	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012/017	<0.1	2	0.2	0.2	0	106	[NT]
Pyrene	mg/kg	0.1	Org-012/017	<0.1	2	0.2	0.2	0	106	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012/017	<0.1	2	0.1	0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012/017	<0.1	2	0.1	0.1	0	116	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012/017	<0.2	2	0.3	0.3	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012/017	<0.05	2	0.1	0.2	67	112	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012/017	<0.1	2	0.1	0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012/017	98	2	95	97	2	93	[NT]

Client Reference: 14578/1, Penrith

QUALITY CONTROL: Organochlorine Pesticides in soil				Duplicate			Spike Recovery %			
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	[NT]
Date extracted	-			02/12/2019	2	02/12/2019	02/12/2019		02/12/2019	[NT]
Date analysed	-			03/12/2019	2	03/12/2019	03/12/2019		03/12/2019	[NT]
alpha-BHC	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	110	[NT]
HCB	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	104	[NT]
gamma-BHC	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	106	[NT]
delta-BHC	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	114	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	112	[NT]
gamma-Chlordane	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	112	[NT]
Dieldrin	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	120	[NT]
Endrin	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	106	[NT]
Endosulfan II	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	106	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	100	[NT]
Methoxychlor	mg/kg	0.1	Org-012/017	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-012/017	103	2	98	100	2	97	[NT]

Client Reference: 14578/1, Penrith

QUALITY CONTROL: PCBs in Soil				Duplicate			Spike Recovery %			
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	[NT]
Date extracted	-			02/12/2019	2	02/12/2019	02/12/2019		02/12/2019	[NT]
Date analysed	-			03/12/2019	2	03/12/2019	03/12/2019		03/12/2019	[NT]
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	2	<0.1	<0.1	0	80	[NT]
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-006	103	2	98	100	2	97	[NT]

Client Reference: 14578/1, Penrith

QUALITY CONTROL: Acid Extractable metals in soil				Duplicate			Spike Recovery %			
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	[NT]
Date prepared	-			02/12/2019	2	02/12/2019	02/12/2019		02/12/2019	[NT]
Date analysed	-			03/12/2019	2	03/12/2019	03/12/2019		03/12/2019	[NT]
Arsenic	mg/kg	4	Metals-020	<4	2	4	5	22	109	[NT]
Beryllium	mg/kg	1	Metals-020	<1	2	<1	<1	0	104	[NT]
Boron	mg/kg	3	Metals-020	<3	2	<3	<3	0	93	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	2	<0.4	<0.4	0	103	[NT]
Cobalt	mg/kg	1	Metals-020	<1	2	6	6	0	102	[NT]
Chromium	mg/kg	1	Metals-020	<1	2	11	12	9	111	[NT]
Copper	mg/kg	1	Metals-020	<1	2	15	15	0	106	[NT]
Lead	mg/kg	1	Metals-020	<1	2	42	42	0	114	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	2	<0.1	<0.1	0	95	[NT]
Manganese	mg/kg	1	Metals-020	<1	2	300	330	10	102	[NT]
Nickel	mg/kg	1	Metals-020	<1	2	8	10	22	105	[NT]
Selenium	mg/kg	2	Metals-020	<2	2	<2	<2	0	99	[NT]
Zinc	mg/kg	1	Metals-020	<1	2	75	82	9	113	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.



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SAMPLE RECEIPT ADVICE

Client Details

Client	Geotechnique Pty Ltd
Attention	John Xu

Sample Login Details

Your reference	14578/1, Penrith
Envirolab Reference	231983
Date Sample Received	29/11/2019
Date Instructions Received	29/11/2019
Date Results Expected to be Reported	03/12/2019

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	3 Soil
Turnaround Time Requested	2 days
Temperature on Receipt (°C)	17.8
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	Phone: 02 9910 6200
Fax: 02 9910 6201	Fax: 02 9910 6201
Email: ahie@envirolab.com.au	Email: jhurst@envirolab.com.au

Analysis Underway, details on the following page:



Sample ID	VTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	PCBs in Soil	Acid Extractable metals in soil	Coal Tar
DSS3						✓	
DSS4	✓	✓	✓	✓	✓	✓	
TP307							✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.

TAT for Micro is dependent on incubation. This varies from 3 to 6 days.



CERTIFICATE OF ANALYSIS 232055

Client Details

Client	Geotechnique Pty Ltd
Attention	John Xu
Address	PO Box 880, Penrith, NSW, 2751

Sample Details

Your Reference	<u>14578/1, Penrith</u>
Number of Samples	10 Soil
Date samples received	02/12/2019
Date completed instructions received	02/12/2019

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	03/12/2019
Date of Issue	03/12/2019

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Results Approved By

Diego Bigolin, Team Leader, Inorganics
Fiona Tan, LC Supervisor
Jaimie Loa-Kum-Cheung, Metals Supervisor
Josh Williams, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil			
Our Reference		232055-6	232055-7
Your Reference	UNITS	DSS1	DSS2
Depth		-	-
Date Sampled		29/11/2019	29/11/2019
Type of sample		Soil	Soil
Date extracted	-	02/12/2019	02/12/2019
Date analysed	-	03/12/2019	03/12/2019
TRH C ₆ - C ₉	mg/kg	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25
Benzene	mg/kg	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1
m+p-xylene	mg/kg	<2	<2
o-Xylene	mg/kg	<1	<1
naphthalene	mg/kg	<1	<1
Total +ve Xylenes	mg/kg	<3	<3
Surrogate aaa-Trifluorotoluene	%	109	80

svTRH (C10-C40) in Soil			
Our Reference		232055-6	232055-7
Your Reference	UNITS	DSS1	DSS2
Depth		-	-
Date Sampled		29/11/2019	29/11/2019
Type of sample		Soil	Soil
Date extracted	-	02/12/2019	02/12/2019
Date analysed	-	02/12/2019	02/12/2019
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50
Surrogate o-Terphenyl	%	74	77

PAHs in Soil			
Our Reference		232055-6	232055-7
Your Reference	UNITS	DSS1	DSS2
Depth		-	-
Date Sampled		29/11/2019	29/11/2019
Type of sample		Soil	Soil
Date extracted	-	02/12/2019	02/12/2019
Date analysed	-	03/12/2019	03/12/2019
Naphthalene	mg/kg	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	0.2
Pyrene	mg/kg	<0.1	0.2
Benzo(a)anthracene	mg/kg	<0.1	0.1
Chrysene	mg/kg	<0.1	0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	0.2
Benzo(a)pyrene	mg/kg	<0.05	0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	0.1
Total +ve PAH's	mg/kg	<0.05	1.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	90	100

Organochlorine Pesticides in soil			
Our Reference		232055-6	232055-7
Your Reference	UNITS	DSS1	DSS2
Depth		-	-
Date Sampled		29/11/2019	29/11/2019
Type of sample		Soil	Soil
Date extracted	-	02/12/2019	02/12/2019
Date analysed	-	03/12/2019	03/12/2019
alpha-BHC	mg/kg	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1
Surrogate TCMX	%	92	101

PCBs in Soil			
Our Reference		232055-6	232055-7
Your Reference	UNITS	DSS1	DSS2
Depth		-	-
Date Sampled		29/11/2019	29/11/2019
Type of sample		Soil	Soil
Date extracted	-	02/12/2019	02/12/2019
Date analysed	-	03/12/2019	03/12/2019
Aroclor 1016	mg/kg	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1
Surrogate TCMX	%	92	101

Acid Extractable metals in soil			
Our Reference		232055-6	232055-7
Your Reference	UNITS	DSS1	DSS2
Depth		-	-
Date Sampled		29/11/2019	29/11/2019
Type of sample		Soil	Soil
Date prepared	-	02/12/2019	02/12/2019
Date analysed	-	03/12/2019	03/12/2019
Arsenic	mg/kg	5	<4
Beryllium	mg/kg	<1	<1
Boron	mg/kg	<3	<3
Cadmium	mg/kg	<0.4	<0.4
Cobalt	mg/kg	8	4
Chromium	mg/kg	14	11
Copper	mg/kg	19	25
Lead	mg/kg	160	23
Mercury	mg/kg	0.1	<0.1
Manganese	mg/kg	450	200
Nickel	mg/kg	10	8
Selenium	mg/kg	<2	<2
Zinc	mg/kg	140	54

Client Reference: 14578/1, Penrith

Moisture						
Our Reference		232055-3	232055-4	232055-5	232055-6	232055-7
Your Reference	UNITS	TP208	TP210	TP213	DSS1	DSS2
Depth		0.0-0.15	0.0-0.15	0.0-0.15	-	-
Date Sampled		29/11/2019	29/11/2019	29/11/2019	29/11/2019	29/11/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	02/12/2019	02/12/2019	02/12/2019	02/12/2019	02/12/2019
Date analysed	-	03/12/2019	03/12/2019	03/12/2019	03/12/2019	03/12/2019
Moisture	%	4.7	7.0	7.6	14	6.0

Moisture				
Our Reference		232055-8	232055-9	232055-10
Your Reference	UNITS	DSS5	TB1	FB1
Depth		-	-	-
Date Sampled		29/11/2019	29/11/2019	29/11/2019
Type of sample		Soil	Soil	Soil
Date prepared	-	02/12/2019	02/12/2019	02/12/2019
Date analysed	-	03/12/2019	03/12/2019	03/12/2019
Moisture	%	7.6	3.8	11

Coal Tar			
Our Reference		232055-1	232055-2
Your Reference	UNITS	TP103	TP108
Depth		-	-
Date Sampled		29/11/2019	29/11/2019
Type of sample		Soil	Soil
Date prepared	-	03/12/2019	03/12/2019
Date analysed	-	03/12/2019	03/12/2019
Presence of Coal Tar*	-	Absent	Absent

PFAS in Soils Extended						
Our Reference		232055-3	232055-4	232055-5	232055-8	232055-9
Your Reference	UNITS	TP208	TP210	TP213	DSS5	TB1
Depth		0.0-0.15	0.0-0.15	0.0-0.15	-	-
Date Sampled		29/11/2019	29/11/2019	29/11/2019	29/11/2019	29/11/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	03/12/2019	03/12/2019	03/12/2019	03/12/2019	03/12/2019
Date analysed	-	03/12/2019	03/12/2019	03/12/2019	03/12/2019	03/12/2019
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	0.8	0.3	0.7	0.3	<0.1
Perfluorodecanesulfonic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	0.1	0.2	0.1	<0.1
Perfluorononanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	µg/kg	<0.5	<0.5	0.5	<0.5	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorododecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	µg/kg	<5	<5	<5	<5	<5
4:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
10:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid ethanol	µg/kg	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid ethanol	µg/kg	<5	<5	<5	<5	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate ¹³ C ₈ PFOS	%	101	99	100	101	98
Surrogate ¹³ C ₂ PFOA	%	96	99	100	94	97
Extracted ISTD ¹³ C ₃ PFBS	%	92	94	87	90	90
Extracted ISTD ¹⁸ O ₂ PFHxS	%	102	102	93	102	100
Extracted ISTD ¹³ C ₄ PFOS	%	104	108	105	107	99

PFAS in Soils Extended						
Our Reference		232055-3	232055-4	232055-5	232055-8	232055-9
Your Reference	UNITS	TP208	TP210	TP213	DSS5	TB1
Depth		0.0-0.15	0.0-0.15	0.0-0.15	-	-
Date Sampled		29/11/2019	29/11/2019	29/11/2019	29/11/2019	29/11/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Extracted ISTD ¹³ C ₄ PFBA	%	98	95	91	96	97
Extracted ISTD ¹³ C ₃ PFPeA	%	99	97	94	99	97
Extracted ISTD ¹³ C ₂ PFHxA	%	102	99	97	102	102
Extracted ISTD ¹³ C ₄ PFHpA	%	108	109	105	108	105
Extracted ISTD ¹³ C ₄ PFOA	%	112	111	105	115	110
Extracted ISTD ¹³ C ₅ PFNA	%	116	117	114	113	111
Extracted ISTD ¹³ C ₂ PFDA	%	121	127	122	122	114
Extracted ISTD ¹³ C ₂ PFUnDA	%	125	138	130	131	117
Extracted ISTD ¹³ C ₂ PFDoDA	%	122	138	128	122	106
Extracted ISTD ¹³ C ₂ PFTeDA	%	103	103	99	90	95
Extracted ISTD ¹³ C ₂ 4:2FTS	%	99	103	102	109	98
Extracted ISTD ¹³ C ₂ 6:2FTS	%	119	141	136	136	121
Extracted ISTD ¹³ C ₂ 8:2FTS	%	129	160	150	138	104
Extracted ISTD ¹³ C ₈ FOSA	%	114	109	103	107	104
Extracted ISTD d ₃ N MeFOSA	%	105	99	96	98	93
Extracted ISTD d ₅ N EtFOSA	%	105	102	101	99	94
Extracted ISTD d ₇ N MeFOSE	%	113	108	100	105	104
Extracted ISTD d ₉ N EtFOSE	%	106	108	105	98	100
Extracted ISTD d ₃ N MeFOSAA	%	120	154	145	133	92
Extracted ISTD d ₅ N EtFOSAA	%	126	168	159	144	83
Total Positive PFHxS & PFOS	µg/kg	0.8	0.3	0.7	0.3	<0.1
Total Positive PFOS & PFOA	µg/kg	0.8	0.4	0.9	0.4	<0.1
Total Positive PFAS	µg/kg	0.8	0.4	1.4	0.4	<0.1

PFAS in Soils Extended		
Our Reference		232055-10
Your Reference	UNITS	FB1
Depth		-
Date Sampled		29/11/2019
Type of sample		Soil
Date prepared	-	03/12/2019
Date analysed	-	03/12/2019
Perfluorobutanesulfonic acid	µg/kg	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	<0.1
Perfluorodecanesulfonic acid	µg/kg	<0.2
Perfluorobutanoic acid	µg/kg	<0.2
Perfluoropentanoic acid	µg/kg	<0.2
Perfluorohexanoic acid	µg/kg	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1
Perfluorononanoic acid	µg/kg	<0.1
Perfluorodecanoic acid	µg/kg	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5
Perfluorododecanoic acid	µg/kg	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5
Perfluorotetradecanoic acid	µg/kg	<5
4:2 FTS	µg/kg	<0.1
6:2 FTS	µg/kg	<0.1
8:2 FTS	µg/kg	<0.1
10:2 FTS	µg/kg	<0.1
Perfluorooctane sulfonamide	µg/kg	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1
N-Ethyl perfluorooctanesulfonamide	µg/kg	<1
N-Me perfluorooctanesulfonamid oethanol	µg/kg	<1
N-Et perfluorooctanesulfonamid oethanol	µg/kg	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2
EtPerfluorooctanesulf amid oacetic acid	µg/kg	<0.2
Surrogate ¹³ C ₈ PFOS	%	106
Surrogate ¹³ C ₂ PFOA	%	96
Extracted ISTD ¹³ C ₃ PFBS	%	92
Extracted ISTD ¹⁸ O ₂ PFHxS	%	101
Extracted ISTD ¹³ C ₄ PFOS	%	100

PFAS in Soils Extended		
Our Reference		232055-10
Your Reference	UNITS	FB1
Depth		-
Date Sampled		29/11/2019
Type of sample		Soil
Extracted ISTD ¹³ C ₄ PFBA	%	98
Extracted ISTD ¹³ C ₃ PFPeA	%	99
Extracted ISTD ¹³ C ₂ PFHxA	%	100
Extracted ISTD ¹³ C ₄ PFHpA	%	107
Extracted ISTD ¹³ C ₄ PFOA	%	111
Extracted ISTD ¹³ C ₅ PFNA	%	111
Extracted ISTD ¹³ C ₂ PFDA	%	116
Extracted ISTD ¹³ C ₂ PFUnDA	%	110
Extracted ISTD ¹³ C ₂ PFDoDA	%	111
Extracted ISTD ¹³ C ₂ PFTeDA	%	87
Extracted ISTD ¹³ C ₂ 4:2FTS	%	108
Extracted ISTD ¹³ C ₂ 6:2FTS	%	126
Extracted ISTD ¹³ C ₂ 8:2FTS	%	126
Extracted ISTD ¹³ C ₈ FOSA	%	111
Extracted ISTD d ₃ N MeFOSA	%	97
Extracted ISTD d ₅ N EtFOSA	%	96
Extracted ISTD d ₇ N MeFOSE	%	104
Extracted ISTD d ₉ N EtFOSE	%	101
Extracted ISTD d ₃ N MeFOSAA	%	118
Extracted ISTD d ₅ N EtFOSAA	%	125
Total Positive PFHxS & PFOS	µg/kg	<0.1
Total Positive PFOS & PFOA	µg/kg	<0.1
Total Positive PFAS	µg/kg	<0.1

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-012/017	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS.
Org-012/017	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-MS and/or GC-MS/MS. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.

Method ID	Methodology Summary
Org-012/017	<p>Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.</p> <p>For soil results:-</p> <ol style="list-style-type: none"> 1. 'EQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. <p>Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.</p>
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-016	<p>Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.</p> <p>Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.</p>
Org-035	<p>Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. Analysis is undertaken with LC-MS/MS.</p> <p>PFAS results include the sum of branched and linear isomers where applicable.</p> <p>Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components.</p> <p>Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.</p>
RTA T542	Determination of Phenol in core samples as per RTA test method T542. This procedure gives an indication of whether a sample of asphalt has been made with coal tar. The coal tar method gives an approximate result with a high degree of uncertainty.

Client Reference: 14578/1, Penrith

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date extracted	-			02/12/2019	[NT]	[NT]	[NT]	[NT]	02/12/2019	[NT]
Date analysed	-			03/12/2019	[NT]	[NT]	[NT]	[NT]	03/12/2019	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-016	<25	[NT]	[NT]	[NT]	[NT]	107	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-016	<25	[NT]	[NT]	[NT]	[NT]	107	[NT]
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	[NT]	[NT]	110	[NT]
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	[NT]	[NT]	108	[NT]
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	[NT]	[NT]	108	[NT]
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	109	[NT]	[NT]	[NT]	[NT]	109	[NT]

Client Reference: 14578/1, Penrith

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			02/12/2019	[NT]	[NT]	[NT]	[NT]	02/12/2019	[NT]
Date analysed	-			02/12/2019	[NT]	[NT]	[NT]	[NT]	02/12/2019	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	[NT]	[NT]	[NT]	[NT]	115	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	94	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	92	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	[NT]	[NT]	[NT]	[NT]	115	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	94	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	92	[NT]
Surrogate o-Terphenyl	%		Org-003	77	[NT]	[NT]	[NT]	[NT]	99	[NT]

Client Reference: 14578/1, Penrith

QUALITY CONTROL: PAHs in Soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date extracted	-			02/12/2019	[NT]	[NT]	[NT]	[NT]	02/12/2019	[NT]
Date analysed	-			03/12/2019	[NT]	[NT]	[NT]	[NT]	03/12/2019	[NT]
Naphthalene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	112	[NT]
Acenaphthylene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	112	[NT]
Phenanthrene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	116	[NT]
Anthracene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	112	[NT]
Pyrene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	114	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	120	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012/017	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012/017	<0.05	[NT]	[NT]	[NT]	[NT]	116	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012/017	91	[NT]	[NT]	[NT]	[NT]	100	[NT]

Client Reference: 14578/1, Penrith

QUALITY CONTROL: Organochlorine Pesticides in soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date extracted	-			02/12/2019	[NT]	[NT]	[NT]	[NT]	02/12/2019	[NT]
Date analysed	-			03/12/2019	[NT]	[NT]	[NT]	[NT]	03/12/2019	[NT]
alpha-BHC	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	120	[NT]
HCB	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	114	[NT]
gamma-BHC	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	112	[NT]
delta-BHC	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	114	[NT]
gamma-Chlordane	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	118	[NT]
Dieldrin	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	122	[NT]
Endrin	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Endosulfan II	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	114	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Methoxychlor	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-012/017	93	[NT]	[NT]	[NT]	[NT]	100	[NT]

Client Reference: 14578/1, Penrith

QUALITY CONTROL: PCBs in Soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date extracted	-			02/12/2019	[NT]	[NT]	[NT]	[NT]	02/12/2019	[NT]
Date analysed	-			03/12/2019	[NT]	[NT]	[NT]	[NT]	03/12/2019	[NT]
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NT]	[NT]	93	[NT]
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-006	93	[NT]	[NT]	[NT]	[NT]	100	[NT]

Client Reference: 14578/1, Penrith

QUALITY CONTROL: Acid Extractable metals in soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date prepared	-			02/12/2019	[NT]	[NT]	[NT]	[NT]	02/12/2019	[NT]
Date analysed	-			03/12/2019	[NT]	[NT]	[NT]	[NT]	03/12/2019	[NT]
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	[NT]	[NT]	106	[NT]
Beryllium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Boron	mg/kg	3	Metals-020	<3	[NT]	[NT]	[NT]	[NT]	89	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	[NT]	[NT]	103	[NT]
Cobalt	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	106	[NT]
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	111	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	[NT]	[NT]	93	[NT]
Manganese	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Selenium	mg/kg	2	Metals-020	<2	[NT]	[NT]	[NT]	[NT]	96	[NT]
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	109	[NT]

Client Reference: 14578/1, Penrith

QUALITY CONTROL: PFAS in Soils Extended				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date prepared	-			03/12/2019	[NT]	[NT]	[NT]	[NT]	03/12/2019	[NT]
Date analysed	-			03/12/2019	[NT]	[NT]	[NT]	[NT]	03/12/2019	[NT]
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Perfluoropentanesulfonic acid	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	109	[NT]
Perfluoroheptanesulfonic acid	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	112	[NT]
Perfluorodecanesulfonic acid	µg/kg	0.2	Org-035	<0.2	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluorobutanoic acid	µg/kg	0.2	Org-035	<0.2	[NT]	[NT]	[NT]	[NT]	107	[NT]
Perfluoropentanoic acid	µg/kg	0.2	Org-035	<0.2	[NT]	[NT]	[NT]	[NT]	113	[NT]
Perfluorohexanoic acid	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Perfluoroheptanoic acid	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	106	[NT]
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	109	[NT]
Perfluorononanoic acid	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Perfluorodecanoic acid	µg/kg	0.5	Org-035	<0.5	[NT]	[NT]	[NT]	[NT]	111	[NT]
Perfluoroundecanoic acid	µg/kg	0.5	Org-035	<0.5	[NT]	[NT]	[NT]	[NT]	117	[NT]
Perfluorododecanoic acid	µg/kg	0.5	Org-035	<0.5	[NT]	[NT]	[NT]	[NT]	110	[NT]
Perfluorotridecanoic acid	µg/kg	0.5	Org-035	<0.5	[NT]	[NT]	[NT]	[NT]	103	[NT]
Perfluorotetradecanoic acid	µg/kg	5	Org-035	<5	[NT]	[NT]	[NT]	[NT]	111	[NT]
4:2 FTS	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	97	[NT]
6:2 FTS	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
8:2 FTS	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
10:2 FTS	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	84	[NT]
Perfluorooctane sulfonamide	µg/kg	1	Org-035	<1	[NT]	[NT]	[NT]	[NT]	109	[NT]
N-Methyl perfluorooctane sulfonamide	µg/kg	1	Org-035	<1	[NT]	[NT]	[NT]	[NT]	112	[NT]
N-Ethyl perfluorooctanesulfonamide	µg/kg	1	Org-035	<1	[NT]	[NT]	[NT]	[NT]	112	[NT]
N-Me perfluorooctanesulfonamidethanol	µg/kg	1	Org-035	<1	[NT]	[NT]	[NT]	[NT]	109	[NT]
N-Et perfluorooctanesulfonamidethanol	µg/kg	5	Org-035	<5	[NT]	[NT]	[NT]	[NT]	112	[NT]
MePerfluorooctanesulfonamidacetic acid	µg/kg	0.2	Org-035	<0.2	[NT]	[NT]	[NT]	[NT]	114	[NT]
EtPerfluorooctanesulfonamidacetic acid	µg/kg	0.2	Org-035	<0.2	[NT]	[NT]	[NT]	[NT]	106	[NT]
Surrogate ¹³ C ₈ PFOS	%		Org-035	106	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate ¹³ C ₂ PFOA	%		Org-035	101	[NT]	[NT]	[NT]	[NT]	101	[NT]

Client Reference: 14578/1, Penrith

QUALITY CONTROL: PFAS in Soils Extended							Duplicate		Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Extracted ISTD ¹³ C ₃ PFBS	%		Org-035	87	[NT]	[NT]	[NT]	[NT]	83	[NT]
Extracted ISTD ¹⁸ O ₂ PFHxS	%		Org-035	94	[NT]	[NT]	[NT]	[NT]	94	[NT]
Extracted ISTD ¹³ C ₄ PFOS	%		Org-035	95	[NT]	[NT]	[NT]	[NT]	94	[NT]
Extracted ISTD ¹³ C ₄ PFBA	%		Org-035	91	[NT]	[NT]	[NT]	[NT]	90	[NT]
Extracted ISTD ¹³ C ₃ PFPeA	%		Org-035	92	[NT]	[NT]	[NT]	[NT]	89	[NT]
Extracted ISTD ¹³ C ₂ PFHxA	%		Org-035	92	[NT]	[NT]	[NT]	[NT]	95	[NT]
Extracted ISTD ¹³ C ₄ PFHpA	%		Org-035	101	[NT]	[NT]	[NT]	[NT]	102	[NT]
Extracted ISTD ¹³ C ₄ PFOA	%		Org-035	105	[NT]	[NT]	[NT]	[NT]	104	[NT]
Extracted ISTD ¹³ C ₅ PFNA	%		Org-035	106	[NT]	[NT]	[NT]	[NT]	107	[NT]
Extracted ISTD ¹³ C ₂ PFDA	%		Org-035	116	[NT]	[NT]	[NT]	[NT]	116	[NT]
Extracted ISTD ¹³ C ₂ PFUnDA	%		Org-035	111	[NT]	[NT]	[NT]	[NT]	106	[NT]
Extracted ISTD ¹³ C ₂ PFDoDA	%		Org-035	106	[NT]	[NT]	[NT]	[NT]	105	[NT]
Extracted ISTD ¹³ C ₂ PFTeDA	%		Org-035	98	[NT]	[NT]	[NT]	[NT]	92	[NT]
Extracted ISTD ¹³ C ₂ 4:2FTS	%		Org-035	96	[NT]	[NT]	[NT]	[NT]	98	[NT]
Extracted ISTD ¹³ C ₂ 6:2FTS	%		Org-035	121	[NT]	[NT]	[NT]	[NT]	120	[NT]
Extracted ISTD ¹³ C ₂ 8:2FTS	%		Org-035	126	[NT]	[NT]	[NT]	[NT]	126	[NT]
Extracted ISTD ¹³ C ₈ FOSA	%		Org-035	107	[NT]	[NT]	[NT]	[NT]	100	[NT]
Extracted ISTD d ₃ N MeFOSA	%		Org-035	91	[NT]	[NT]	[NT]	[NT]	92	[NT]
Extracted ISTD d ₅ N EtFOSA	%		Org-035	93	[NT]	[NT]	[NT]	[NT]	89	[NT]
Extracted ISTD d ₇ N MeFOSE	%		Org-035	100	[NT]	[NT]	[NT]	[NT]	99	[NT]

Client Reference: 14578/1, Penrith

QUALITY CONTROL: PFAS in Soils Extended					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Extracted ISTD d ₉ N EtFOSE	%		Org-035	95	[NT]	[NT]	[NT]	[NT]	95	[NT]
Extracted ISTD d ₃ N MeFOSAA	%		Org-035	111	[NT]	[NT]	[NT]	[NT]	109	[NT]
Extracted ISTD d ₅ N EtFOSAA	%		Org-035	104	[NT]	[NT]	[NT]	[NT]	114	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).



EnviroLab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Laboratory Test Request / Chain of Custody Record

Lemko Place
PENRITH NSW 2750

Job No:

232005

Date Received: 02/12/19

Time Received: 0:17

Tel: (02) 4722 2700

Page 1 of 1

TO: ENVIROLAB SERVICES PTY LD
12 ASHLEY STREET
CHATSWOOD NSW 2067

Received by: M7
Temp: Cool/Ambient 9.7
Cooling: Ice/Icepack
Security: Intact/Broken/None

Sampling By: JH

Ref No: 14578/1

Project:

PH: 02 9910 6200

Project Manager: JX

Location: Penrith

ATTN: MS AILEEN HIE

Sampling details				Sample type		Results required by: 3/12/2019 (24HR TURNAROUND TIME)									
Location	Depth (m)	Date	Time	Soil	Material	METALS As, Be, B, Cd, Co, Cr, Cu, Pb, Hg, Mn, Ni, Se and Zn	TRH & BTEX	PAH	OCP	PCB	PHENOL	CYANIDE	COMBO NO	COAL TAR (RTA Test Method T542)	PFAS (Extended)
TP103	1	29/11/2019	-		P									✓	
TP108	2	29/11/2019	-		P									✓	
TP208	3	29/11/2019	-	PFASC											✓
TP210	4	29/11/2019	-	PFASC											✓
TP213	5	29/11/2019	-	PFASC											✓
DSS1	6	29/11/2019	-	G		✓	✓	✓	✓	✓			5		
DSS2	7	29/11/2019	-	G		✓	✓	✓	✓	✓			5		
DDS5	8	29/11/2019	-	PFASC											✓
TB1	9	29/11/2019	-	PFASC											✓
FB1	10	29/11/2019	-	PFASC											✓

Relinquished by			Received by		
Name	Signature	Date	Name	Signature	Date
JOHN XU	JX	2/12/2019	Ming Yan To	M7	02/12/19

Legend:

- G Soil sample (glass jar)
- PFASC Soil sample (PFAS Container)
- P Asphaltic Concrete (plastic bag)
- ✓ Test required



Envirolab Services Pty Ltd

ABN 37 112 535 645

12 Ashley St Chatswood NSW 2067

ph 02 9910 6200 fax 02 9910 6201

customerservice@envirolab.com.au

www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	Geotechnique Pty Ltd
Attention	John Xu

Sample Login Details

Your reference	14578/1, Penrith
Envirolab Reference	232055
Date Sample Received	02/12/2019
Date Instructions Received	02/12/2019
Date Results Expected to be Reported	03/12/2019

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	10 Soil
Turnaround Time Requested	1 day
Temperature on Receipt (°C)	9.7
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie

Phone: 02 9910 6200

Fax: 02 9910 6201

Email: ahie@envirolab.com.au

Jacinta Hurst

Phone: 02 9910 6200

Fax: 02 9910 6201

Email: jhurst@envirolab.com.au

Analysis Underway, details on the following page:



Sample ID	VTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	PCBs in Soil	Acid Extractable metals in soil	Coal Tar	PFAS in Soils Extended
TP103							✓	
TP108							✓	
TP208-0.0-0.15								✓
TP210-0.0-0.15								✓
TP213-0.0-0.15								✓
DSS1	✓	✓	✓	✓	✓	✓		
DSS2	✓	✓	✓	✓	✓	✓		
DSS5								✓
TB1								✓
FB1								✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.

TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

APPENDIX L

ENVIRONMENTAL NOTES

IMPORTANT INFORMATION REGARDING YOUR ENVIRONMENTAL SITE ASSESSMENT

These notes have been prepared by Geotechnique Pty Ltd, using guidelines prepared by the ASFE (Associated Soil and Foundation Engineers). The notes are offered to assist in the interpretation of your environmental site assessment report.

REASONS FOR AN ENVIRONMENTAL ASSESSMENT

Environmental site assessments are typically, though not exclusively, performed in the following circumstances:

- As a pre-acquisition assessment on behalf of either a purchaser or a vendor, when a property is to be sold
- As a pre-development assessment, when a property or area of land is to be redeveloped, or the land use has changed e.g. from a factory to a residential subdivision
- As a pre-development assessment of greenfield sites, to establish baseline conditions and assess environmental, geological and hydrological constraints to the development of e.g. a landfill
- As an audit of the environmental effects of previous and present site usage

Each circumstance requires a specific approach to the assessment of soil and groundwater contamination. In all cases the objective is to identify and if possible quantify the risks that unrecognised contamination poses to the ongoing proposed activity. Such risks may be both financial (clean-up costs or limitations in site use) and physical (health risks to site users or the public).

ENVIRONMENTAL SITE ASSESSMENT LIMITATIONS

Although information provided by an environmental site assessment can reduce exposure to the risk of the presence of contamination, no environmental site assessment can eliminate the risk. Even a rigorous professional assessment may not detect all contamination within a site. Contaminants may be present in areas that were not surveyed or sampled, or may migrate to areas which did not show signs of contamination when sampled. Contaminant analysis cannot possibly cover every type of contaminant that may occur; only the most likely contaminants are screened.

AN ENVIRONMENTAL SITE ASSESSMENT REPORT IS BASED ON A UNIQUE SET OF PROJECT SPECIFIC FACTORS

In the following events and in order to avoid cost problems, you should ask your consultant to assess any changes in the conclusion and recommendations made in the assessment:

- When the nature of the proposed development is changed e.g. if a residential development is proposed, rather than a commercial development
- When the size or configuration of the proposed development is altered e.g. if a basement is added
- When the location or orientation of the proposed structure is modified
- When there is a change of land ownership, or
- For application to an adjacent site

ENVIRONMENTAL SITE ASSESSMENT FINDINGS ARE PROFESSIONAL ESTIMATES

Site assessment identifies actual sub-surface conditions only at those points where samples are taken, when they are taken. Data obtained from the sampling and subsequent laboratory analyses are interpreted by geologists, engineers or scientists and opinions are drawn about the overall sub-surface conditions, the nature and extent of contamination, the likely impact on any proposed development and appropriate remediation measures. Actual conditions may differ from those inferred, because no professional, no matter how qualified and no sub-surface exploration program, no matter how comprehensive, can reveal what is hidden by earth, rock and time. The actual interface between materials may be far more gradual or abrupt than an assessment indicates. Actual conditions in areas not sampled may differ from predictions. Nothing can be done to prevent the unanticipated, however, steps can be taken to help minimise the impact. For this reason site owners should retain the services of their consultants throughout the development stages of the project in order to identify variances, conduct additional tests that may be necessary and to recommend solutions to problems encountered on site.

Soil and groundwater contamination is a field in which legislation and interpretation of legislation by government departments is changing rapidly. Whilst every attempt is made by Geotechnique Pty Ltd to be familiar with current policy, our interpretation of the investigation findings should not be taken to be that of the relevant authority. When approval from a statutory authority is required for a project, approval should be directly sought.

Environmental Notes continued

STABILITY OF SUB-SURFACE CONDITIONS

Sub-surface conditions can change by natural processes and site activities. As an environmental site assessment is based on conditions existing at the time of the investigation, project decisions should not be based on environmental site assessment data that may have been affected by time. The consultant should be requested to advise if additional tests are required.

ENVIRONMENTAL SITE ASSESSMENTS ARE PERFORMED FOR SPECIFIC PURPOSES AND CLIENTS

Environmental site assessments are prepared in response to a specific scope of work required to meet the specific needs of specific individuals e.g. an assessment prepared for a consulting civil engineer may not be adequate to a construction contractor or another consulting civil engineer.

An assessment should not be used by other persons for any purpose or by the client for a different purpose. No individual, other than the client, should apply an assessment, even for its intended purpose, without first conferring with the consultant. No person should apply an assessment for any purpose other than that originally contemplated, without first conferring with the consultant.

MISINTERPRETATION OF ENVIRONMENTAL SITE ASSESSMENTS

Costly problems can occur when design professionals develop plans based on misinterpretation of an environmental site assessment. In order to minimise problems, the environmental consultant should be retained to work with appropriate design professionals, to explain relevant findings and to review the adequacy of plans and specifications relative to contamination issues.

LOGS SHOULD NOT BE SEPARATED FROM THE REPORT

Borehole and test pit logs are prepared by environmental scientists, engineers or geologists, based upon interpretation of field conditions and laboratory evaluation of field samples. Logs are normally provided in our reports and these would not be redrawn for inclusion in site remediation or other design drawings, as subtle but significant drafting errors or omissions may occur in the transfer process. Photographic reproduction can eliminate this problem, however, contractors can still misinterpret the logs during bid preparation if separated from the text of the assessment. Should this occur, delays and disputes, or unanticipated costs may result.

To reduce the likelihood of borehole and test pit log misinterpretation, the complete assessment should be available to persons or organisations involved in the project, such as contractors, for their use. Denial of such access and disclaiming responsibility for the accuracy of sub-surface information does not insulate an owner from the attendant liability. It is critical that the site owner provides all available site information to persons and organisations, such as contractors.

READ RESPONSIBILITY CLAUSES CLOSELY

An environmental site assessment is based extensively on judgement and opinion; therefore, it is necessarily less exact than other disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. In order to aid in prevention of this problem, model clauses have been developed for use in written transmittals. These are definitive clauses, designed to indicate consultant responsibility. Their use helps all parties involved recognise individual responsibilities and formulate appropriate action. Some of these definitive clauses are likely to appear in the environmental site assessment and you are encouraged to read them closely. Your consultant will be happy to give full and frank answers to any questions you may have.