Cameron Ashe

From: Marion O'Neil <moneil@umwelt.com.au>
Sent: Friday, 7 March 2025 1:24 PM
To: Cameron Ashe
Cc: Andrew Douglas; david.keohane@potentiaenergy.com.au; Manfred Fahr; Alfira Muchtar; Nestor Tsambos
Subject: Tallawang - Updated PSI

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Cameron,

Andrew asked me to send on the updated Preliminary Site Investigation which is available at the below link. Let me know if you have any trouble downloading the file.

PSI 2025

Kind regards
Marion

Marion O'Neil
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Douglas PARTNERS

GROUNDED EXPERTISE

Report on Addendum to Preliminary Site Investigation

Proposed Solar Farm

Castlereagh Highway, Beryl NSW

Prepared for RES Australia Pty Ltd

Project 206153.01

6 March 2025

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The undersigned, on behalf of Douglas Partners Pty Ltd, confirm that this document and all attached drawings, logs and test results have been checked and reviewed for errors, omissions and inaccuracies.

Signature	Date
Author	6 March 2025
Reviewer	6 March 2025

ISO 9001 Quality Management Systems CERTIFIED

Douglas Partners acknowledges Australia's First Peoples as the Traditional Owners of the Land and Sea on which we operate. We pay our respects to Elders past and present and to all Aboriginal and Torres Strait Islander peoples across the many communities in which we live, visit and work. We recognise and respect their ongoing cultural and spiritual connection to Country.

Executive Summary

Douglas Partners Pty Ltd (Douglas) has been engaged by RES Australia Pty Ltd (RES) on behalf of Potentia Energy Pty Ltd (Potentia) to prepare an addendum to a preliminary site investigation with limited sampling (contamination) (PSI) for a proposed solar farm at Castlereagh Highway, Beryl NSW (hereinafter referred to as 'the site'). The site is shown on Drawing 1, Appendix A. The investigation was undertaken in general accordance with Douglas' proposal 206153.01.P.001.Rev0 dated 24 January 2025.

Douglas previously conducted a PSI (report reference: 206153.00.R.002.Rev0 – Douglas, 2022a) and a geotechnical investigation (report reference: 206153.00.R.001.Rev0 – Douglas, 2022b) within the site. The PSI comprised a desktop review of readily available information and excavation of 61 test pits (in conjunction with the geotechnical investigation) and soil sampling and testing from the 61 test pits.

It is understood that the site boundary has now been slightly extended (along Castlereagh Highway and a small triangular parcel of land between Jenkins Lane and Castlereagh Highway) and temporary workers accommodation (TWA) (i.e. residential dwellings) is now included in the proposed development. RES and Potentia have stated that the PSI report will need to be updated to reflect the site boundary and land use change (the adopted health and ecological based criteria for the PSI was previously for commercial land use only). Furthermore, an UFP is required for the construction works associated with the TWA area (reported separately, report reference 206153.01.R.001.Rev0).

The objective of the PSI was to assess the suitability of the site for the proposed development and whether further investigation and / or management is required. It is understood that the report will be used to support a development application for the proposed development.

The addendum PSI scope of work included:

- A site walkover, covering the site boundary extension area (between Jenkins Lane and Castlereagh Highway) and the TWA area.
- Updated historical aerial photography review. It is noted that it has been three years since the PSI and historical aerial imagery is limited between 2022 and 2025. Imagery of the site in 2023 was available for review;
- Derivation of new site assessment criteria (SAC) based on the proposed new land use and reassessment of existing data against the new SAC; and
- Preparation of an updated PSI report.

It is noted that the 2022 investigation included:

- Preparation of a list of Potential Areas of Environmental Concern (PAEC) through investigation of the site using readily available desk top information;
- Reviewing site information, including published information on geological, topographical hydrogeological, soil salinity and acid sulfate soil (ASS) conditions;
- Completion of a site walkover and observing situations that indicate a potential for contamination and identify environmental receptors;

- Positioning of 61 test pits (Pits 3, 7, 8, and 11 to 56) across the site. Pits 3, 7, 8, and 11 to 56 were excavated to the target depths as per the geotechnical investigation (Douglas, 2022b) and Pits 57 to 67 were excavated to a depth of 1.0 m or a depth of 0.5 m into natural ground. It is noted that Pits 1, 2, 4, 5, 9 and 10 were excluded from the scope of works due to site access constraints. It is also noted that due to the preliminary nature of this assessment, the sampling density undertaken does not meet the minimum sampling density recommended by the Sampling Design Guidelines (NSW EPA, 1995). Note this guideline has been superseded by the NSW EPA *'Sampling design part 1 – application'* (Contaminated Land Guidelines 2022) and it should be noted that the recommended sampling density is similar to the previous guideline and therefore also does not meet this guideline;
- Soil sampling from multiple depths during the field work;
- Laboratory testing on 63 soil samples for a combination of:
    - TRH (total recoverable hydrocarbons);
    - Benzene, toluene, ethylbenzene and total xylenes (BTEX);
    - Polycyclic aromatic hydrocarbons (PAH);
    - PCBs (polychlorinated biphenyls);
    - Organochlorine and Organophosphate pesticides (OCPs, OPPs);
    - Phenols;
    - Heavy metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc); and
    - Asbestos.
- Two samples were also tested for pH, Cation Exchange Capacity (CEC) and Clay Content in order to produce site specific investigation levels. An additional duplicate sample was tested for quality control purposes; and
- Preparation of a PSI report presenting the results of the assessment (i.e.: nature, extent and degree of contamination within the site), recommendations as to the necessity for further investigations to be carried out on the site and the suitability of the site to be used for its intended and permitted purposes.

Based on the current investigation, the following potential sources of contamination and associated contaminants of potential concern (COPC) have been identified.

- S1: Fill: Associated with past clay mining practices within the site and possible in-filled drainage lines or gullies that were not observed by Douglas at the time of the walkover.
    - COPC include metals/metalloids: arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), mercury (Hg), nickel (Ni), zinc (Zn); total recoverable hydrocarbons (TRH); benzene, toluene, ethylbenzene, xylene (BTEX); polycyclic aromatic hydrocarbons (PAH); organochloride pesticides and organophosphate pesticides (OCP/OPP) and asbestos.
- S2: Past pesticide usage.
    - COPC include metals (arsenic and lead), OPP and OCP.
- S3: Animal burial pits.
    - COPC include *Escherichia coli* (*E. coli*), faecal coliforms, pathogens, salmonella and nutrients.
- S4: Current site structures.

  - COPC include asbestos, synthetic mineral fibres (SMF), lead (in paint) and PCB.
- S5: Potential zinc leaching from galvanized corrugated roof sheeting on site sheds.
  - COPC include zinc
- S6: S6: Burnt out site machinery (TWA area).
  - COPC include metals / metalloids, TRH, BTEX, PAH.

Soil sampling at the site focused on the identified areas of concern with the exceptions of potential animal burial pits and hazardous building material associated with current site structures. Access to residential buildings where hazardous building materials may be present was outside the scope of this assessment and no animal burial pits were encountered, however, their presence cannot be discounted. The analytical results of soil samples were below the adopted health-based (i.e. HIL-A/HSL-A/B), ecological (i.e. EIL-A/ESL-A) criteria, and management limits for residential land use.

Based on the results of the PSI, it was considered that the site was suitable for the proposed development subject to implementation of the recommendations below:

- A Construction Environment Management Plan (CEMP) should be prepared including an 'unexpected finds protocol' and implemented during the works (i.e., fill, suspect asbestos containing material (ACM), hydrocarbon staining and/odours, and general staining);
- The burnt-out tractor should be removed, disposed off-site appropriately to a licensed waste facility and the footprint should be validated by a suitably qualified environmental consultant prior to the construction of the TWA;
- Prior to validation of the tractor footprint area, a 100 mm scrape should be undertaken and the material stockpiled and assessed in accordance with NSW EPA *'Waste Classification Guidelines Part 1 Classifying* Waste' (2014) and assigned a waste classification prior to off-site disposal to a suitably licensed waste management facility;
- Should unexpected finds occur during construction work, further environmental assessment should be undertaken;
- Should suspected asbestos be encountered at the site, the affected area should be fenced off and assessed by an NSW licensed asbestos assessor; and

Should any additional fill material be required to be disposed off-site, the material must be either assessed in accordance with NSW EPA '*Waste Classification Guidelines Part 1 Classifying Waste'* (2014) and assigned a waste classification prior to off-site disposal or assessed for reuse on alternative site in accordance with the NSW EPA *'Resource Recovery Order under Part 9 of the Protection of the Environment Operations (Waste) Regulation 2014 – The Excavated natural material order 2014'*.

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Report on Addendum to Preliminary Site Investigation
Proposed Solar Farm
Castlereagh Highway, Beryl NSW

1. Introduction

Douglas Partners Pty Ltd (Douglas) has been engaged by RES Australia Pty Ltd (RES) on behalf of Potentia Energy Pty Ltd (Potentia) to prepare an addendum to a preliminary site investigation with limited sampling (contamination) (PSI) for a proposed solar farm at Castlereagh Highway, Beryl NSW (hereinafter referred to as 'the site'). The site is shown on Drawing 1, Appendix A. The investigation was undertaken in general accordance with Douglas' proposal 206153.01.P.001.Rev0 dated 24 January 2025.

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It is understood that the site boundary has now been slightly extended (along Castlereagh Highway and a small triangular parcel of land between Jenkins Lane and Castlereagh Highway) and temporary workers accommodation (TWA) (i.e. residential dwellings) is now included in the proposed development. RES and Potentia have stated that the PSI report will need to be updated to reflect the site boundary and land use change (the adopted health and ecological based criteria for the PSI was previously for commercial land use only). Furthermore, an UFP is required for the construction works associated with the TWA area (reported separately, report reference 206153.01.R.001.Rev0).

The objective of the PSI was to assess the suitability of the site for the proposed development and whether further investigation and / or management is required. It is understood that the report will be used to support a development application for the proposed development.

The following key guidelines were consulted in the preparation of this report:

- NEPC *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]* (NEPC, 2013);
- NSW Government State Environmental Planning Policy (Resilience and Hazards) 2021; and
- NSW EPA *Guidelines for Consultants Reporting on Contaminated Land* (NSW EPA, 2020).

This report must be read in conjunction with all appendices including the notes provided in Appendix B.

2. Proposed development

It is understood that the proposed development of the site includes:

- Temporary workers accommodation (TWA), located within the south-eastern corner of the site;
- Solar arrays;
- Inverters;
- Access tracks;
- Drainage;
- Substation and site compound;
- Crane hardstands;
- Underground cables; and
- Overhead transmission lines.

Further design details were not available at the time of this investigation, however, it has been assumed that minor earthworks would be required over parts of the site to prepare level platforms, a pad for the substation, and minor excavations for service trenches. Most excavations are expected to be less than about 1.5 m deep. The site is shown on Drawing 1, Appendix A.

3. Scope of work

The addendum PSI scope of work included:

- A site walkover, covering the site boundary extension area (between Jenkins Lane and Castlereagh Highway) and the TWA area.
- Updated historical aerial photography review. It is noted that it has been three years since the PSI and historical aerial imagery is limited between 2022 and 2025. Imagery of the site in 2023 was available for review;
- Derivation of new site assessment criteria (SAC) based on the proposed new land use and reassessment of existing data against the new SAC; and
- Preparation of an updated PSI report.

It is noted that the 2022 investigation included:

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- Laboratory testing on 63 soil samples for a combination of:
  - TRH (total recoverable hydrocarbons);
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- Two samples were also tested for pH, Cation Exchange Capacity (CEC) and Clay Content in order to produce site specific investigation levels. An additional duplicate sample was tested for quality control purposes; and
- Preparation of a PSI report presenting the results of the assessment (i.e.: nature, extent and degree of contamination within the site), recommendations as to the necessity for further investigations to be carried out on the site and the suitability of the site to be used for its intended and permitted purposes.

4. Site information

4.1 Site identification details

Table 1 presents site identification details.

Table 1: Site identification

Item	Details
Allotment Identification	Lots 74, 96, 101, 105 and 120 DP 1079036 Lots 68, 78, 89, 90, 97, 98, 112 – 114, 147, 148, 150 and 152 DP 750762
Street Address	Castlereagh Highway, Beryl NSW
Locality	Beryl, NSW
Approximate Site Area	1300 ha
Local Government Area	Mid-Western Regional Council (MWRC)
Zoning	Zone RU1: Primary Production

Planning Instrument(s)	MWRC DCP (2015); LEP (2013)
Current Land Use	Agriculture
Surrounding uses	North – Railway and Agriculture East – Puggoon Road and Agriculture South – Unnamed lane and Agriculture West – Agriculture, forested areas, South-west – Castlereagh Highway and Jenkins lane

4.2 **Site description**

The site is located off Castlereagh Highway, approximately 1 km north-east of the intersection of Castlereagh Highway and Laheys Creek Road and ~7 km north-west of the Gulgong Township. It includes five lots (74, 96, 101, 105 and 120) of DP 1079036 and 13 lots (68, 78, 89, 90, 97, 98, 112 – 114, 147, 148, 150 and 152) of DP 750762. The lots are separated into a series of paddocks with five separate landowners. The overall site is near-rectangular in shape and excludes a number of protected zones, including areas of relatively dense trees and Aboriginal heritage significance and farm residences. The site boundary is shown on Drawing 1, Appendix A and Figure 1 below.



Figure 1: Site location (approximate site boundary highlighted red).

5. Environmental setting

5.1 Topography

The regional topography comprises low undulating hills and low rises from 380 – 560 m above sea level. Slopes are gently inclined between 3 – 15% with slopes from 1000 – 5000 m long and local relief varies from 30 – 80 m. Drainage lines are typically between 300 – 1200 m apart.

The site comprises a number of small hill tops, particularly through the central and north-western parts of the site with a number of relatively flat areas in between. Overall surface levels fall to the north-east over the northern half of the site and to the south-west over the southern part of the site.

5.2 Soil Landscapes

Reference to the NSW Department of Planning, Industry and Environment eSPADE website (www.environment.nsw.gov.au/eSpade2Webapp, accessed 1 March 2022) indicates that the site is underlain by two soil landscape groups. The site is underlain by the Home Rule soil group (mapped across the majority of the site – central, northern, north-western, eastern and southern and south-eastern portions of the site) and the Tucklan soil group (mapped across a small section of the south-western portion of the site).

The Home Rule soil group landscape is characterised by undulating low hills with local relief between 30 – 60 m and slopes between 4 – 8%. Sediments are derived from the surrounding Gulgong and Rouse Granites. Siliceous sands and earthy sands are generally observed within the upper and mid-slopes. Bleached sands, yellow Podzolic Soils and yellow Solodic Soils are generally observed within the lower slopes and flats. Layered siliceous sands can also be observed within some of the larger drainage lines. Limitations associated with the Home Rule soil group include very low fertility, low available water holding capacity, acidic surface soils, seasonal waterlogging, sodic subsoils in lower slopes, high permeability on mid to upper slopes and moderate to high erosion hazards under cultivation.

The Tucklan soil group landscape is characterised by undulating low hills with local relief between 40 – 80 m and slopes between 3 – 15%. Soils generally comprise of Euchrozems, rises of Red Podzolic Soils and non-calcic Brown Soils. Limitations associated with the Tucklan soil group include moderate to high erosion hazards under cultivation, moderate fertility, moderate to high water holding capacity, moderate to high shrink-swell potential.

5.3 **Site Geology**

The NSW Mineral Resources (NSWMR, 2000) indicates that the site is underlain by a number of geological units as shown in Figure 2 and detailed below:

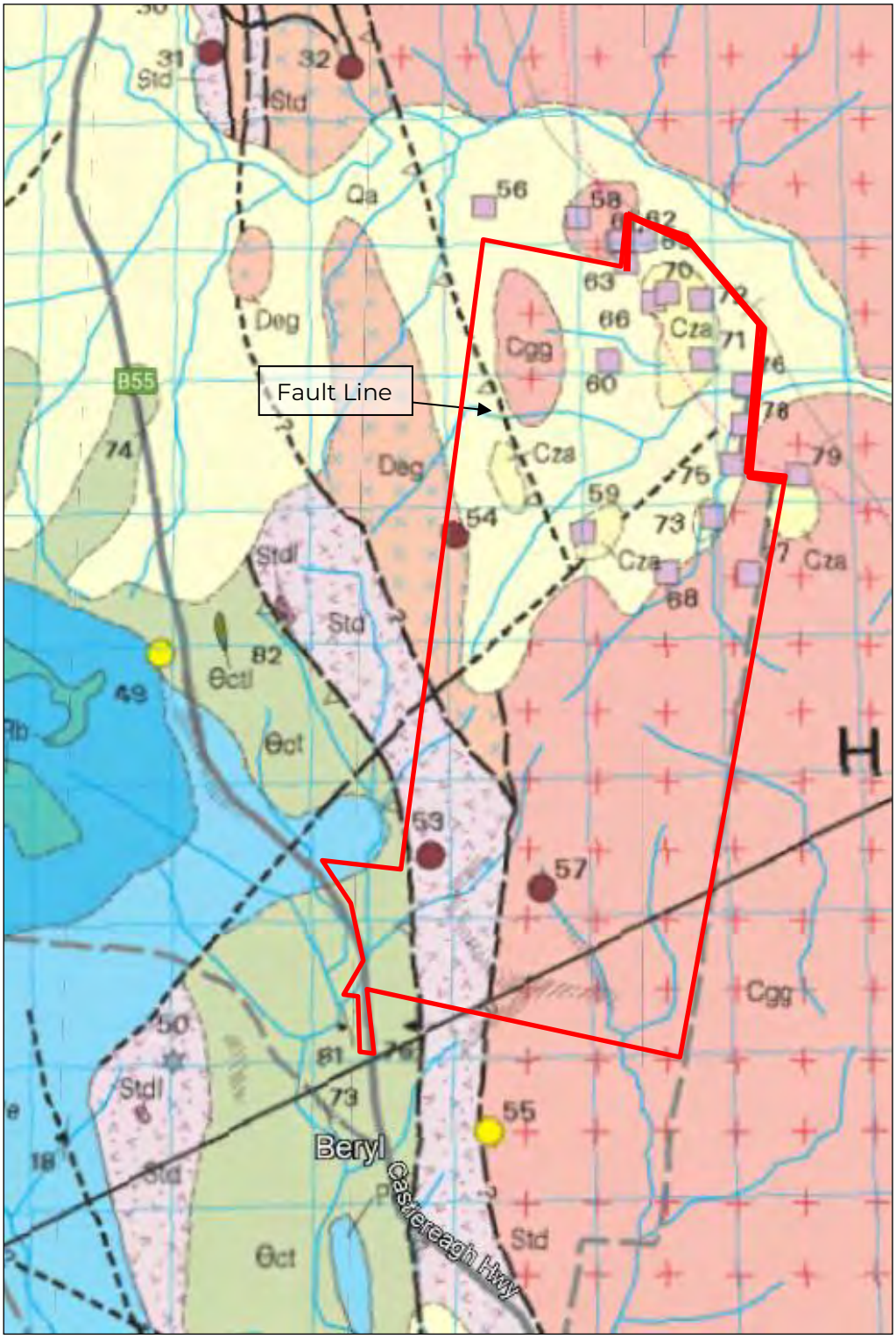


Figure 2: Geology map showing overall site boundary (red outline).

- **Deg:** Tallawang Granite;
- **Cgg:** Gulgong Granite;
- **Std:** Dungeree Volcanics typically comprising rhyolite and dacite;
- **Qa:** Quaternary alluvial deposits comprising silt, clay and sand;
- **Oct:** Dark mudstone, basalt to latite boulder conglomerate or breccia, lithic sandstone; basalt, andesite, dolerite, latite, limestone and rare chert; and
- **Cza:** Cainozoic undifferentiated deposits comprising gravel, sand, silt and clay.

The mapping also indicates that the site is underlain by a number of fault lines shown with dashed black lines in Figure 2.

5.4 Acid Sulfate Soils

Reference to the CSIRO's Atlas of Australian Acid Sulfate Soils online mapping portal, (A S R I S - Atlas of Australian Acid Sulfate Soils (csiro.au)) indicates that the site has an extremely low probability of acid sulfate soils to be present.

5.5 Surface Water and Groundwater

Tributaries to Tallawang Creek (located to the north-east of the site) and Wialdra Creek (located to the south of the site), several ephemeral drainage lines and several farm dams are present across the site. The Tallawang Creek tributaries and drainage lines within the northern half of the site flow towards Tallawang Creek approximately 570 m north-east of the site (at the site's closest point). The Wialdra Creek tributaries and drainage lines within the southern half of the site flow towards Wialdra Creek approximately 2.2 km south of the site (at the site's closest point). Review of the topographic map and the site inspection indicates that the likely direction of surface water drainage would generally be towards the north-east/east within the northern half of the site and south for the southern half of the site.

A search of the publicly available registered groundwater bore database (see Appendix C) that there are six registered groundwater bores within 1 km of the site. The six groundwater bores from within 1 km of the site are summarised in Table 2.

Table 2: Summary of Available Information from Nearby Registered Groundwater Bores

Bore ID Authorised Purpose Completion Year Status	Location Relative to Site	Final Depth (m)	Standing Water Level (m bgl)
GW805247 Stock / Domestic 2013	Within the site (south-west corner)	42	12
GW053198 Stock / Domestic / Irrigation	130 m south-west	27.6	Unknown

Bore ID Authorised Purpose Completion Year Status	Location Relative to Site	Final Depth (m)	Standing Water Level (m bgl)
GW053197 Stock / Domestic / Irrigation	145 m south-west	28.9	Unknown
GW048979 Stock / Domestic / General use	250 m south-west	36.6	Unknown
GW802000 Stock / Domestic 2003	355 m south-west	14	3
GW026819 Stock 1967	870 m south-west	30.4	Unknown

Information from the registered groundwater bore logs in the vicinity of the site are recorded as being between 3 m and 12 m bgl.

Based on the regional topography and the inferred flow direction of nearby water courses, the anticipated flow direction of groundwater beneath the site is to the north-east, towards Tallawang Creek or south towards Wialdra Creek, the likely receiving surface water bodies for the groundwater flow path. Given the local geology (i.e. alluvial, colluvial and Tallawang Granite), the groundwater in the porous and unconsolidated soils and possible fractured rock beneath the site is anticipated to be relatively fresh. Accordingly, potential beneficial uses could include irrigation or drinking water, although the future use of the groundwater for drinking water is considered unlikely given that the site is proposed to be developed into a solar farm (commercial/industrial land use).

6. Site history

6.1 Historical aerial photography

Several historical aerial photographs were obtained from public databases. Extracts of the aerial photographs are included in Appendix D. A summary of key features observed for the site and surrounding land is presented below in Table 3.Given the rural nature of the site, limited aerial photographs were available.

Table 3: Summary of Historical Aerial Photographs

Year	Site	Surrounding Land Use
1964	A shed was located within the southern portion of the site and two residential dwellings were present in the northern portion of the site and the southern	The surrounding land appeared to consist of open agricultural land, most likely used for grazing with sporadic clusters of multiple and singular trees.

Year	Site	Surrounding Land Use
	portion of the site. There appeared to be several other structures surrounding the dwellings, most likely sheds purposed for agricultural usage. The site was open agricultural land, most likely used for grazing. Several dams, drainage lines and tributaries were present across the site as well as sporadic singular trees and clusters of multiple trees. Contour berms were located across a paddock in the southern portion of the site, adjacent to the site's southern residential dwelling. Seven large areas of disturbed ground were noted within the north-eastern portion of the site. These are understood to have been clay pits / mines and are discussed further in Section 6.2 and 7.	Puggoon Road was located immediately to the east of the site. Castlereagh Highway was located immediately to the south-west of the site. A railway line was located to the east, north-east and north of the site. Disturbed ground appeared to be present along the northern boundary of the site.
1971	Appeared largely unchanged from the previous aerial photograph. An additional area of disturbed ground (clay pit) was located to the west of the southern-most ones seen in the previous photograph.	Appeared largely unchanged from the previous aerial photograph.
1980	**Note: Poor image quality.** Appeared largely unchanged from the previous aerial photograph.	Appeared largely unchanged from the previous aerial photograph.
1988	Several areas of cropping appeared within the southern and western portions of the site (noted due to the colour change in the paddocks) largely unchanged from the previous aerial photograph. One of the disturbed areas of ground increased in size (western most disturbed area location).	New developments appeared to the north and north-east of the site (within the Marulan township). The developments comprised of commercial buildings, industrial buildings and service stations.
1995	Appeared largely unchanged from the previous aerial photograph. It appeared that some of the large, disturbed areas (clay pits) had started to fill up with water, resulting in irregular shaped dams.	Appeared largely unchanged from the previous aerial photograph.
2012	**Note: Poor image quality.** Appeared largely unchanged from the previous aerial photograph. Cropping	Appeared largely unchanged from the previous aerial photograph.

Year	Site	Surrounding Land Use
	appeared to have occurred within the north-western corner of the site.	
2018	Appeared largely unchanged from the previous aerial photograph. A residential dwelling was constructed in the south-west corner of the site. It appeared that vegetation had grown over some of the disturbed ground areas	Appeared largely unchanged from the previous aerial photograph.
2023	Appeared largely unchanged from the previous aerial photograph.	Appeared largely unchanged from the previous aerial photograph.

Table 4: Public registers and planning records

EPA Notices available under Section 58 of the Contaminated Lands Management Act (CLM Act) Updated database search (25 February 2025)	There were no records of notices for the site or adjacent sites.
Sites notified to EPA under Section 60 of the CLM Act Updated database search (25 February 2025)	The site and adjacent sites were not listed as a notified contaminated site.
Licences listed under Section 308 of the Protection of the Environment Operations Act 1997 (POEO Act) Updated database search (25 February 2025)	There were no records issued to the site or adjacent sites.
PFAS Investigation Sites listed on the EPA website Database searched 25 February 2025	The site was not listed or adjacent to a site listed under: • NSW EPA PFAS Investigation Program; • Defence PFAS Investigation Program; • Defence PFAS Management Program; and • Airservices Australia National PFAS Management Program
Planning Certificates Letters dated – 29 September 2022 (refer to Appendix C)	Several Section 10.7 (2 and 5) Planning Certificate searches were conducted for the site (areas where previous clay mines are located). The Planning Certificates (2 & 5) for the site, all dated 29 September 2021 are included in Appendix C. The site is located within the local government area of Mid-Western Regional Council. Lots 96, 98, 105, 148 and 150 DP 750762 are zoned as RU1: Primary Production. The land was not significantly contaminated, subject to a management order, subject of an approved voluntary management proposal, subject to an ongoing management

	order, nor subject of a site audit statement, at the time the certificate was issued. The land was not reported to be within a Heritage Conservation Area. The land was not reported to be within an item of Environmental Heritage. The land does not contain any identified critical habitats. The land was not reported to be bush fire prone land. The land was not located in bio-diversity certified land. The site was not located in a mine subsidence or road widening/construction area. Applications are required for removal of significant trees.

6.2 Site history integrity assessment

The information used to establish the history of the site was sourced from reputable and reliable reference documents, many of which were official records held by Government departments/agencies. The databases maintained by various Government agencies potentially can contain high quality information, but some of these do not contain any data at all.

In particular, aerial photographs can provide high quality information that is generally independent of memory or documentation. They are only available at intervals of several years, so some gaps exist in the information from this source. The observed site features are open to different interpretations and can be affected by the time of day and/or year at which they were taken, as well as specific events, such as flooding. Care has been taken to consider different possible interpretations of aerial photographs and to consider them in conjunction with other lines of evidence.

6.3 Summary of site history

The 1964 historical photograph indicated that the site was used for agricultural purposes and disturbed ground was noted across the northern portion of the site. The disturbed ground areas appeared to get larger or change shape over the years. These areas were identified in the planning certificates to be clay mines. There were two residential dwellings located within the northern and southern portions of the site. Sometime between 2012 and 2018, a third residential dwelling was constructed in the south-west corner of the site. There appeared to be several other structures surrounding the dwellings, most likely sheds purposed for agricultural usage.

The 10.7 (2 and 5) Planning Certificate search results indicated no records of contamination across the site and the NSW EPA database searches also indicated that no contaminated sites or POEO notices are located within or adjacent to the current site of investigation.

7. Site walkover

7.1 2022 (entire site)

A site walkover was undertaken by a geo-environmental scientist on 31 January, 1 to 4 February and 14 and 15 February 2022. The general site topography was consistent with that described in Section 5. The site layout appears to have remained unchanged from the 2018 aerial photograph. The following key site features pertinent to the PSI were observed (refer to Photographs 1 – 16 in Appendix E).

- The paddocks were generally either used for cropping or pastural paddocks. Anectodical evidence provided by the landowners also indicated that parts of the site were historically mined for clay, some of these areas were in-filled and some were left to fill with water for use as farm dams;
- The majority of the site was lightly to heavily grass vegetated with crop stubble evident in some recently harvested paddocks;
- Outcropping granite rock or tors were observed at the surface over minor parts of the site (within the south-eastern and central western portions of the site;
- A number of farm dams are scattered across the site, including some irregular shaped 'dams' over the northern part of the site, likely associated with the historical clay mining at the site. Fill surrounded the historic mines/dams and was most likely spoil from historical excavations;
- Contour berms were located across the western and south-western portions of the site. The contour berms appeared to have originated from site-won material;
- Several structures were located across the site including residential dwellings, farm sheds and barns, historical shelters, stockyards and silos. The farm sheds, barns, shelters and stockyards were primarily constructed with metal and timber. Some concrete and metal waste was noted in the stockyard within the centre of the site. Access to the residential dwellings was not part of the scope of works. It is likely that the dwellings and other structures associated with the dwellings that were constructed pre-1990's are likely to contain hazardous building materials (HMB) i.e.: asbestos containing material (ACM);
- Some mature trees, outside of the densely vegetated protected areas, were scattered across the site;
- A number of dirt access tracks crossed the paddocks;
- There were a number of small hill tops, particularly through the central and north-western parts of the site with a number of relatively flat areas in between. Overall surface levels fall to the north-east over the northern half of the site and to the south-west over the southern part of the site;
- There was no evidence of in-filled drainage lines or gullies and no evidence of animal burial pits, however, it is noted that given the size of the site and it is not possible to fully discount the presence of filled gullies or animal burial pits;
- There was no evidence of underground storage tanks present at the site; and
- There was no evidence of stressed vegetation or stained / odorous soils;

7.2 2025 (TWA area and area between Jenkins Lane and Castlereagh Highway)

A site walkover was undertaken by an experienced senior environmental scientist on 3 March 2025. The general site topography was consistent with that described in Section 5. The site layout appears to have remained unchanged from the 2023 aerial photograph. The following key site features pertinent to the PSI were observed (refer to Photographs 17 – 25 in Appendix E).

7.2.1 TWA

- The area appeared to be a paddock either used for cropping or pastural purposes. Anectodical evidence provided by the landowners also indicated that oats were recently cropped in the south-east corner of the site. Three trees and a burnt stump were present within the area. The ground surface around the stump appeared to be raised, however, disturbed ground surrounding the stump appeared to be natural material;
- A drainage line and two dams were located along the northern/north-western boundary of the TWA area. Dense tree coverage lines were located along the western and southern boundaries of the TWA area. Puggoon Road was located along the eastern boundary of the TWA area.
- A burnt out tractor was located within the central western portion of the TWA area. The surrounding soil appeared to comprise of a burn scar with possible soil staining, molten metal, glass fragments and friable fibreglass was present on the tractor and the tyres were burnt off the wheels;
- There was no evidence of in-filled drainage lines or gullies and no evidence of animal burial pits, however, it is noted that given the size of the site and it is not possible to fully discount the presence of filled gullies or animal burial pits;
- There was no evidence of potential asbestos containing material (PACM);
- There was no evidence of underground storage tanks present at the site; and
- Other than the tractor burn scar, there was no evidence of stressed vegetation or stained / odorous soils.

7.2.2 Jenkins Lane

- The area appeared to be a paddock located between Jenkins Lane and Castlereagh Highway;
- The area was covered with dense long grass. One car tyre was noted within the northern portion of the area;
- There was no evidence of in-filled drainage lines or gullies and no evidence of animal burial pits;
- There was no evidence of potential asbestos containing material (PACM);
- There was no evidence of underground storage tanks present at the site; and
- There was no evidence of stressed vegetation or stained / odorous soils.

8. Preliminary conceptual site model

A conceptual site model (CSM) is a representation of site-related information regarding contamination sources, receptors and exposure pathways between those sources and receptors.

The CSM 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 i.e. it enables an assessment of the potential source – pathway – receptor linkages (complete pathways).

Based on the current investigation and previous report, the following potential sources of contamination and associated contaminants of potential concern (CoPC) have been identified and summarised

Potential Sources (S)

Based on the current investigation, the following potential sources of contamination and associated contaminants of potential concern (COPC) have been identified.

- S1: Fill: Associated with past clay mining practices within the site and possible in-filled drainage lines or gullies that were not observed by Douglas at the time of the walkover.
  - COPC include metals/metalloids: arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), mercury (Hg), nickel (Ni), zinc (Zn); total recoverable hydrocarbons (TRH); benzene, toluene, ethylbenzene, xylene (BTEX); polycyclic aromatic hydrocarbons (PAH); organochloride pesticides and organophosphate pesticides (OCP/OPP) and asbestos.
- S2: Past pesticide usage.
  - COPC include metals (arsenic and lead), OPP and OCP.
- S3: Animal burial pits.
  - COPC include *Escherichia coli* (*E. coli*), faecal coliforms, pathogens, salmonella and nutrients.
- S4: Current site structures.
  - COPC include asbestos, synthetic mineral fibres (SMF), lead (in paint) and PCB.
- S5: Potential zinc leaching from galvanized corrugated roof sheeting on site sheds.
  - COPC include zinc
- S6: S6: Burnt out site machinery (TWA area).
  - COPC include metals / metalloids, TRH, BTEX, PAH.

Potential Receptors (R)

The following potential human receptors have been identified:

- R1: Current users [livestock and agricultural workers/residents];
- R2: Future construction and maintenance workers;
- R3: End users [solar farm workers]; and
- R4: Adjacent site users [agricultural workers/residents].

The following potential environmental receptors have been identified:

- R5: Surface water [on-site dams, drainage lines and tributaries - fresh];
- R6: Groundwater; and

- R7: Terrestrial ecology.

Potential Pathways (P)

The following potential pathways have been identified:

- P1: Ingestion and dermal contact;
- P2: Inhalation of dust and/or vapours;
- P3: Surface water run-off;
- P4: Leaching of contaminants and vertical migration into groundwater;
- P5: Lateral migration of groundwater providing base flow to water bodies; and
- P6: Inhalation, ingestion and absorption.

Summary of Potentially Complete Exposure Pathways

A 'source–pathway–receptor' approach has been used to assess the potential risks of harm being caused to human or environmental receptors from contamination sources on or in the vicinity of the site, via exposure pathways (potential complete pathways). The possible pathways between the above sources (S1 to S6) and receptors (R1 to R4) are provided in Table 4 below.

Table 4: Summary of Potentially Complete Exposure Pathways

Source and COPC	Transport Pathway	Receptor	Risk Management Action
S1: Fill: metals/metalloids:; TRH, BTEX, PAH, OCP/OPP and asbestos. S2: Past pesticide usage: metals, OPP and OCP, lead, TRH, BTEX, PAH, and VOC. S3: Animal burial pits: E. coli, faecal coliforms, viruses, salmonella and nutrients. S4: Current site structures: asbestos, synthetic mineral fibres (SMF), lead (in paint) and PCB.	P1: Ingestion and dermal contact P2: Inhalation of dust and/or vapours P3: Surface water run-off P4: Lateral migration of groundwater providing base flow to water bodies P5: Leaching of contaminants and vertical migration into groundwater P6: Contact with terrestrial ecology	R1: Current users [livestock and agricultural workers/residents]; R2: Future construction and maintenance workers; R3: End users [solar farm workers]; and R4: Adjacent site users [neighbouring agricultural land and residents]. R5: Surface water [Stringybark Creek tributary, drainage lines and on-site farm dams]; R6: Groundwater; and R7: Terrestrial ecology	An intrusive investigation is recommended to assess possible contamination including testing of the soils and if deeper contamination is noted, groundwater testing may also be required.

Source and COPC	Transport Pathway	Receptor	Risk Management Action
S5: Potential zinc leaching: zinc. S6: Burnt-out machinery : metals/metalloids, TRH, BTEX and PAH			

9. Sampling and analysis plan

9.1 Data quality objectives

The PSI with limited sampling was devised with reference to the seven-step data quality objective process which is provided in Appendix B Schedule B2, NEPC (2013). The data quality objective process is outlined in Appendix F.

9.2 Soil sampling and analysis rationale

The client provided the test pit location plan. It was assumed that the locations were based on where the development of the site is proposed to occur (i.e. where solar panels, substations, electrical lines etc. were planned to be located). It should be noted that Douglas nominated the locations of Pits 57 to 67 which were placed where past mining activities and disturbed ground was noted from the historical aerial photographs review. Test locations are provided in Drawing 2, Appendix A.

Soil samples were collected from each test pit at depths of approximately 0.1 m, 0.5 m, 1.0 m and every 1.0 m thereafter, and changes in lithology or signs of contamination.

The general sampling methods are described in the field work methodology, included in Appendix G.

It is noted that access to residential properties was not part of the scope of this investigation, therefore no test pits targeting potential hazardous building materials were undertaken. The site inspection walkover did not encounter animal burial pits, but given the history of grazing at the site, it cannot be discounted that they may be present. As no burial pits were identified, no test pits targeting such areas were undertaken.

10. Site assessment criteria

The site assessment criteria (SAC) applied in the current investigation are informed by the CSM (Section 8) which identified human and environmental receptors to potential contamination on the site. Analytical results are assessed (as a Tier 1 assessment) against the SAC comprising primarily the investigation and screening levels of Schedule B1 of NEPC (2013).

The investigation and screening levels applied in the current investigation comprise levels adopted for a generic residential land use scenario (to allow for the TWA area). The derivation of the SAC is in Appendix H, and the adopted SAC are listed on the summary analytical results tables in Appendix G.

11. Results

11.1 Field work methods

The field investigation was completed on 31 January, 1 to 4 February and 14 and 15 February 2022. and comprised the excavation of 61 test pits using a Komatsu PC210LCi excavator fitted with a 1.2 m wide toothed bucket. Pits 3, 7, 8, and 11 to 56 were excavated for geotechnical and environmental purposes and Pits 57 to 67 were excavated for environmental purposes to target areas of historical disturbance (i.e. likely from the historical clay mining at the site) and have also been included in this report. It is noted that Pits 1, 2, 4, 5, 9 and 10 were excluded from the scope of works due to site access constraints.

All field work was undertaken in the presence of a geo-environmental scientist. The test location coordinates provided on the log report sheets were recorded using a hand held GPS unit, which is accurate to approximately 3 – 5 m. The surface levels were interpolated from the survey drawing provided by the client.

11.2 Field work results

Details of the subsurface conditions encountered are given in the test pit logs in Appendix J which must be read in conjunction with the included explanatory notes that describe the sampling methods, soil and rock descriptions, and symbols and abbreviations used in their preparation.

The subsurface conditions encountered in the test pits across the site were variable with an upper sandy layer encountered below the topsoil over much of the site with clay and sand soils overlying weathered rock in the approximately half of the test pits. The rock was shallower on the hill tops and their flanks at the site and was absent from some pits in the lower lying areas of the site. The general succession of strata encountered at the site is summarised below:

- TOPSOIL: clayey sand, silty sand, silty clay and sandy clay topsoil to depths of 0.15 m to 0.3 m in all pits excluding Pits 60 to 67.
- FILL: silty clay and sandy clay fill to depths of 0.2 m to 0.8 m in Pits 60 to 67. Anthropogenic material including brick fragments, beverage cans and rusted metal pipes were encountered in the fill within Pit 60.
- SANDS: variably very loose to very dense clayey sand, silty sand or gravelly sand underlying the topsoil in Pits 3, 7, 11 to 13, 16 to 18, 20, 21, 25, 26, 30, 34 to 36, 39 to 42, 44, 47, 52, 56, 65 and 67 to depths of 0.3 m to 1.2 m.
- SANDY CLAY/SILTY CLAY: generally very stiff to hard (and firm to stiff in some pits), low to high plasticity sandy clay and silty clay to depths of 0.4 m to 4.0 m in all pits excluding Pits 14, 17, 22, 41, 44 and 65. Pits 11, 15, 34, 36 and 47 were terminated in this stratum at either the limit of investigation depth of 4.0 m (Pits 11 and 15) or due to slow progress at depths of 2.0 m to 3.3 m.

- SANDS: medium dense to very dense (and cemented in a number of pits) clayey sand, gravelly sand and silty sand in Pits 3, 4, 6, 7, 17, 24, 26, 32, 34, 36, 39, 41, 42, 52, 54 to 56,58, 60 and 65 from below depths of 0.4 m to 2.1 m (and interbedded with clay in Pits 34 and 36) to depths of 0.8 m to 1.9 m in Pits 4, 17, 36 and 58 and to the termination depths of 0.5 m to 3.6 m in the remaining pits at either slow progress or refusal.
- CLAYEY SILT: hard, low plasticity silt in Pit 22 only to the refusal depth of 2.3 m.
- ROCK: generally very low to low strength, highly weathered granite, dacite (Pits 33 and 37 only) and rhyolite (Pit 14 only) in Pits 6, 7, 8, 12 to 14, 16 to 21, 23, 25, 27 to 29, 33, 35, 37, 38, 40, 44 to 46, 49 to 51 and 53 below depths of 0.4 m to 3.4 m to the limit of investigation depth of 4.0 m in Pits 20, 25, 35, 45 and 51 and the slow progress or refusal depths of 1.0 m to 3.6 m in the remaining pits. Low to medium and medium to high strength rock was encountered in Pits 33 and 37, respectively. A very high strength quartz seam was also encountered in Pit 17, possibly associated with the geological fault mapped in this area.

Groundwater was noted in Pit 21 at a depth of 1.4 m. It is noted that the groundwater appeared to be perched groundwater located between the sandy clay and granite layers. The seepage was noted to be of moderate flow. No free groundwater was encountered during the excavation of all other test pits, which were backfilled following excavation, precluding longer term monitoring.

Groundwater conditions rarely remain constant and can change due to seasonal variations in rainfall and evapotranspiration, and also permeability. For these reasons, it is noted that the moisture condition of the site soils may vary considerably from the time of the investigation compared to at the time of construction. It is further noted that the field work was undertaken during a relatively dry period.

There were no other apparent records of visual or olfactory evidence (e.g. staining, odours, free phase product) to suggest the presence of contamination within the soils or groundwater observed in the investigation.

11.3 Laboratory analytical results

The results of laboratory analysis are summarised in the following tables in Appendix I:

- Table I1: Summary of Results of Soil Analysis (Metals, TRH, BTEX and PAH);
- Table I2: Summary of Results of Soil Analysis (OPP/OCP, phenols, PCB and asbestos);
- Table I3: Summary of Waste Classification Assessment;
- Table QA1: QA/QC Results.

The laboratory certificates of analysis together with the chain of custody and sample receipt information are provided in Appendix K.

11.4 Data quality assurance and quality control

The data quality assurance and quality control (QA/QC) results are included in Appendix L. Based on the results of the field QA and field and laboratory QC, and evaluation against the data quality indicators (DQI), it is concluded that the field and laboratory test data obtained are reliable and useable for this assessment.

12. Discussion

12.1 Soils

Analytical results of soil samples were all within the adopted health-based (i.e. HIL-D/HSL-D) and ecological (i.e. EIL/ESL) criteria, and management limits adopted for low-density residential land use scenario.

All soil results for TRH, BTEX, PAH, OCP, OPP and PCB were below the laboratory's practical quantitation limit (PQL). All soil results for metals were above the PQL with the exception of cadmium, mercury and a number of arsenic results (see Table G1), but below the adopted screening criteria.

It is noted that during excavation of the test pits, no evidence of animal burial pits was encountered, subsequently no samples were submitted for analysis for the identified CoPC associated with this source (*E. coli*, faecal coliforms, pathogens, salmonella and nutrients). It is considered that risks associated with this source can be managed via implementation of an unexpected finds protocol (UFP) during construction).

12.2 Preliminary waste classification

The following Table 5 presents the results of the six-step procedure outlined in NSW EPA (2014) for determining the type of waste and the waste classification. This process applies to the fill (including topsoil fill (surface soils)) at the site, which do not meet the definition of VENM. It should be noted that the preliminary in-situ waste classification can only applied to the site boundary shown in Drawing 1 and depth of the sampling in this PSI with limited sampling.

Table 5: Six step classification procedure

Step	Comments	Rationale
1. Is the waste special waste?	No	No asbestos-containing materials (ACM), clinical or related waste, or waste tyres were observed in the test pits.
2. Is the waste liquid waste?	No	The fill comprised a soil matrix.
3. Is the waste "pre-classified"?	No	The fill is not pre-classified with reference to NSW EPA (2014). The natural material, if classified as VENM, is pre-classified as General Solid Waste (non-putrescible).
4. Does the waste possess hazardous waste characteristics?	No	The fill was not observed to contain or considered at risk to contain explosives, gases, flammable solids, oxidising agents, organic peroxides, toxic substances, corrosive substances, coal tar, batteries, lead paint or dangerous goods containers.

Step	Comments	Rationale
5. Determining a wastes classification using chemical assessment	Conducted	Refer to Table I3 (Appendix I).
6. Is the waste putrescible or non-putrescible?	Non-putrescible	The fill does not contain materials considered to be putrescible [a].

Note: a wastes that are generally not classified as putrescible include soils, timber, garden trimmings, agricultural, forest and crop materials, and natural fibrous organic and vegetative materials.

As shown in the attached Table I3 (Appendix I), reported concentrations of metals, TRH, BTEX, PAH, OCP, OPP, PCB and phenols were below the CT1 criteria for General Solid Waste (non-putrescible).

Table 6: Preliminary in-situ waste classification summary

Item	Description
Based on the observations at the time of sampling and the reported analytical results, the fill described as:	Silty Clay and Sandy Clay FILL and TOPSOIL FILL
Within the area subject to classification as shown on Drawing 1, is classified as:	General Solid Waste

The following Table 7Table presents the results of the assessment of natural soils and bedrock at the site with reference to the VENM definition in the POEO Act and the EPA[1] website.

Table 7: VENM classification procedure

Item	Comments	Rationale
1. Is the material natural?	Yes	Natural materials logged in the test pits as silty clay, sandy clay, sandy clay, sands, granite, rhyolite and dacite. It should be noted that these materials underlie the observed fill at the site (where present). Depth of fill ranged from 0.15 m to 0.8 m in Pits 60 to 67. Average depth of 0.36 m
2. Is the material impacted by manufactured chemicals or process residues?	No	There were no visual or olfactory indicators of chemical contamination of the materials in the test pits.

[1] https://www.epa.nsw.gov.au/your-environment/waste/classifying-waste/virgin-excavated-natural-material

Item	Comments	Rationale
		Concentrations of contaminants were considered to be typical of background concentrations (Table I1 and I2, Appendix I). Results of potential contaminants were below the waste classification criteria or <PQL
3. Are the materials acid sulfate soils?	No	Refer to Section 4
4. Are there current or previous land uses that have (or may have) contaminated the materials?	No	Previous land uses may have impacted on surface soils overlying the materials. Low chemical concentrations indicate no likely impact on the natural materials.

Based on the natural material observed from the test pits and chemical analysis of select samples, the material underlying the fill could be classified as VENM. It should be noted that a VENM classification would be voided should the natural material be mixed with any fill or potential contaminants.

Table 8: VENM Classification Summary

Item	Description
Based on the outcomes presented in Section 11.2, the natural soils and bedrock that underlie the fill are described as:	Silty CLAY, sandy CLAY, clayey SAND, GRANITE, DACITE and RHYOLITE
Within the area subject to classification as shown on Drawing 1, is classified as:	VENM

If any materials are encountered that are different to those sampled and tested or exhibit signs of potential contamination (e.g.: anthropogenic inclusions, staining or odours) this preliminary in-situ waste classification does not apply and the advice of a qualified environmental consultant should be sought.

If during excavation, the natural in-situ soil is found to contain possible signs of contamination or is cross-contaminated with any non-VENM materials, the excavated natural soil cannot be classified as VENM. In this regard, it is also recommended that care should be taken during the bulk excavation of the VENM to prevent cross contamination between the VENM and non-VENM materials.

Fill material that is proposed to be disposed off-site should be stockpiled first, have the volume measured by a qualified surveyor and a suitably qualified environmental consultant should assess the stockpile to evaluate that the material is consistent with the material that was observed within this investigation. It should be noted that further testing may be warranted once material is excavated and stockpiled. VENM should not be stockpiled or processed in any way. A site for the use of the VENM should be identified prior to commencement of site excavations and once commenced, the excavated VENM should be transported directly to the reuse site.

Both the receiving site and the site disposing of the material should satisfy the requirements of the licence before disposal of the material is undertaken. Note that appropriate prior arrangement with the receiving site/relevant authorities should be obtained prior to the disposal of any material off site. The receiving site should check to ensure that the material received matches the description provided in this report and contains no cross contamination. The handling, transport and disposal of the materials should be conducted in accordance with regulatory and statutory requirements. Douglas does not accept liability for the unlawful disposal of waste materials from any site. Douglas accepts no responsibility for the material tracking, loading, management, transport or disposal of waste from the site

13. Revised conceptual site model

The data collected for this PSI with limited sampling has generally indicated that gross accumulation of CoPC associated with the identified with the potential sources outlined in Section 8 were generally not present in the areas of the site where test pits were investigated. It is noted that the sampling density undertaken for this PSI did not meet the minimum sampling density (NSW EPA, 1995), therefore it is assessed that potentially complete pathways may exist at the site that should be managed during construction works. The potentially complete pathways are summarised in Table 9.

Table 94: Updated summary of potentially complete exposure pathways (proposed land use)

Source and CoPC	Exposure pathway	Receptor	Risk management action
S1: Fill: metals/ metalloids; TRH, BTEX, PAH, OCP/OPP and asbestos. S2: Past pesticide usage: metals, OPP and OCP, lead, TRH, BTEX, PAH, and VOC. S3: Animal burial pits: E. coli, faecal coliforms, viruses, salmonella and nutrients. S4: Current site structures: asbestos, synthetic mineral fibres (SMF), lead (in paint) and PCB.	P1: Ingestion and dermal contact P2: Inhalation of dust and/or vapours P3: Surface water run-off P4: Lateral migration of groundwater providing base flow to water bodies P5: Leaching of contaminants and vertical migration into groundwater P6: Contact with terrestrial ecology	R1: Current users [livestock and agricultural workers/residents]; R2: Future construction and maintenance workers; R3: End users [solar farm workers]; and R4: Adjacent site users [neighbouring agricultural land and residents]. R5: Surface water [Stringybark Creek tributary, drainage lines	The reported concentrations of CoPC were below the adopted assessment criteria based on a low-density residential land use. It is noted that, during excavation of the test pits, no evidence of animal burial pits was encountered, subsequently no samples were submitted for the associated CoPC. In addition, no access was available to residential properties and therefore, no test pits were undertaken in the vicinity of these areas. Given the limited nature of this assessment, it is possible that the identified pollutant pathways identified here may be complete at the site and as such, it is recommended that during

Source and CoPC	Exposure pathway	Receptor	Risk management action
S5: Potential zinc leaching: zinc.		and on-site farm dams]; R6: Groundwater; and R7: Terrestrial ecology	construction, a construction environment management plan (CEMP) incorporating an UFP should be prepared and implemented. Should unexpected finds occur during construction work, further environmental assessment should be undertaken.
S6: Burnt-out machinery: metals/metalloids, TRH, BTEX and PAH.	P1: Ingestion and dermal contact P2: Inhalation of dust and/or vapours P3: Surface water run-off	R1: Current users [livestock and agricultural workers/residents]; R2: Future construction and maintenance workers; R3: End users [solar farm workers]; and R4: Adjacent site users [neighbouring agricultural land and residents].	It is recommended that the burnt-out machinery is removed and validation sampling and assessment is conducted within the footprint of the burn scar and tractor.

14. Conclusions and recommendations

Douglas has been engaged by RES on behalf of Potentia to complete this addendum to the preliminary site investigation with limited sampling (contamination) (PSI) for a proposed solar farm at Castlereagh Highway, Beryl NSW.

The objective of the PSI was to assess the suitability of the site for the proposed development and whether further investigation and / or management is required. It is understood that the report will be used to support a development application for the proposed development.

Potential sources and areas of contamination were identified on the basis of the available site information and site inspection walkover. The following potential sources of contamination and associated contaminants of potential concern (COPC) have been identified.

- S1: Fill: Associated with past clay mining practices within the site and possible in-filled drainage lines or gullies that were not observed by Douglas at the time of the walkover.
  - COPC include metals/metalloids, TRH, BTEX, PAH, OCP/OPP and asbestos.
- S2: Past pesticide usage.
  - COPC include metals (arsenic and lead), OPP and OCP.
- S3: Animal burial pits.
  - COPC include *Escherichia coli* (*E. coli*), faecal coliforms, pathogens, salmonella and nutrients.
- S4: Current site structures.
  - COPC include asbestos, synthetic mineral fibres (SMF), lead (in paint) and PCB.
- S5: Potential zinc leaching from galvanized corrugated roof sheeting on site sheds.
  - COPC include zinc.
- S6: Burnt out site machinery (TWA area) – observed during the addendum walk over.
  - COPC include metals / metalloids, TRH, BTEX, PAH.

Soil sampling at the site focused on the identified areas of concern with the exceptions of potential animal burial pits and hazardous building material associated with current site structures. Access to residential buildings where hazardous building materials may be present was outside the scope of this assessment and no animal burial pits were encountered, however, their presence cannot be discounted. The analytical results of soil samples were below the adopted health-based (i.e. HIL-A/HSL-A/B), ecological (i.e. EIL-A/ESL-A) criteria, and management limits for residential land use.

Based on the results of the PSI, it was considered that the site was suitable for the proposed development subject to implementation of the recommendations below:

- A Construction Environment Management Plan (CEMP) should be prepared including an 'unexpected finds protocol' and implemented during the works (i.e., fill, suspect asbestos containing material (ACM), hydrocarbon staining and/odours, and general staining);
- The burnt-out tractor should be removed, disposed off-site appropriately to a licensed waste facility and the footprint should be validated by a suitably qualified environmental consultant prior to the construction of the TWA;
- Prior to validation of the tractor footprint area, a 100 mm scrape should be undertaken and the material stockpiled and assessed in accordance with NSW EPA *'Waste Classification Guidelines Part 1 Classifying* Waste' (2014) and assigned a waste classification prior to off-site disposal to a suitably licensed waste management facility;
- Should unexpected finds occur during construction work, further environmental assessment should be undertaken;
- Should suspected asbestos be encountered at the site, the affected area should be fenced off and assessed by an NSW licensed asbestos assessor; and
- Should any additional fill material be required to be disposed off-site, the material must be either assessed in accordance with NSW EPA '*Waste Classification Guidelines Part 1 Classifying Waste*' (2014) and assigned a waste classification prior to off-site disposal or assessed for reuse on alternative site in accordance with the NSW EPA *'Resource Recovery*

Order under Part 9 of the Protection of the Environment Operations (Waste) Regulation 2014 – The Excavated natural material order 2014'.

15. References

CRC CARE. (2017). *Risk-based Management and Remediation Guidance for Benzo(a)pyrene*. Technical Report no. 39: Cooperative Research Centre for Contamination Assessment and Remediation of the Environment.

NEPC. (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]*. Australian Government Publishing Services Canberra: National Environment Protection Council.

NSW EPA. (2020). *Guidelines for Consultants Reporting on Contaminated Land*. Contaminated Land Guidelines: NSW Environment Protection Authority.

NSW EPA. (2022). *Contaminated Sites, Sampling Design Guidelines*. NSW Environment Protection Authority.

16. Limitations

Douglas Partners Pty Ltd (Douglas) has prepared this report for this project at Castlereagh Highway, Beryl NSW in line with Douglas' proposal dated 24 January 2025 and acceptance received from Andrew Douglas of Res Australia Pty Limited on behalf of Potentia Energy Pty Ltd dated 29 January 2025. The work was carried out under Potentia Energy's Services Framework Agreement and Purchase Order number 4500000062, dated 25 February 2025. This report is provided for the exclusive use of RES Australia Pty Ltd for this project only and for the purposes as described in the report. It should not be used by or relied upon for other projects or purposes on the same or other site or by a third party. Any party so relying upon this report beyond its exclusive use and purpose as stated above, and without the express written consent of Douglas, does so entirely at its own risk and without recourse to Douglas for any loss or damage. In preparing this report Douglas has necessarily relied upon information provided by the client and/or their agents.

The results provided in the report are indicative of the sub-surface conditions on the site only at the specific sampling and/or testing locations, and then only to the depths investigated and at the time the work was carried out. Sub-surface conditions can change abruptly due to variable geological processes and also as a result of human influences. Such changes may occur after Douglas' field testing has been completed.

Douglas' advice is based upon the conditions encountered during this investigation. The accuracy of the advice provided by Douglas in this report may be affected by undetected variations in ground conditions across the site between and beyond the sampling and/or testing locations. The advice may also be limited by budget constraints imposed by others or by site accessibility.

Asbestos has not been detected by observation or by laboratory analysis, either on the surface of the site, or in fill materials at the test locations sampled and analysed. Building demolition

materials, such as brick and metal piping, were, however, located in previous below-ground fill, and these are considered as indicative of the possible presence of hazardous building materials (HBM), including asbestos.

Although the sampling plan adopted for this investigation is considered appropriate to achieve the stated project objectives, there are necessarily parts of the site that have not been sampled and analysed. This is either due to parts of the site being inaccessible and not available for inspection/sampling or to vegetation preventing visual inspection and reasonable access. It is therefore considered possible that HBM, including asbestos, may be present in unobserved or untested parts of the site, between and beyond sampling locations, and hence no warranty can be given that asbestos is not present.

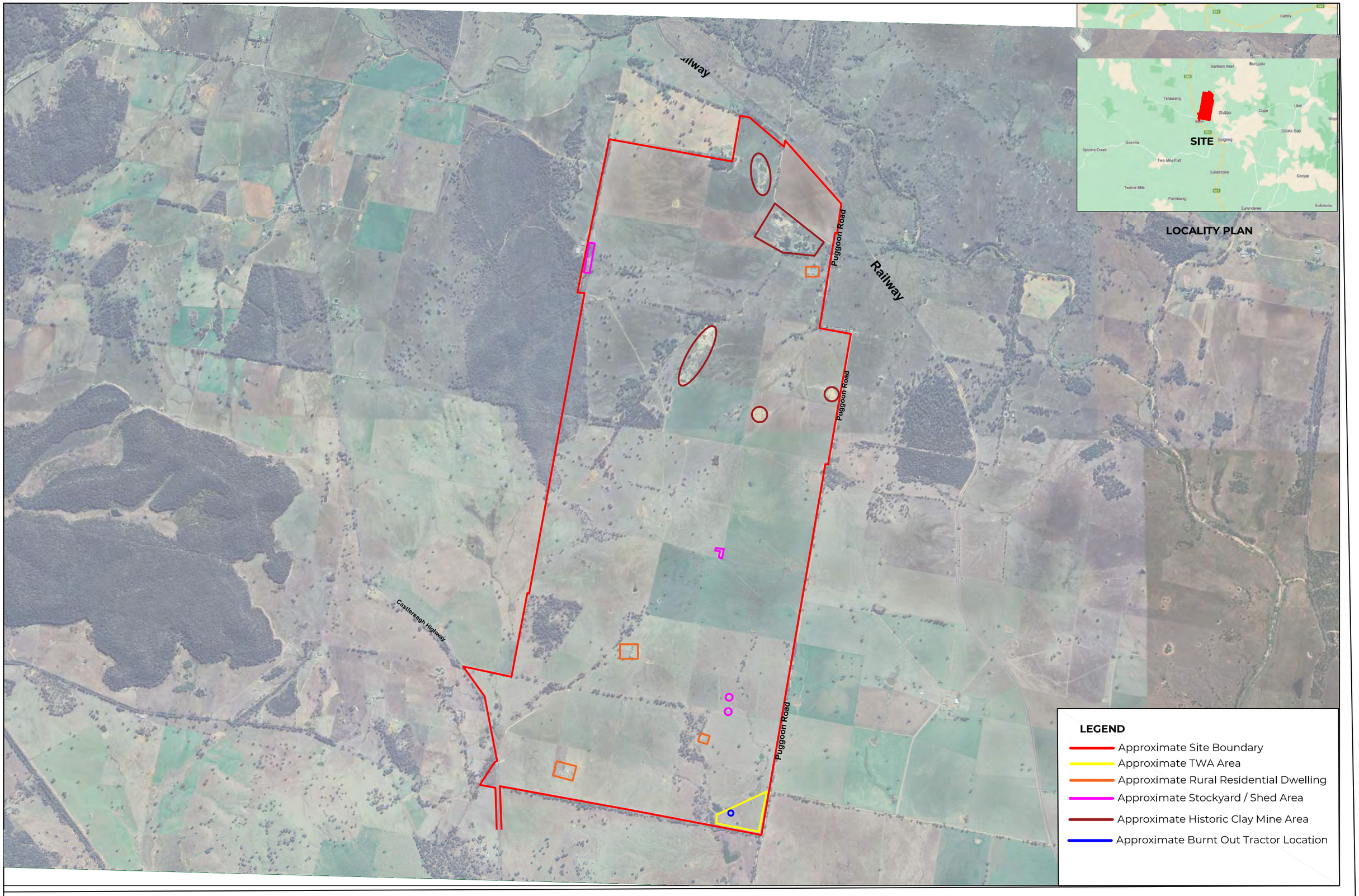
The assessment of atypical safety hazards arising from this advice is restricted to the environmental components set out in this report and based on known project conditions and stated design advice and assumptions. While some recommendations for safe controls may be provided, detailed 'safety in design' assessment is outside the current scope of this report and requires additional project data and assessment.

This report must be read in conjunction with all of the attached and should be kept in its entirety without separation of individual pages or sections. Douglas cannot be held responsible for interpretations or conclusions made by others unless they are supported by an expressed statement, interpretation, outcome or conclusion stated in this report.

This report, or sections from this report, should not be used as part of a specification for a project, without review and agreement by Douglas. This is because this report has been written as advice and opinion rather than instructions for construction.

Appendix A

Drawings 1 and 2



REV	DESCRIPTION/COMMENT	DATE	DRAWN BY
0	Site Location Plan	03.03.2025	SDG

COORDINATE REFERENCE SYSTEM: GDA20 MGA55

Douglas PARTNERS
OFFICE: CANBERRA
2/73 Sheppard Street, Hume ACT 2620
(02) 6260 2788

CLIENT: Potentia Energy Pty Ltd

NOTE:
1: Base image from Google Earth (Dated August 2023)

SCALE: 0 300 600 900 1200 1500
1:30000 @ A3

PROJECT NAME: **Proposed Solar Farm**

PROJECT ADDRESS: **Castlereagh Highway, Beryl NSW**

DRAWING TITLE: **Site Features Plan**

PROJECT No: **206153.01**

DRAWING No: **1**

REVISION: **0**





SITE LOCATION

LEGEND

- Approximate Site Boundary
- Approximate Location of Geo and Enviro Test Pit
- Approximate Location of EnvironmentalTest Pit
- Approximate Location of Geotechnical Test Pit Not Excavated

0 500 1,000 1,500 m

NOTE:
1. Drawing projection in GDA2020 / MGA zone 55, adapted from aerial imagery from public database.

Douglas PARTNERS

CLIENT: RES Australia Pty Ltd		
OFFICE: Canberra	DRAWN BY: HS	
SCALE: 1:30314 @A3	DATE: 05.March.2025	

TITLE: **Test Location Plan**
Proposed Solar Farm
Castlereagh Highway, Beryl

N

PROJECT:	206153.01
DRAWING No:	2
REVISION:	0

DP.QGIS.A3LandscapeDrawingLayout.Rev3 - P:\206153.00 - BERYL, Castlereagh Hwy, Prop Solar Farm\7.0 Drawings\7.2 Out\QGIS\506153.00_QGIS.qgz

Appendix B

About this Report

About this Report

October 2024

Introduction

These notes have been provided to amplify Douglas' report in regard to classification methods, field procedures and the comments section. Not all are necessarily relevant to all reports.

Douglas' reports are based on information gained from limited subsurface excavations and sampling, supplemented by knowledge of local geology and experience. For this reason, they must be regarded as interpretive rather than factual documents, limited to some extent by the scope of information on which they rely.

Copyright

This report is the property of Douglas Partners Pty Ltd. The report may only be used for the purpose for which it was commissioned and in accordance with the Engagement Terms for the commission supplied at the time of proposal. Unauthorised use of this report in any form whatsoever is prohibited.

Borehole and Test Pit Logs

The borehole and test pit logs presented in this report are an engineering and/or geological interpretation of the subsurface conditions, and their reliability will depend to some extent on frequency of sampling and the method of drilling or excavation. Ideally, continuous undisturbed sampling or core drilling will provide the most reliable assessment, but this is not always practicable or possible to justify on economic grounds. In any case the boreholes and test pits represent only a very small sample of the total subsurface profile.

Interpretation of the information and its application to design and construction should therefore take into account the spacing of boreholes or pits, the frequency of sampling, and the possibility of other than 'straight line' variations between the test locations.

Groundwater

Where groundwater levels are measured in boreholes there are several potential problems, namely:

- In low permeability soils groundwater may enter the hole very slowly or perhaps not at all during the time the hole is left open;
- A localised, perched water table may lead to an erroneous indication of the true water table;
- Water table levels will vary from time to time with seasons or recent weather changes. They may not be the same at the time of construction as are indicated in the report; and
- The use of water or mud as a drilling fluid will mask any groundwater inflow. Water has to be blown out of the hole and drilling mud must first be washed out of the hole if water measurements are to be made.

More reliable measurements can be made by installing standpipes which are read at intervals over several days, or perhaps weeks for low permeability soils. Piezometers, sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from a perched water table.

Reports

The report has been prepared by qualified personnel, is based on the information obtained from field and laboratory testing, and has been undertaken to current engineering standards of interpretation and analysis. Where the report has been prepared for a specific design proposal, the information and interpretation may not be relevant if the design proposal is changed. If this happens, Douglas will be pleased to review the report and the sufficiency of the investigation work.

Every care is taken with the report as it relates to interpretation of subsurface conditions, discussion of geotechnical and environmental aspects, and recommendations or suggestions for design and construction. However, Douglas cannot always anticipate or assume responsibility for:

- Unexpected variations in ground conditions. The potential for this will depend partly on borehole or pit spacing and sampling frequency;
- Changes in policy or interpretations of policy by statutory authorities; or
- The actions of contractors responding to commercial pressures.

If these occur, Douglas will be pleased to assist with investigations or advice to resolve the matter.

About this Report

Site Anomalies

In the event that conditions encountered on site during construction appear to vary from those which were expected from the information contained in the report, Douglas requests that it be immediately notified. Most problems are much more readily resolved when conditions are exposed rather than at some later stage, well after the event.

Information for Contractual Purposes

Where information obtained from this report is provided for tendering purposes, it is recommended that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate to prepare a specially edited document. Douglas would be pleased to assist in this regard and/or to make additional report copies available for contract purposes at a nominal charge.

Site Inspection

The company will always be pleased to provide engineering inspection services for geotechnical and environmental aspects of work to which this report is related. This could range from a site visit to confirm that conditions exposed are as expected, to full time engineering presence on site.

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Appendix C

Site History Searches

WaterNSW
Work Summary

GW026819

Licence: 80WA709633 **Licence Status:** CURRENT

Authorised Purpose(s): STOCK
Intended Purpose(s): STOCK

Work Type: Bore
Work Status:
Construct.Method: Rotary
Owner Type: Private

Commenced Date: **Final Depth:** 30.40 m
Completion Date: 01/03/1967 **Drilled Depth:** 30.50 m

Contractor Name: (None)
Driller:
Assistant Driller:

Property: TRILBY NSW **Standing Water Level (m):**
GWMA: 811 - CENTRAL WEST FRACTURED ROCKS **Salinity Description:** 1001-3000 ppm
GW Zone: - **Yield (L/s):**

Site Details

Site Chosen By:

	County	Parish	Cadastre
Form A:	BLIGH	PUGGOON	95
Licensed:	BLIGH	PUGGOON	Whole Lot //

Region: 80 - Macquarie-Western **CMA Map:** 8733-S
River Basin: 421 - MACQUARIE RIVER **Grid Zone:** **Scale:**
Area/District:

Elevation: 0.00 m (A.H.D.) **Northing:** 6425133.000 **Latitude:** 32°17'12.4"S
Elevation Source: (Unknown) **Easting:** 731094.000 **Longitude:** 149°27'14.2"E

GS Map: - **MGA Zone:** 55 **Coordinate Source:** GD.,ACC.MAP

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1	1	Casing	Threaded Steel	-0.40	30.50	152			Seated on Bottom
1	1	Opening	Slots	21.30	30.40	152		1	

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
21.30	21.60	0.30	(Unknown)			0.19			
23.70	24.30	0.60	(Unknown)			0.59			

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	6.71	6.71	Clay	Clay	
6.71	30.48	23.77	Quartz Gravel Soapstone Water Supply	Quartz	

***** End of GW026819 *****

Warning To Clients: This raw data has been supplied to the NSW Office of Water by drillers, licensees and other sources. The NOW does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

WaterNSW
Work Summary

GW048979

Licence: 80WA710443
Licence Status: CURRENT

Authorised Purpose(s): STOCK,DOMESTIC
Intended Purpose(s): GENERAL USE

Work Type: Bore
Work Status:
Construct.Method: Cable Tool
Owner Type: Private

Commenced Date:
Completion Date: 01/01/1938
Final Depth: 36.60 m
Drilled Depth:

Contractor Name: (None)
Driller:
Assistant Driller:

Property: N/A NSW
GWMA: -
GW Zone: -
Standing Water Level (m):
Salinity Description: 0-500 ppm
Yield (L/s):

Site Details

Site Chosen By:

	County	Parish	Cadastre
Form A:	BLIGH	PUGGOON	116
Licensed:	BLIGH	PUGGOON	Whole Lot //

Region: 80 - Macquarie-Western
River Basin: 421 - MACQUARIE RIVER
Area/District:
CMA Map: 8733-S
Grid Zone:
Scale:

Elevation: 0.00 m (A.H.D.)
Elevation Source: (Unknown)
Northing: 6422848.000
Easting: 731304.000
Latitude: 32°18'26.4"S
Longitude: 149°27'24.2"E

GS Map: -
MGA Zone: 55
Coordinate Source: GD.,ACC.MAP

***** End of GW048979 *****

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WaterNSW
Work Summary

GW053197

Licence: 80WA711526 **Licence Status:** CURRENT

Authorised Purpose(s): STOCK,DOMESTIC
Intended Purpose(s): IRRIGATION

Work Type: Bore open thru rock
Work Status:
Construct.Method: Rotary Air
Owner Type: Private

Commenced Date: **Final Depth:** 28.90 m
Completion Date: 01/07/1980 **Drilled Depth:** 28.90 m

Contractor Name: (None)
Driller:
Assistant Driller:

Property: N/A NSW **Standing Water Level (m):**
GWMA: - **Salinity Description:** Fresh
GW Zone: - **Yield (L/s):**

Site Details

Site Chosen By:

	County	Parish	Cadastre
Form A:	BLIGH	PUGGOON	L4 DP255140 (117)
Licensed:	BLIGH	PUGGOON	Whole Lot 4//255140

Region: 80 - Macquarie-Western **CMA Map:** 8733-S
River Basin: 421 - MACQUARIE RIVER **Grid Zone:** **Scale:**
Area/District:

Elevation: 0.00 m (A.H.D.) **Northing:** 6423217.000 **Latitude:** 32°18'14.4"S
Elevation Source: (Unknown) **Easting:** 731312.000 **Longitude:** 149°27'24.2"E

GS Map: - **MGA Zone:** 55 **Coordinate Source:** GD.,ACC.MAP

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1	1	Casing	P.V.C.	0.00	13.50	160			Driven into Hole

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
20.00	27.00	7.00	Consolidated	14.00		4.50			

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	0.60	0.60	Topsoil	Topsoil	
0.60	3.60	3.00	Clay Coloured	Clay	
3.60	13.50	9.90	Limestone Decomposed	Limestone	
13.50	28.90	15.40	Limestone Fractured Bands Water Supply	Limestone	

***** End of GW053197 *****

Warning To Clients: This raw data has been supplied to the NSW Office of Water by drillers, licensees and other sources. The NOW does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

WaterNSW
Work Summary

GW053198

Licence: 80WA711524 **Licence Status:** CURRENT

Authorised Purpose(s): STOCK,DOMESTIC
Intended Purpose(s): IRRIGATION

Work Type: Bore open thru rock
Work Status:
Construct.Method: Rotary Air
Owner Type: Private

Commenced Date: **Final Depth:** 27.60 m
Completion Date: 01/07/1980 **Drilled Depth:** 27.60 m

Contractor Name: (None)
Driller:
Assistant Driller:

Property: N/A NSW **Standing Water Level (m):**
GWMA: - **Salinity Description:** Fresh
GW Zone: - **Yield (L/s):**

Site Details

Site Chosen By:

	County	Parish	Cadastre
Form A:	BLIGH	PUGGOON	L3 DP255140 (117)
Licensed:	BLIGH	PUGGOON	Whole Lot 3//255140

Region: 80 - Macquarie-Western **CMA Map:** 8733-S
River Basin: 421 - MACQUARIE RIVER **Grid Zone:** **Scale:**
Area/District:

Elevation: 0.00 m (A.H.D.) **Northing:** 6423093.000 **Latitude:** 32°18'18.4"S
Elevation Source: (Unknown) **Easting:** 731362.000 **Longitude:** 149°27'26.2"E

GS Map: - **MGA Zone:** 55 **Coordinate Source:** GD.,ACC.MAP

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1	1	Casing	P.V.C.	0.00	8.60	160			Driven into Hole

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
22.70	24.90	2.20	(Unknown)	7.00		4.50			

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	0.30	0.30	Topsoil	Topsoil	
0.30	3.30	3.00	Clay Coloured	Clay	
3.30	8.60	5.30	Limestone Green Decomposed	Limestone	
8.60	27.60	19.00	Limestone Green Fractured Bands Water Supply	Limestone	

***** End of GW053198 *****

Warning To Clients: This raw data has been supplied to the NSW Office of Water by drillers, licensees and other sources. The NOW does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

WaterNSW
Work Summary

GW802000

Licence: 80WA713180
Licence Status: CURRENT

Authorised Purpose(s): STOCK,DOMESTIC
Intended Purpose(s): STOCK, DOMESTIC

Work Type: Bore
Work Status: Supply Obtained
Construct.Method: Down Hole Hamm
Owner Type: Private

Commenced Date:
Completion Date: 20/06/2003
Final Depth: 14.00 m
Drilled Depth: 14.00 m

Contractor Name: Watermin Drillers Pty Ltd
Driller: Clive Francis Jones
Assistant Driller:

Property: LOT 145 Laheys Creek Rd GULGONG 2852 NSW
GWMA: -
GW Zone: -
Standing Water Level (m): 3.000
Salinity Description:
Yield (L/s): 1.203

Site Details

Site Chosen By:

	County	Parish	Cadastre
Form A:	BLIGH	PUGGOON	LT 145 DP 750762
Licensed:	BLIGH	PUGGOON	Whole Lot 145//750762

Region: 80 - Macquarie-Western
River Basin: 421 - MACQUARIE RIVER
Area/District:
CMA Map: 8733-S
Grid Zone:
Scale:

Elevation: 0.00 m (A.H.D.)
Elevation Source: Unknown
Northing: 6422424.000
Easting: 731128.000
Latitude: 32°18'40.3"S
Longitude: 149°27'17.9"E

GS Map: -
MGA Zone: 55
Coordinate Source: Map Interpre

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	6.00	200			Rotary Air
1		Hole	Hole	6.00	14.00	170			Down Hole Hammer
1		Annulus	Waterworn/Rounded	1.00	14.00				Graded, Q:0.410m3
1	1	Casing	Pvc Class 9	-0.50	12.00	125	107		Seated on Bottom, Riveted and Glued
1	1	Opening	Slots - Horizontal	10.00	12.00	125		0	Casing - Machine Slotted, PVC Class 9, SL: 70.0mm, A: 1.75mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
12.50	13.00	0.50	Unknown	3.00		1.20		01:00:00	

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	0.50	0.50	Topsoil	Topsoil	

0.50	3.00	2.50	Clay, brown	Clay	
3.00	6.00	3.00	Shale, brown	Shale	
6.00	12.50	6.50	Basalt	Basalt	
12.50	13.00	0.50	Basalt, broken	Basalt	
13.00	14.00	1.00	Basalt	Basalt	

Remarks

20/06/2003: Form A Remarks:
Coordinates taken from Arcview, based on location map provided with form.
Open ended. Gravel pack was poured or shovelled into annulus.
Assistant driller was Bryan Jones, total of 2 drillers.

***** End of GW802000 *****

Warning To Clients: This raw data has been supplied to the NSW Office of Water by drillers, licensees and other sources. The NOW does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

WaterNSW
Work Summary

GW805247

Licence: 80WA720187 **Licence Status:** CURRENT

Authorised Purpose(s): STOCK,DOMESTIC
Intended Purpose(s): STOCK, DOMESTIC

Work Type: Bore
Work Status: Supply Obtained
Construct.Method: Rotary Air
Owner Type: Private

Commenced Date:
Completion Date: 15/02/2013
Final Depth: 42.00 m
Drilled Depth: 42.00 m

Contractor Name: MCKECHNIE DRILLING PTY LTD
Driller: Malcolm Dexter Mckechnie
Assistant Driller: C McKechnie

Property: Maidavale 978 Castlereagh Hwy GULGONG 2852 NSW
GWMA: -
GW Zone: -
Standing Water Level (m): 12.000
Salinity Description:
Yield (L/s): 2.000

Site Details

Site Chosen By:

	County	Parish	Cadastre
Form A:	BLIGH	PUGGOON	112//750762
Licensed:	BLIGH	PUGGOON	Whole Lot 112//750762

Region: 80 - Macquarie-Western
River Basin: 421 - MACQUARIE RIVER
Area/District:
CMA Map: 8733-S
Grid Zone:
Scale:

Elevation: 0.00 m (A.H.D.)
Elevation Source: Unknown
Northing: 6423011.000
Easting: 731588.000
Latitude: 32°18'20.9"S
Longitude: 149°27'34.9"E

GS Map: -
MGA Zone: 55
Coordinate Source: GPS - Global

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	42.00	200			Rotary Air
1		Annulus	Waterworn/Rounded	0.00	42.00	200	125		Graded, Q:2.000m3, PL:Poured/Shovelled
1	1	Casing	Pvc Class 9	0.00	42.00	125	117		Seated on Bottom, Riveted, S: 38.00-42.00m
1	1	Opening	Slots - Vertical	24.00	38.00	125		0	Mechanically Slotted, PVC Class 9, Riveted, SL: 200.0mm, A: 2.00mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
35.00	38.00	3.00	Unknown	12.00		2.00		02:00:00	

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	1.00	1.00	Topsoil	Topsoil	

1.00	6.00	5.00	Clay	Clay	
6.00	42.00	36.00	Shale, & Siltstones	Shale	

Remarks

15/02/2013: Form A Remarks:
Nat Carling, 1-Dec-2014; GPS provided on the Form-A.

***** End of GW805247 *****

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MID-WESTERN REGIONAL COUNCIL
PO Box 156, MUDGEE NSW 2850
86 Market Street, Mudgee | 109 Herbert Street, Gulgong | 77 Louee Street, Rylstone
T 1300 765 002 or 02 6378 2850 | F 02 6378 2815
E council@midwestern.nsw.gov.au

Planning Certificate

Under *Section 10.7 Environmental Planning and Assessment Act 1979*

APPLICANT

Douglas Partners Pty Ltd
PO Box 1487
FYSHWICK ACT 2609

Certificate No:	PC0335/2022
Receipt No:	460638
Date:	29 September 2021
Property No:	11765
Customer Ref:	206153.00
Property Address:	Puggoon Road TALLAWANG NSW 2852
Property Description:	Lot 148 DP 750762

In accordance with Section 10.7(2) of the Environmental Planning and Assessment Act 1979, it is certified that at the date of this certificate the following prescribed matters relate to the land:

INFORMATION PROVIDED PURSUANT TO SECTION 10.7(2) OF THE ACT:

MID-WESTERN REGIONAL LOCAL ENVIRONMENTAL PLAN 2012

This planning instrument was published 10 August 2012 on the NSW Legislation website and applies to all the land within Mid-Western Region Local Government Area.

Currently the land is zoned:

RU1 Primary Production

Note: where two or more zones appear the property is affected in part by each zone.

Land use Zoning Table:

The following land use zoning table(s) apply to the land the subject of this Certificate.

Zone RU1 Primary Production

2 Permitted without consent
Environmental protection works; Extensive agriculture; Home businesses; Home occupations; Intensive plant agriculture; Roads; Water reticulation systems.

3 Permitted with consent
Aquaculture; Building identification signs; Business identification signs; Cellar door premises; Dwelling houses; Extractive industries; Farm buildings; Home industries; Intensive livestock agriculture; Landscaping material supplies; Markets; Open cut mining; Plant nurseries; Restaurants or cafes; Roadside stalls; Any other development not specified in item 2 or 4.

4 Prohibited
Amusement centres; Attached dwellings; Backpackers' accommodation; Boarding houses; Boat building and repair facilities; Car parks; Centre-based child care facilities; Commercial premises; Correctional centres; Crematoria; Educational establishments; Exhibition homes; Exhibition villages; Freight transport facilities; Group homes; Health services facilities; Heavy industrial storage establishments; Hostels; Industrial retail outlets; Industries; Marinas; Mortuaries; Multi dwelling housing; Passenger transport facilities; Places of public worship; Public administration buildings; Pubs; Recreation facilities (indoor); Registered clubs; Residential flat buildings; Respite day care centres; Restricted premises; Semi-detached dwellings; Seniors housing; Service stations; Sex services premises; Shops; Shop top housing; Signage; Storage premises; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Warehouse or distribution centres; Wholesale supplies.

OTHER PRESCRIBED INFORMATION PURSUANT TO SECTION 10.7(2) OF THE ACT:

State Environmental Planning Policy (Affordable Rental Housing) 2009
State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004
State Environmental Planning Policy (Exempt and Complying Development Codes) 2008
State Environmental Planning Policy (Infrastructure) 2007
State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007
State Environmental Planning Policy No 21-Caravan Parks
State Environmental Planning Policy No 33-Hazardous and Offensive Development
State Environmental Planning Policy No 36-Manufactured Home Estates
State Environmental Planning Policy No 50-Canal Estate Development
State Environmental Planning Policy No 55-Remediation of Land
State Environmental Planning Policy No 64-Advertising and Signage
State Environmental Planning Policy No 70 - Affordable Housing (Revised Schemes)
State Environmental Planning Policy (Concurrences and Consents) 2018
State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017
State Environmental Planning Policy (Primary Production and Rural Development) 2019
State Environmental Planning Policy (State and Regional Development) 2011

The following Development Control Plan applies to the land:

Mid-Western Regional Development Control Plan 2013.

Land Not Within Conservation Area

The land the subject of this Certificate is **not** within a Heritage Conservation Area as identified in the Mid-Western Regional LEP 2012.

Not an Item of Environmental Heritage

The land the subject of this certificate is **not** identified in Schedule 5 of the Mid-Western Regional LEP 2012 as an item of Environmental Heritage.

Dwelling Houses - RU1 Primary Production Zone

Mid-Western Regional Local Environmental Plan (LEP) 2012 specifies a minimum lot size of 100 hectares for the erection of a dwelling in this zone. Please note that there may be other provisions in the LEP that may apply if the land does not meet the minimum allotment size.

Approval must be obtained either through the Development Application or Complying Development Certificate process prior to the erection of a dwelling on this land.

The Land is Not Subject to Road Widening

Council's records indicate that the land the subject of this Certificate is NOT affected by any road widening or road re-alignment under:

1) Division 2 of the Roads Act, 1993;

2) Section 262 of the former Local Government Act, 1919;

3) Any Environmental Planning Instrument

4) Any resolution of Council.

Coastal Protection

Council has not been notified, by the Department of Public Works, that the land the subject of this Certificate is affected by the operation of Section 38 or 39 of the Coastal Protection Act, 1979.

Risk of Land Slip or Subsidence

No information available re land slip or subsidence. Land is not within a Proclaimed Mine Subsidence District.

Identified Critical Habitat

The land the subject of this Certificate does not contain any identified critical habitats.

SEPP (Exempt & Complying Development Codes) 2008

Complying Development may not be carried out on this land under the State Environmental Planning Policy SEPP (Exempt and Complying Development Codes) 2008. The land is excluded land as the land is located within an environmentally sensitive area.

No Acquisition by Public Authority

The land the subject of this certificate is NOT subject to acquisition by a public authority under a planning scheme or a draft planning instrument.

Contribution Plans

Mid-Western Regional Contributions Plan 2019.

Land is Not Bushfire Prone

The subject land is not bush fire prone land.

ADDITIONAL INFORMATION PURSUANT TO SECTION 10.7(5) OF THE ACT:

Development Consent Has Not Been Granted

Council's records indicate that Development Consent with respect to the land the subject of this Certificate has NOT been granted within the last five years.

Tree Preservation Order

The land the subject of this Certificate may be affected by a Tree Preservation Order. An application is required from Council for removal of trees that are listed on Council's significant tree register.

For further information please contact
Planning & Development Section

K CREAN
CUSTOMER SERVICE OFFICER

Certificate No. 1075 1572878

MID-WESTERN REGIONAL COUNCIL
PO Box 156, MUDGEE NSW 2850
86 Market Street, Mudgee | 109 Herbert Street, Gulgong | 77 Louee Street, Rylstone
T 1300 765 002 or 02 6378 2850 | F 02 6378 2815
E council@midwestern.nsw.gov.au

Planning Certificate

Under *Section 10.7 Environmental Planning and Assessment Act 1979*

APPLICANT

Douglas Partners Pty Ltd
PO Box 1487
FYSHWICK ACT 2609

Certificate No:	PC0336/2022
Receipt No:	460640
Date:	29 September 2021
Property No:	10709
Customer Ref:	206153.00
Property Address:	775 Puggoon Road TALLAWANG NSW 2852
Property Description:	Lot 105 DP 750762

In accordance with Section 10.7(2) of the Environmental Planning and Assessment Act 1979, it is certified that at the date of this certificate the following prescribed matters relate to the land:

INFORMATION PROVIDED PURSUANT TO SECTION 10.7(2) OF THE ACT:

MID-WESTERN REGIONAL LOCAL ENVIRONMENTAL PLAN 2012

This planning instrument was published 10 August 2012 on the NSW Legislation website and applies to all the land within Mid-Western Region Local Government Area.

Currently the land is zoned:

RU1 Primary Production

Note: where two or more zones appear the property is affected in part by each zone.

Land use Zoning Table:

The following land use zoning table(s) apply to the land the subject of this Certificate.

Zone RU1 Primary Production

2 Permitted without consent
Environmental protection works; Extensive agriculture; Home businesses; Home occupations; Intensive plant agriculture; Roads; Water reticulation systems.

3 Permitted with consent
Aquaculture; Building identification signs; Business identification signs; Cellar door premises; Dwelling houses; Extractive industries; Farm buildings; Home industries; Intensive livestock agriculture; Landscaping material supplies; Markets; Open cut mining; Plant nurseries; Restaurants or cafes; Roadside stalls; Any other development not specified in item 2 or 4.

4 Prohibited
Amusement centres; Attached dwellings; Backpackers' accommodation; Boarding houses; Boat building and repair facilities; Car parks; Centre-based child care facilities; Commercial premises; Correctional centres; Crematoria; Educational establishments; Exhibition homes; Exhibition villages; Freight transport facilities; Group homes; Health services facilities; Heavy industrial storage establishments; Hostels; Industrial retail outlets; Industries; Marinas; Mortuaries; Multi dwelling housing; Passenger transport facilities; Places of public worship; Public administration buildings; Pubs; Recreation facilities (indoor); Registered clubs; Residential flat buildings; Respite day care centres; Restricted premises; Semi-detached dwellings; Seniors housing; Service stations; Sex services premises; Shops; Shop top housing; Signage; Storage premises; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Warehouse or distribution centres; Wholesale supplies.

OTHER PRESCRIBED INFORMATION PURSUANT TO SECTION 10.7(2) OF THE ACT:

State Environmental Planning Policy (Affordable Rental Housing) 2009
State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004
State Environmental Planning Policy (Exempt and Complying Development Codes) 2008
State Environmental Planning Policy (Infrastructure) 2007
State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007
State Environmental Planning Policy No 21-Caravan Parks
State Environmental Planning Policy No 33-Hazardous and Offensive Development
State Environmental Planning Policy No 36-Manufactured Home Estates
State Environmental Planning Policy No 50-Canal Estate Development
State Environmental Planning Policy No 55-Remediation of Land
State Environmental Planning Policy No 64-Advertising and Signage
State Environmental Planning Policy No 70 - Affordable Housing (Revised Schemes)
State Environmental Planning Policy (Concurrences and Consents) 2018
State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017
State Environmental Planning Policy (Primary Production and Rural Development) 2019
State Environmental Planning Policy (State and Regional Development) 2011

The following Development Control Plan applies to the land:

Mid-Western Regional Development Control Plan 2013.

Land Not Within Conservation Area

The land the subject of this Certificate is **not** within a Heritage Conservation Area as identified in the Mid-Western Regional LEP 2012.

Not an Item of Environmental Heritage

The land the subject of this certificate is **not** identified in Schedule 5 of the Mid-Western Regional LEP 2012 as an item of Environmental Heritage.

Dwelling Houses - RU1 Primary Production Zone

Mid-Western Regional Local Environmental Plan (LEP) 2012 specifies a minimum lot size of 100 hectares for the erection of a dwelling in this zone. Please note that there may be other provisions in the LEP that may apply if the land does not meet the minimum allotment size.

Approval must be obtained either through the Development Application or Complying Development Certificate process prior to the erection of a dwelling on this land.

The Land is Not Subject to Road Widening

Council's records indicate that the land the subject of this Certificate is NOT affected by any road widening or road re-alignment under:

1) Division 2 of the Roads Act, 1993;

2) Section 262 of the former Local Government Act, 1919;

3) Any Environmental Planning Instrument

4) Any resolution of Council.

Coastal Protection

Council has not been notified, by the Department of Public Works, that the land the subject of this Certificate is affected by the operation of Section 38 or 39 of the Coastal Protection Act, 1979.

Risk of Land Slip or Subsidence

No information available re land slip or subsidence. Land is not within a Proclaimed Mine Subsidence District.

Identified Critical Habitat

The land the subject of this Certificate does not contain any identified critical habitats.

SEPP (Exempt & Complying Development Codes) 2008

Complying Development may not be carried out on this land under the State Environmental Planning Policy SEPP (Exempt and Complying Development Codes) 2008. The land is excluded land as the land is located within an environmentally sensitive area.

No Acquisition by Public Authority

The land the subject of this certificate is NOT subject to acquisition by a public authority under a planning scheme or a draft planning instrument.

Contribution Plans

Mid-Western Regional Contributions Plan 2019.

Land is Not Bushfire Prone

The subject land is not bush fire prone land.

ADDITIONAL INFORMATION PURSUANT TO SECTION 10.7(5) OF THE ACT:

Development Consent Has Not Been Granted

Council's records indicate that Development Consent with respect to the land the subject of this Certificate has NOT been granted within the last five years.

Tree Preservation Order

The land the subject of this Certificate may be affected by a Tree Preservation Order. An application is required from Council for removal of trees that are listed on Council's significant tree register.

For further information please contact
Planning & Development Section

K CREAN
CUSTOMER SERVICE OFFICER

Certificate No. 1075 1572914

MID-WESTERN REGIONAL COUNCIL
PO Box 156, MUDGEE NSW 2850
86 Market Street, Mudgee | 109 Herbert Street, Gulgong | 77 Louee Street, Rylstone
T 1300 765 002 or 02 6378 2850 | F 02 6378 2815
E council@midwestern.nsw.gov.au

Planning Certificate

Under *Section 10.7 Environmental Planning and Assessment Act 1979*

APPLICANT

Douglas Partners Pty Ltd
PO Box 1487
FYSHWICK ACT 2609

Certificate No:	PC0337/2022
Receipt No:	460639
Date:	29 September 2021
Property No:	11765
Customer Ref:	206153.00
Property Address:	Puggoon Road TALLAWANG NSW 2852
Property Description:	Lot 98 DP 750762

In accordance with Section 10.7(2) of the Environmental Planning and Assessment Act 1979, it is certified that at the date of this certificate the following prescribed matters relate to the land:

INFORMATION PROVIDED PURSUANT TO SECTION 10.7(2) OF THE ACT:

MID-WESTERN REGIONAL LOCAL ENVIRONMENTAL PLAN 2012

This planning instrument was published 10 August 2012 on the NSW Legislation website and applies to all the land within Mid-Western Region Local Government Area.

Currently the land is zoned:

RU1 Primary Production

Note: where two or more zones appear the property is affected in part by each zone.

Land use Zoning Table:

The following land use zoning table(s) apply to the land the subject of this Certificate.

Zone RU1 Primary Production

2 Permitted without consent
Environmental protection works; Extensive agriculture; Home businesses; Home occupations; Intensive plant agriculture; Roads; Water reticulation systems.

3 Permitted with consent
Aquaculture; Building identification signs; Business identification signs; Cellar door premises; Dwelling houses; Extractive industries; Farm buildings; Home industries; Intensive livestock agriculture; Landscaping material supplies; Markets; Open cut mining; Plant nurseries; Restaurants or cafes; Roadside stalls; Any other development not specified in item 2 or 4.

4 Prohibited
Amusement centres; Attached dwellings; Backpackers' accommodation; Boarding houses; Boat building and repair facilities; Car parks; Centre-based child care facilities; Commercial premises; Correctional centres; Crematoria; Educational establishments; Exhibition homes; Exhibition villages; Freight transport facilities; Group homes; Health services facilities; Heavy industrial storage establishments; Hostels; Industrial retail outlets; Industries; Marinas; Mortuaries; Multi dwelling housing; Passenger transport facilities; Places of public worship; Public administration buildings; Pubs; Recreation facilities (indoor); Registered clubs; Residential flat buildings; Respite day care centres; Restricted premises; Semi-detached dwellings; Seniors housing; Service stations; Sex services premises; Shops; Shop top housing; Signage; Storage premises; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Warehouse or distribution centres; Wholesale supplies.

OTHER PRESCRIBED INFORMATION PURSUANT TO SECTION 10.7(2) OF THE ACT:

State Environmental Planning Policy (Affordable Rental Housing) 2009
State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004
State Environmental Planning Policy (Exempt and Complying Development Codes) 2008
State Environmental Planning Policy (Infrastructure) 2007
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State Environmental Planning Policy No 21-Caravan Parks
State Environmental Planning Policy No 33-Hazardous and Offensive Development
State Environmental Planning Policy No 36-Manufactured Home Estates
State Environmental Planning Policy No 50-Canal Estate Development
State Environmental Planning Policy No 55-Remediation of Land
State Environmental Planning Policy No 64-Advertising and Signage
State Environmental Planning Policy No 70 - Affordable Housing (Revised Schemes)
State Environmental Planning Policy (Concurrences and Consents) 2018
State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017
State Environmental Planning Policy (Primary Production and Rural Development) 2019
State Environmental Planning Policy (State and Regional Development) 2011

The following Development Control Plan applies to the land:

Mid-Western Regional Development Control Plan 2013.

Land Not Within Conservation Area

The land the subject of this Certificate is **not** within a Heritage Conservation Area as identified in the Mid-Western Regional LEP 2012.

Not an Item of Environmental Heritage

The land the subject of this certificate is **not** identified in Schedule 5 of the Mid-Western Regional LEP 2012 as an item of Environmental Heritage.

Dwelling Houses - RU1 Primary Production Zone

Mid-Western Regional Local Environmental Plan (LEP) 2012 specifies a minimum lot size of 100 hectares for the erection of a dwelling in this zone. Please note that there may be other provisions in the LEP that may apply if the land does not meet the minimum allotment size.

Approval must be obtained either through the Development Application or Complying Development Certificate process prior to the erection of a dwelling on this land.

The Land is Not Subject to Road Widening

Council's records indicate that the land the subject of this Certificate is NOT affected by any road widening or road re-alignment under:

1) Division 2 of the Roads Act, 1993;

2) Section 262 of the former Local Government Act, 1919;

3) Any Environmental Planning Instrument

4) Any resolution of Council.

Coastal Protection

Council has not been notified, by the Department of Public Works, that the land the subject of this Certificate is affected by the operation of Section 38 or 39 of the Coastal Protection Act, 1979.

Risk of Land Slip or Subsidence

No information available re land slip or subsidence. Land is not within a Proclaimed Mine Subsidence District.

Identified Critical Habitat

The land the subject of this Certificate does not contain any identified critical habitats.

SEPP (Exempt & Complying Development Codes) 2008

Complying Development may not be carried out on this land under the State Environmental Planning Policy SEPP (Exempt and Complying Development Codes) 2008. The land is excluded land as the land is located within an environmentally sensitive area.

No Acquisition by Public Authority

The land the subject of this certificate is NOT subject to acquisition by a public authority under a planning scheme or a draft planning instrument.

Contribution Plans

Mid-Western Regional Contributions Plan 2019.

Land is Not Bushfire Prone

The subject land is not bush fire prone land.

ADDITIONAL INFORMATION PURSUANT TO SECTION 10.7(5) OF THE ACT:

Development Consent Has Not Been Granted

Council's records indicate that Development Consent with respect to the land the subject of this Certificate has NOT been granted within the last five years.

Tree Preservation Order

The land the subject of this Certificate may be affected by a Tree Preservation Order. An application is required from Council for removal of trees that are listed on Council's significant tree register.

For further information please contact
Planning & Development Section

K CREAN
CUSTOMER SERVICE OFFICER

Certificate No. 1075 1572889

MID-WESTERN REGIONAL COUNCIL
PO Box 156, MUDGEE NSW 2850
86 Market Street, Mudgee | 109 Herbert Street, Gulgong | 77 Louee Street, Rylstone
T 1300 765 002 or 02 6378 2850 | F 02 6378 2815
E council@midwestern.nsw.gov.au

Planning Certificate

Under *Section 10.7 Environmental Planning and Assessment Act 1979*

APPLICANT

Douglas Partners Pty Ltd
PO Box 1487
FYSHWICK ACT 2609

Certificate No:	PC0338/2022
Receipt No:	460641
Date:	29 September 2021
Property No:	10709
Customer Ref:	206153.00
Property Address:	775 Puggoon Road TALLAWANG NSW 2852
Property Description:	Lot 96 DP 750762

In accordance with Section 10.7(2) of the Environmental Planning and Assessment Act 1979, it is certified that at the date of this certificate the following prescribed matters relate to the land:

INFORMATION PROVIDED PURSUANT TO SECTION 10.7(2) OF THE ACT:

MID-WESTERN REGIONAL LOCAL ENVIRONMENTAL PLAN 2012

This planning instrument was published 10 August 2012 on the NSW Legislation website and applies to all the land within Mid-Western Region Local Government Area.

Currently the land is zoned:

RU1 Primary Production

Note: where two or more zones appear the property is affected in part by each zone.

Land use Zoning Table:

The following land use zoning table(s) apply to the land the subject of this Certificate.

Zone RU1 Primary Production

2 Permitted without consent
Environmental protection works; Extensive agriculture; Home businesses; Home occupations; Intensive plant agriculture; Roads; Water reticulation systems.

3 Permitted with consent
Aquaculture; Building identification signs; Business identification signs; Cellar door premises; Dwelling houses; Extractive industries; Farm buildings; Home industries; Intensive livestock agriculture; Landscaping material supplies; Markets; Open cut mining; Plant nurseries; Restaurants or cafes; Roadside stalls; Any other development not specified in item 2 or 4.

4 Prohibited
Amusement centres; Attached dwellings; Backpackers' accommodation; Boarding houses; Boat building and repair facilities; Car parks; Centre-based child care facilities; Commercial premises; Correctional centres; Crematoria; Educational establishments; Exhibition homes; Exhibition villages; Freight transport facilities; Group homes; Health services facilities; Heavy industrial storage establishments; Hostels; Industrial retail outlets; Industries; Marinas; Mortuaries; Multi dwelling housing; Passenger transport facilities; Places of public worship; Public administration buildings; Pubs; Recreation facilities (indoor); Registered clubs; Residential flat buildings; Respite day care centres; Restricted premises; Semi-detached dwellings; Seniors housing; Service stations; Sex services premises; Shops; Shop top housing; Signage; Storage premises; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Warehouse or distribution centres; Wholesale supplies.

OTHER PRESCRIBED INFORMATION PURSUANT TO SECTION 10.7(2) OF THE ACT:

State Environmental Planning Policy (Affordable Rental Housing) 2009
State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004
State Environmental Planning Policy (Exempt and Complying Development Codes) 2008
State Environmental Planning Policy (Infrastructure) 2007
State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007
State Environmental Planning Policy No 21-Caravan Parks
State Environmental Planning Policy No 33-Hazardous and Offensive Development
State Environmental Planning Policy No 36-Manufactured Home Estates
State Environmental Planning Policy No 50-Canal Estate Development
State Environmental Planning Policy No 55-Remediation of Land
State Environmental Planning Policy No 64-Advertising and Signage
State Environmental Planning Policy No 70 - Affordable Housing (Revised Schemes)
State Environmental Planning Policy (Concurrences and Consents) 2018
State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017
State Environmental Planning Policy (Primary Production and Rural Development) 2019
State Environmental Planning Policy (State and Regional Development) 2011

The following Development Control Plan applies to the land:

Mid-Western Regional Development Control Plan 2013.

Land Not Within Conservation Area

The land the subject of this Certificate is **not** within a Heritage Conservation Area as identified in the Mid-Western Regional LEP 2012.

Not an Item of Environmental Heritage

The land the subject of this certificate is **not** identified in Schedule 5 of the Mid-Western Regional LEP 2012 as an item of Environmental Heritage.

Dwelling Houses - RU1 Primary Production Zone

Mid-Western Regional Local Environmental Plan (LEP) 2012 specifies a minimum lot size of 100 hectares for the erection of a dwelling in this zone. Please note that there may be other provisions in the LEP that may apply if the land does not meet the minimum allotment size.

Approval must be obtained either through the Development Application or Complying Development Certificate process prior to the erection of a dwelling on this land.

The Land is Not Subject to Road Widening

Council's records indicate that the land the subject of this Certificate is NOT affected by any road widening or road re-alignment under:

1) Division 2 of the Roads Act, 1993;

2) Section 262 of the former Local Government Act, 1919;

3) Any Environmental Planning Instrument

4) Any resolution of Council.

Coastal Protection

Council has not been notified, by the Department of Public Works, that the land the subject of this Certificate is affected by the operation of Section 38 or 39 of the Coastal Protection Act, 1979.

Risk of Land Slip or Subsidence

No information available re land slip or subsidence. Land is not within a Proclaimed Mine Subsidence District.

Identified Critical Habitat

The land the subject of this Certificate does not contain any identified critical habitats.

No Acquisition by Public Authority

The land the subject of this certificate is NOT subject to acquisition by a public authority under a planning scheme or a draft planning instrument.

SEPP (Exempt & Complying Development Codes) 2008

Complying Development may be carried out on this land under the State Environmental Planning Policy SEPP (Exempt and Complying Development Codes) 2008.

Note: For land that is bushfire prone or a flood control lot MUST satisfy additional requirements of the SEPP (Exempt & Complying Development Codes) 2008. Please contact Council to discuss these requirements.

Contribution Plans

Mid-Western Regional Contributions Plan 2019.

Land is Not Bushfire Prone

The subject land is not bush fire prone land.

ADDITIONAL INFORMATION PURSUANT TO SECTION 10.7(5) OF THE ACT:

Development Consent Has Not Been Granted

Council's records indicate that Development Consent with respect to the land the subject of this Certificate has NOT been granted within the last five years.

Tree Preservation Order

The land the subject of this Certificate may be affected by a Tree Preservation Order. An application is required from Council for removal of trees that are listed on Council's significant tree register.

For further information please contact
Planning & Development Section

KAY CREAN
CUSTOMER SERVICE OFFICER

Certificate No. 1075 1572963

MID-WESTERN REGIONAL COUNCIL
PO Box 156, MUDGEE NSW 2850
86 Market Street, Mudgee | 109 Herbert Street, Gulgong | 77 Louee Street, Rylstone
T 1300 765 002 or 02 6378 2850 | F 02 6378 2815
E council@midwestern.nsw.gov.au

Planning Certificate

Under *Section 10.7 Environmental Planning and Assessment Act 1979*

APPLICANT

Douglas Partners Pty Ltd
PO Box 1487
FYSHWICK ACT 2609

Certificate No:	PC0339/2022
Receipt No:	460642
Date:	29 September 2021
Property No:	11765
Customer Ref:	206153.00
Property Address:	Puggoon Road TALLAWANG NSW 2852
Property Description:	Lot 150 DP 750762

In accordance with Section 10.7(2) of the Environmental Planning and Assessment Act 1979, it is certified that at the date of this certificate the following prescribed matters relate to the land:

INFORMATION PROVIDED PURSUANT TO SECTION 10.7(2) OF THE ACT:

MID-WESTERN REGIONAL LOCAL ENVIRONMENTAL PLAN 2012

This planning instrument was published 10 August 2012 on the NSW Legislation website and applies to all the land within Mid-Western Region Local Government Area.

Currently the land is zoned:

RU1 Primary Production

Note: where two or more zones appear the property is affected in part by each zone.

Land use Zoning Table:

The following land use zoning table(s) apply to the land the subject of this Certificate.

Zone RU1 Primary Production

2 Permitted without consent
Environmental protection works; Extensive agriculture; Home businesses; Home occupations; Intensive plant agriculture; Roads; Water reticulation systems.

3 Permitted with consent
Aquaculture; Building identification signs; Business identification signs; Cellar door premises; Dwelling houses; Extractive industries; Farm buildings; Home industries; Intensive livestock agriculture; Landscaping material supplies; Markets; Open cut mining; Plant nurseries; Restaurants or cafes; Roadside stalls; Any other development not specified in item 2 or 4.

4 Prohibited
Amusement centres; Attached dwellings; Backpackers' accommodation; Boarding houses; Boat building and repair facilities; Car parks; Centre-based child care facilities; Commercial premises; Correctional centres; Crematoria; Educational establishments; Exhibition homes; Exhibition villages; Freight transport facilities; Group homes; Health services facilities; Heavy industrial storage establishments; Hostels; Industrial retail outlets; Industries; Marinas; Mortuaries; Multi dwelling housing; Passenger transport facilities; Places of public worship; Public administration buildings; Pubs; Recreation facilities (indoor); Registered clubs; Residential flat buildings; Respite day care centres; Restricted premises; Semi-detached dwellings; Seniors housing; Service stations; Sex services premises; Shops; Shop top housing; Signage; Storage premises; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Warehouse or distribution centres; Wholesale supplies.

OTHER PRESCRIBED INFORMATION PURSUANT TO SECTION 10.7(2) OF THE ACT:

State Environmental Planning Policy (Affordable Rental Housing) 2009
State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004
State Environmental Planning Policy (Exempt and Complying Development Codes) 2008
State Environmental Planning Policy (Infrastructure) 2007
State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007
State Environmental Planning Policy No 21-Caravan Parks
State Environmental Planning Policy No 33-Hazardous and Offensive Development
State Environmental Planning Policy No 36-Manufactured Home Estates
State Environmental Planning Policy No 50-Canal Estate Development
State Environmental Planning Policy No 55-Remediation of Land
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State Environmental Planning Policy (Concurrences and Consents) 2018
State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017
State Environmental Planning Policy (Primary Production and Rural Development) 2019
State Environmental Planning Policy (State and Regional Development) 2011

The following Development Control Plan applies to the land:

Mid-Western Regional Development Control Plan 2013.

Land Not Within Conservation Area

The land the subject of this Certificate is **not** within a Heritage Conservation Area as identified in the Mid-Western Regional LEP 2012.

Not an Item of Environmental Heritage

The land the subject of this certificate is **not** identified in Schedule 5 of the Mid-Western Regional LEP 2012 as an item of Environmental Heritage.

Dwelling Houses - RU1 Primary Production Zone

Mid-Western Regional Local Environmental Plan (LEP) 2012 specifies a minimum lot size of 100 hectares for the erection of a dwelling in this zone. Please note that there may be other provisions in the LEP that may apply if the land does not meet the minimum allotment size.

Approval must be obtained either through the Development Application or Complying Development Certificate process prior to the erection of a dwelling on this land.

The Land is Not Subject to Road Widening

Council's records indicate that the land the subject of this Certificate is NOT affected by any road widening or road re-alignment under:

1) Division 2 of the Roads Act, 1993;

2) Section 262 of the former Local Government Act, 1919;

3) Any Environmental Planning Instrument

4) Any resolution of Council.

Coastal Protection

Council has not been notified, by the Department of Public Works, that the land the subject of this Certificate is affected by the operation of Section 38 or 39 of the Coastal Protection Act, 1979.

Risk of Land Slip or Subsidence

No information available re land slip or subsidence. Land is not within a Proclaimed Mine Subsidence District.

Identified Critical Habitat

The land the subject of this Certificate does not contain any identified critical habitats.

No Acquisition by Public Authority

The land the subject of this certificate is NOT subject to acquisition by a public authority under a planning scheme or a draft planning instrument.

SEPP (Exempt & Complying Development Codes) 2008

Complying Development may be carried out on this land under the State Environmental Planning Policy SEPP (Exempt and Complying Development Codes) 2008.

Note: For land that is bushfire prone or a flood control lot MUST satisfy additional requirements of the SEPP (Exempt & Complying Development Codes) 2008. Please contact Council to discuss these requirements.

Contribution Plans

Mid-Western Regional Contributions Plan 2019.

Land is Not Bushfire Prone

The subject land is not bush fire prone land.

ADDITIONAL INFORMATION PURSUANT TO SECTION 10.7(5) OF THE ACT:

Development Consent Has Not Been Granted

Council's records indicate that Development Consent with respect to the land the subject of this Certificate has NOT been granted within the last five years.

Tree Preservation Order

The land the subject of this Certificate may be affected by a Tree Preservation Order. An application is required from Council for removal of trees that are listed on Council's significant tree register.

For further information please contact
Planning & Development Section

K CREAN
CUSTOMER SERVICE OFFICER

Certificate No. 1075 1572899

Appendix D

Historical Aerial Photographs





SITE LOCATION

LEGEND

Approximate Site Boundary

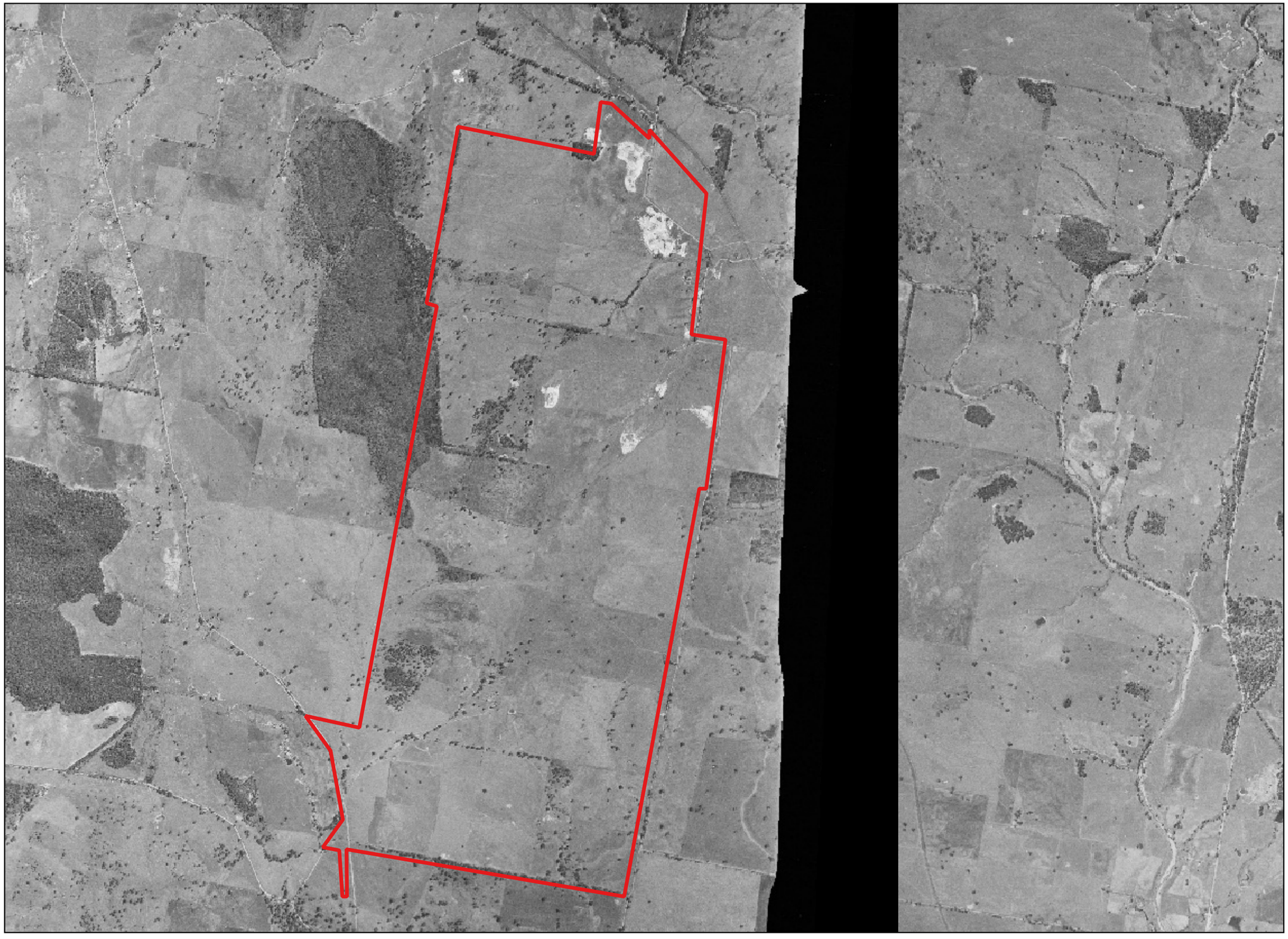
0 500 1,000 1,500 m

NOTE:
1. Drawing projection in GDA2020 / MGA zone 55, adapted from aerial imagery from public database.

Douglas PARTNERS

CLIENT: RES Australia Pty Ltd		TITLE: **Historical Aerial Imagery- 1964**	PROJECT: 206153.01
OFFICE: Canberra	DRAWN BY: HS	**Proposed Solar Farm**	DRAWING No: D1
SCALE: 1:30314 @A3	DATE: 05.March.2025	**Castlereagh Highway, Beryl**	REVISION: 0

N





SITE LOCATION

LEGEND

Approximate Site Boundary

0 500 1,000 1,500 m

NOTE:
1. Drawing projection in GDA2020 / MGA zone 55, adapted from aerial imagery from public database.

Douglas PARTNERS

CLIENT:	RES Australia Pty Ltd	TITLE:	**Historical Aerial Imagery- 1971**
OFFICE:	Canberra	DRAWN BY:	HS		**Proposed Solar Farm**
SCALE:	1:30314 @A3	DATE:	05.March.2025		**Castlereagh Highway, Beryl**

N

PROJECT:	206153.01
DRAWING No:	D2
REVISION:	0





SITE LOCATION

LEGEND

Approximate Site Boundary

0 500 1,000 1,500 m

NOTE:
1. Drawing projection in GDA2020 / MGA zone 55, adapted from aerial imagery from public database.

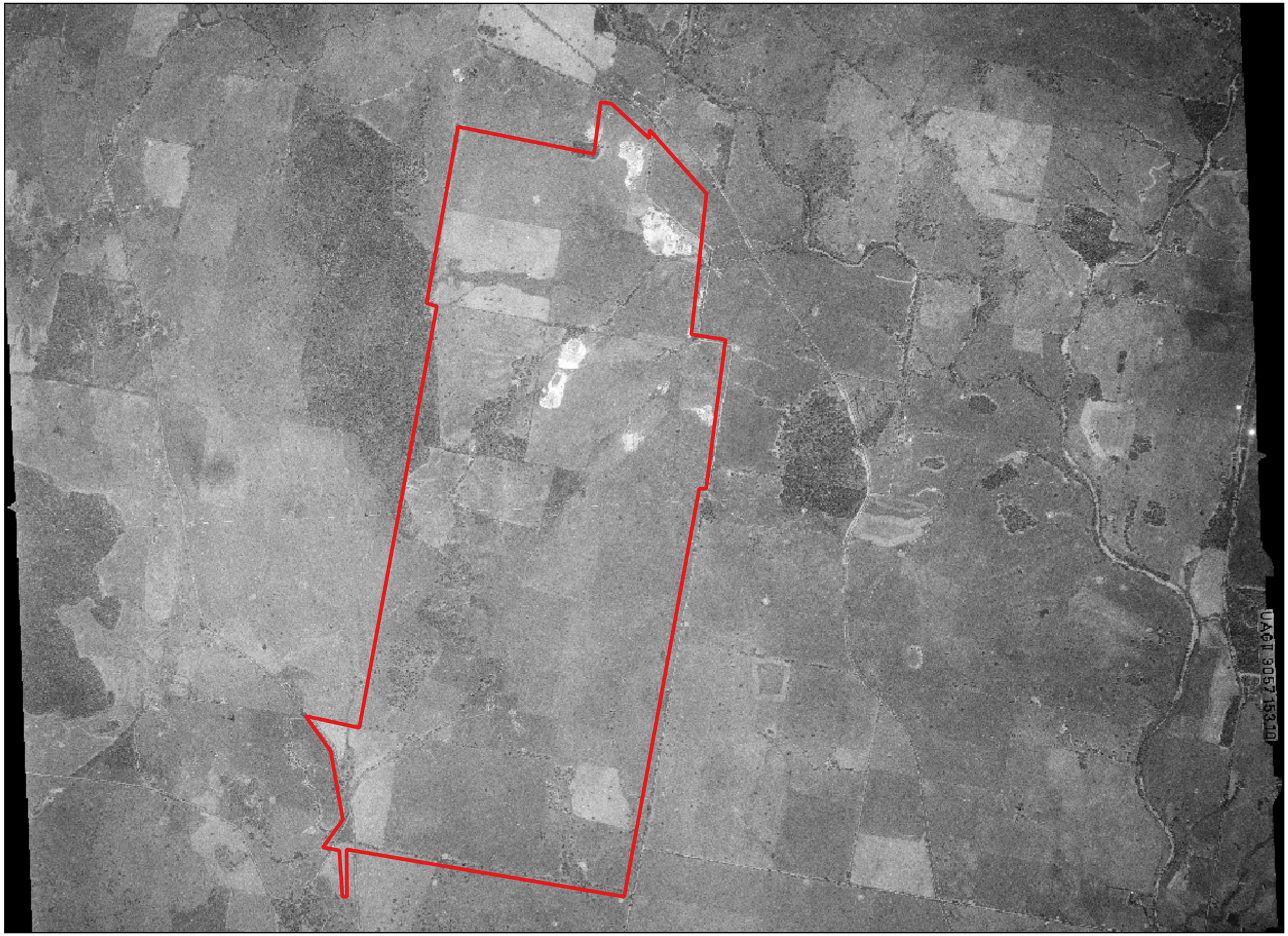
Douglas PARTNERS

CLIENT: RES Australia Pty Ltd		
OFFICE: Canberra	DRAWN BY: HS	
SCALE: 1:30314 @A3	DATE: 05.March.2025	

TITLE: **Historical Aerial Imagery- 1980**
Proposed Solar Farm
Castlereagh Highway, Beryl

N

PROJECT:	206153.01
DRAWING No:	D3
REVISION:	0





SITE LOCATION

LEGEND

Approximate Site Boundary

0 500 1,000 1,500 m

NOTE:
1. Drawing projection in GDA2020 / MGA zone 55, adapted from aerial imagery from public database.

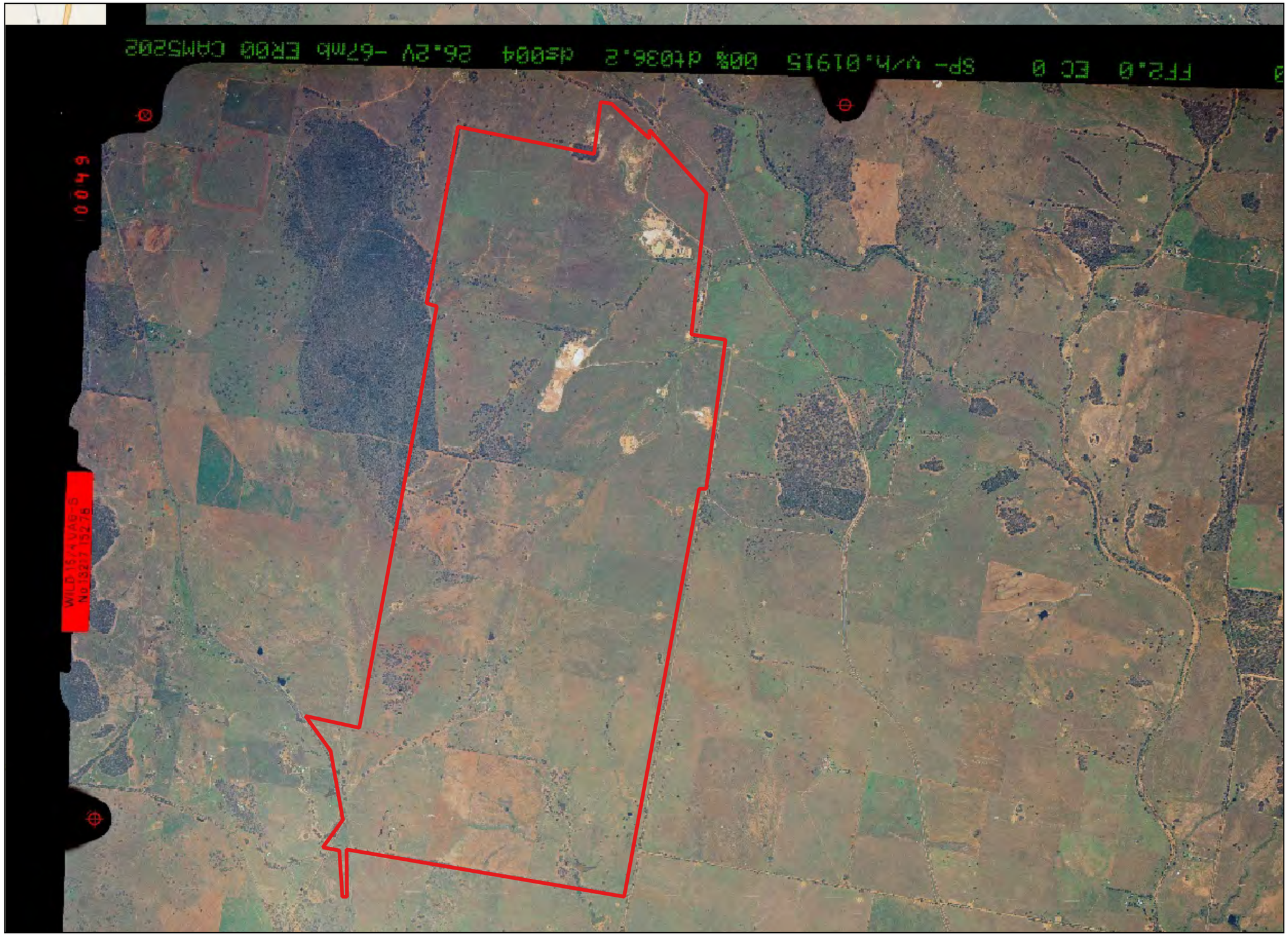
Douglas PARTNERS

CLIENT: RES Australia Pty Ltd		
OFFICE: Canberra	DRAWN BY: HS	
SCALE: 1:30314 @A3	DATE: 05.March.2025	

TITLE: **Historical Aerial Imagery- 1988**
Proposed Solar Farm
Castlereagh Highway, Beryl

N

PROJECT:	206153.01
DRAWING No:	D4
REVISION:	0





SITE LOCATION

LEGEND

Approximate Site Boundary

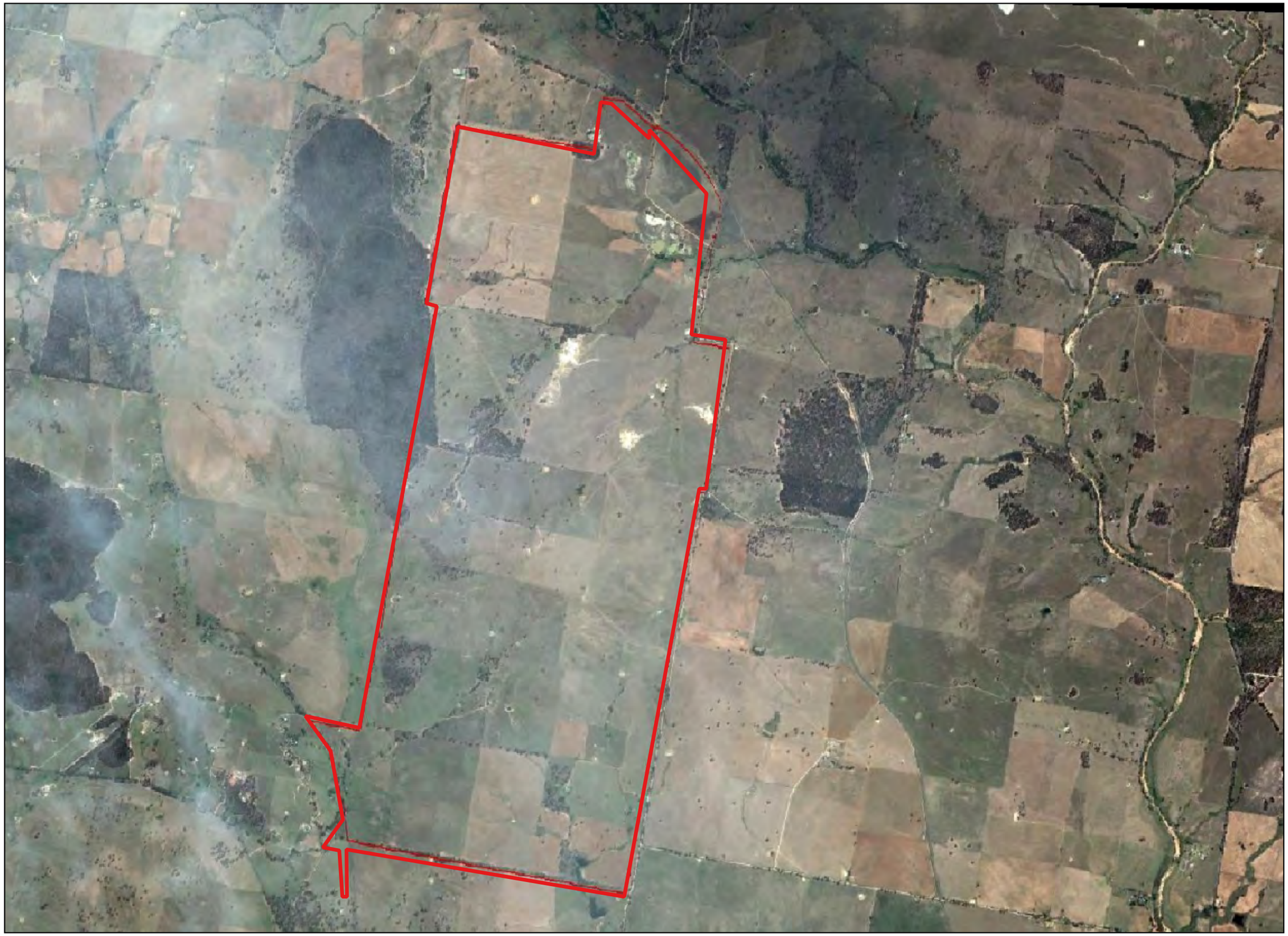
0 500 1,000 1,500 m

NOTE:
1. Drawing projection in GDA2020 / MGA zone 55, adapted from aerial imagery from public database.

Douglas PARTNERS

CLIENT: RES Australia Pty Ltd		TITLE: **Historical Aerial Imagery- 1995**	PROJECT: 206153.01
OFFICE: Canberra	DRAWN BY: HS	**Proposed Solar Farm**	DRAWING No: D5
SCALE: 1:30314 @A3	DATE: 05.March.2025	**Castlereagh Highway, Beryl**	REVISION: 0

DP.QGIS.A3LandscapeDrawingLayout.Rev3 - P:\206153.00 - BERYL, Castlereagh Hwy, Prop Solar Farm\7.0 Drawings\7.2 Out\QGIS\506153.00_QGIS.qgz





SITE LOCATION

LEGEND

Approximate Site Boundary

0 500 1,000 1,500 m

NOTE:
1. Drawing projection in GDA2020 / MGA zone 55, adapted from aerial imagery from public database.

Douglas PARTNERS

CLIENT: RES Australia Pty Ltd		
OFFICE: Canberra	DRAWN BY: HS	
SCALE: 1:30314 @A3	DATE: 05.March.2025	

TITLE: **Historical Aerial Imagery- 2012**
Proposed Solar Farm
Castlereagh Highway, Beryl

N

PROJECT:	206153.01
DRAWING No:	D6
REVISION:	0





SITE LOCATION

LEGEND

Approximate Site Boundary

0 500 1,000 1,500 m

NOTE:
1. Drawing projection in GDA2020 / MGA zone 55, adapted from aerial imagery from public database.

Douglas PARTNERS

CLIENT: RES Australia Pty Ltd		TITLE: **Historical Aerial Imagery- 2018**	PROJECT: 206153.01
OFFICE: Canberra	DRAWN BY: HS	**Proposed Solar Farm**	DRAWING No: D7
SCALE: 1:30314 @A3	DATE: 05.March.2025	**Castlereagh Highway, Beryl**	REVISION: 0

N





SITE LOCATION

LEGEND

Approximate Site Boundary

0 500 1,000 1,500 m

NOTE:
1. Drawing projection in GDA2020 / MGA zone 55, adapted from aerial imagery from public database.

Douglas PARTNERS

CLIENT: RES Australia Pty Ltd		
OFFICE: Canberra	DRAWN BY: HS	
SCALE: 1:30314 @A3	DATE: 05.March.2025	

TITLE: **Historical Aerial Imagery- 2023**
Proposed Solar Farm
Castlereagh Highway, Beryl

N

PROJECT:	206153.01
DRAWING No:	D8
REVISION:	0

Appendix E

Site Photographs



Photo 1: General view of a grazing paddock



Photo 2: General view of a grazing paddock with rock outcropping

Douglas Partners	**Site Photographs**	PROJECT:	206153.01
	Proposed Solar Farm	Plate	1
	Castlereagh Hwy, Beryl	REV:	A
	Client: Potentia Energy Pty Ltd	DATE:	5-Mar-25



Photo 3: View of a contour berm in the western portion of the site



Photo 4: View of an unsealed track and historic farm machinery

Douglas Partners	**Site Photographs**	PROJECT:	206153.01
	Proposed Solar Farm	Plate	2
	Castlereagh Hwy, Beryl	REV:	A
	Client: Potentia Energy Pty Ltd	DATE:	5-Mar-25



Photo 5: general view of a farm dam in the northern portion of the site



Photo 6: General view of the stockyard and feeding trough

Douglas Partners	**Site Photographs**	PROJECT:	206153.01
	Proposed Solar Farm	Plate	3
	Castlereagh Hwy, Beryl	REV:	A
	Client: Potentia Energy Pty Ltd	DATE:	5-Mar-25



Photo 7: View of disturbed ground, adjacent to historic clay mine in the north-east portion of the site



Photo 8: View of spoil adjacent to a historic clay mine in the nort-east portion of the site

Douglas Partners	**Site Photographs**	PROJECT:	206153.01
	Proposed Solar Farm	Plate	4
	Castlereagh Hwy, Beryl	REV:	A
	Client: Potentia Energy Pty Ltd	DATE:	5-Mar-25



Photo 9: View of a historic clay mine (now dam) in the north-east portion of the site



Photo 10: General view of a cropping paddock

Douglas Partners	**Site Photographs**		PROJECT:	206153.01
	Proposed Solar Farm		Plate	5
	Castlereagh Hwy, Beryl		REV:	A
	Client	Potentia Energy Pty Ltd	DATE:	5-Mar-25



Photo 11: View of the northern residential dwelling



Photo 12: View of disturbed ground and historic clay mine (now damn)

Douglas Partners	**Site Photographs**	PROJECT:	206153.01
	Proposed Solar Farm	Plate	6
	Castlereagh Hwy, Beryl	REV:	A
	Client: Potentia Energy Pty Ltd	DATE:	5-Mar-25



Photo 13: View of the largest historic clay mine within the site



Photo 14: View of disturbed ground (historic clay mine) and farm structures

Douglas Partners	**Site Photographs**	PROJECT:	206153.01
	Proposed Solar Farm	Plate	7
	Castlereagh Hwy, Beryl	REV:	A
	Client: Potentia Energy Pty Ltd	DATE:	5-Mar-25



Photo 15: View of a historic shelter within the south-east corner of the site



Photo 16: View of rock outcropping o top of a hill in the south-east portion of the site

Douglas Partners	**Site Photographs**	PROJECT:	206153.01
	Proposed Solar Farm	Plate	8
	Castlereagh Hwy, Beryl	REV:	A
	Client: Potentia Energy Pty Ltd	DATE:	5-Mar-25



Photo 17: View of the TWA area, looking north -west



Photo 18: View of the TWA area, looking north-east

Douglas Partners	**Site Photographs**	PROJECT:	206153.01
	Proposed Solar Farm	Plate	9
	Castlereagh Hwy, Beryl	REV:	A
	Client: Potentia Energy Pty Ltd	DATE:	5-Mar-25



Photo 19: Burnt-out tractor



Photo 20: Molten metal and burn scar

Douglas Partners	**Site Photographs**	PROJECT:	206153.01
	Proposed Solar Farm	Plate	10
	Castlereagh Hwy, Beryl	REV:	A
	Client: Potentia Energy Pty Ltd	DATE:	5-Mar-25



Photo 21: View of stump and exposed natural ground in the TWA area



Photo 22: Drainage line and dams along the north-west of the TWA area

Douglas Partners	**Site Photographs**	PROJECT:	206153.01
	Proposed Solar Farm	Plate	11
	Castlereagh Hwy, Beryl	REV:	A
	Client: RES Australia Pty Ltd	DATE:	5-Mar-25



Photo 23: View of the Jenkins Lane area from the south, looking north



Photo 24: View of soil berm along the western boundary of the Jenkins Lane area

Douglas Partners	**Site Photographs**	PROJECT:	206153.01
	Proposed Solar Farm	Plate	12
	Castlereagh Hwy, Beryl	REV:	A
	Client: RES Australia Pty Ltd	DATE:	5-Mar-25



Photo 25: View of minor tyre waste within the Jenkins Lane area

Douglas Partners	**Site Photographs**		PROJECT:	206153.01
	Proposed Solar Farm		Plate	13
	Castlereagh Hwy, Beryl		REV:	A
	Client	RES Australia Pty Ltd	DATE:	5-Mar-25

Appendix F

Data Quality Objectives

1. Data quality objectives

The PSI with limited sampling has been devised broadly in accordance with the seven-step data quality objective (DQO) process which is provided in Appendix B, Schedule B2 of NEPC *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]* (NEPC, 2013).

Table 1: Data quality objectives

Step	Summary
1: State the problem	The objective of the investigation is to confirm the contamination status of the site with respect to the proposed land use. The report is being undertaken as the land is to be developed for use as a solar farm installation. The requirements of the regulator, Mid-Western Regional Council, will also be considered by consulting their Development Control Plan (DCP), Local Environment Plan (LEP) and any other requirements based on our recent experience with Council on similar sites. A preliminary conceptual site model (CSM) has been prepared (Section 8) for the proposed development. The project team consisted of experienced environmental engineers and scientists working in the roles of Project Principal, Project Reviewer, Project Manager, field staff.
2: Identify the decisions / goal of the study	The site history has identified possible contaminating previous uses which are identified in the CSM (Section 8). The CSM identifies the associated contaminants of potential concern (COPC) and the likely impacted media. The site assessment criteria (SAC) for each of the COPC are detailed in Appendix H. The decision is to establish whether or not the results fall below the SAC or whether or not the 95% upper confidence limit of the sample population falls below the SAC. On this basis, an assessment of the site's suitability from a contamination perspective and whether (or not) further assessment and / or remediation will be derived.
3: Identify the information inputs	Inputs to the investigation will be the results of analysis of samples to measure the concentrations of COPC identified in the CSM (Section 8) at the site using NATA accredited laboratories and methods, where possible. The SAC for each of the COPC are detailed in Appendix H. A photoionization detector (PID) was used on-site to screen soils for VOC. PID readings will be used to inform sample selection for laboratory analysis.
4: Define the study boundaries	The lateral boundaries of the investigation area are shown on Drawing 1, Appendix A. The vertical boundaries are to the extent of contamination impact as determined from the site history assessment and site observations. The assessment is limited to the timeframe over which the field investigation was undertaken. Constraints to the assessment are identified and discussed in the conclusions of the report, Section 14.
5: Develop the analytical approach (or decision rule)	The decision rule is to compare all analytical results with SAC (Appendix H, based on NEPC (2013)). Where guideline values are absent, other sources of guideline values accepted by NEPC (2013) shall be adopted where possible.

Step	Summary
	Where a sample result exceeds the adopted criterion, a further site-specific assessment will be made as to the risk posed by the presence of that contaminant(s). Initial comparisons will be with individual results then, where required, summary statistics (including mean, standard deviation and 95% upper confidence limit (UCL) of the arithmetic mean (95% UCL)) to assess potential risks posed by the site contamination. Quality control results are to be assessed according to their relative percent difference (RPD) values. For field duplicates, triplicates and laboratory results, RPDs should generally be below 30%; for field blanks and rinsates, results should be at or less than the limits of reporting (NEPC, 2013). The field and laboratory quality assurance assessment is included in Appendix L.
6: Specify the performance or acceptance criteria	Baseline condition: Contaminants at the site and/or statistical analysis of data (in line with NEPC (2013)) exceed human health and environmental SAC and pose a potentially unacceptable risk to receptors (null hypothesis). Unless conclusive information from the collected data is sufficient to reject the null hypothesis, it is assumed that the baseline condition is true. Uncertainty that may exist due to the above potential decision errors shall be mitigated as follows: • As well as a primary screening exercise, the use of the 95% UCL as per NEPC (2013) may be applied, i.e.: 95% is the defined confidence level associated with the UCL on the geometric mean for contaminant data. The resultant 95%UCL shall subsequently be screened against the corresponding SAC. • The statistical assessment will only be able to be applied to certain data-sets, such as those obtained via systematic sampling. Identification of areas for targeted sampling will be via professional judgement and errors will not be able to have a probability assigned to them.
7: Optimise the design for obtaining data	As the purpose of the sampling program is to assess for potential contamination across the site, the sampling program is reliant on professional judgement to identify and sample the potentially affected areas. Further details regarding the proposed sampling plan are presented in Section 9.

2. References

NEPC. (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]*. Australian Government Publishing Services Canberra: National Environment Protection Council.

Appendix G

Field Work Methodology

1. Guidelines

The following key guidelines were consulted for the field work methodology:

- NEPC *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]* (NEPC, 2013).

2. Soil sampling

Soil sampling is carried out in accordance with DP standard operating procedures. The general sampling and sample management procedures comprise:

- Collect soil samples directly from the excavator bucket at the nominated sample depth;
- Transfer samples in laboratory-prepared glass jars with Teflon lined lids by hand, capping immediately and minimising headspace within the sample jar;
- Collect replicate samples in zip-lock bags for PID screening;
- Collect ~40 g to 50 g samples in zip-lock bags for asbestos (presence / absence) analysis;
- Wear a new disposable nitrile glove for each sample point thereby minimising potential for cross-contamination;
- Collect 10% replicate samples for QC purposes;
- Label sample containers with individual and unique identification details, including project number, sample location and sample depth (where applicable);
- Place samples into a cooled, insulated and sealed container for transport to the laboratory; and
- Use chain of custody documentation.

2.1 Field testing

Field testing is carried out in accordance with DP standard operating procedures. The general sampling and sample management procedures comprise:

PID Field Test

- Calibrate the PID with isobutylene gas at 100 ppm and with fresh air prior to commencement of each successive day's field work;
- Allow the headspace in the PID zip-lock bag samples to equilibrate; and
- Screen using the PID.

3. References

NEPC. (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]*. Australian Government Publishing Services Canberra: National Environment Protection Council.

Appendix H

Site Assessment Criteria

1. Introduction

1.1 Guidelines

The following key guidelines were consulted for deriving the site assessment criteria (SAC):

- NEPC *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]* (NEPC, 2013).
- CRC CARE *Health screening levels for petroleum hydrocarbons in soil and groundwater* (CRC CARE, 2011).

1.2 General

The SAC applied in the current investigation are informed by the CSM which identified human and environmental receptors to potential contamination at the site. Analytical results are assessed (as a Tier 1 assessment) against the SAC comprising primarily the investigation and screening levels of Schedule B1 of NEPC (2013).

The following inputs are relevant to the selection and/or derivation of the SAC:

- Land use: residential.
  - Corresponding to land use category 'A', residential with garden / accessible soil (home grown produce <10% fruit and vegetable intake, (no poultry)), also includes children's day care centres, preschools and primary schools.
- Soil type: clay.

2. Soils

2.1 Health investigation and screening levels

The generic health investigation levels (HIL) and health screening levels (HSL) are considered to be appropriate for the assessment of human health risk via all relevant pathways of exposure associated with contamination at the site. The adopted soil HIL and HSL for the contaminants of concern are in Table 1 and Table 2.

Table 1: Health investigation levels (mg/kg)

Contaminant	HIL-A
Metals	
Arsenic	100
Cadmium	20
Chromium (VI)	100
Copper	6000
Lead	300

Contaminant	HIL-A
Mercury (inorganic)	40
Nickel	400
Zinc	7400
PAH	
B(a)P TEQ	3
Total PAH	300
Phenols	
Phenol	3000
Pentachlorophenol	100
OCP	
DDT+DDE+DDD	240
Aldrin and dieldrin	6
Chlordane	50
Endosulfan	270
Endrin	10
Heptachlor	6
HCB	10
Methoxychlor	300
OPP	
Chlorpyrifos	160
PCB	
PCB	1

Table 2: Health screening levels (mg/kg)

Contaminant	HSL-A&B	HSL-A&B	HSL-A&B	HSL-A&B
CLAY	**0 m to <1 m**	**1 m to <2 m**	**2 m to <4 m**	**4 m+**
Benzene	0.7	1	2	3
Toluene	480	NL	NL	NL
Ethylbenzene	NL	NL	NL	NL
Xylenes	110	310	NL	NL
Naphthalene	5	NL	NL	NL
TRH F1	50	90	150	290
TRH F2	280	NL	NL	NL

Notes: TRH F1 is TRH C_6-C_{10} minus BTEX
TRH F2 is TRH >C_{10}-C_{16} minus naphthalene
The soil saturation concentration (Csat) is defined as the soil concentration at which the porewater phase cannot dissolve any more of an individual chemical. The soil vapour that is in equilibrium with the porewater will be at its maximum. If the derived soil HSL exceeds Csat, a soil vapour source concentration for a petroleum mixture could not exceed a level that would results in the maximum allowable vapour risk for the given scenario. For these scenarios, no HSL is presented for these chemicals and the HSL is shown as 'not limiting' or 'NL'

Table 3: Health screening levels for direct contact (mg/kg)

Contaminant	DC HSL-A	DC HSL-IMW
Benzene	100	1100
Toluene	14 000	120 000
Ethylbenzene	4500	85 000
Xylenes	12 000	130 000
Naphthalene	1400	29 000
TRH F1	4400	82 000
TRH F2	3300	62 000
TRH F3	4500	85 000
TRH F4	6300	120 000

Notes: TRH F1 is TRH C_6-C_{10} minus BTEX
TRH F2 is TRH >C_{10}-C_{16} minus naphthalene
IMW intrusive maintenance worker

2.2 Asbestos in soil

Based on the CSM and/or current site access limitations, a detailed asbestos assessment was not considered to be warranted at this stage. However, due to the history of widespread use of ACM products across Australia, ACM can be encountered unexpectedly and sporadically at a site. Therefore, the presence or absence of asbestos at a limit of reporting of 0.1 g/kg (AS:4964) has been adopted for this investigation / assessment as an initial screen.

2.3 Ecological investigation levels

Ecological investigation levels (EIL) and added contaminant limits (ACL), where appropriate, have been derived in NEPC (2013) for arsenic, copper, chromium (III), nickel, lead, zinc, DDT and naphthalene. The adopted EIL, derived using the interactive (excel) calculation spreadsheet on the NEPM toolbox website are shown in Table 5, with inputs into their derivation shown in Table 4.

Table 4: Inputs to the derivation of the ecological investigation levels

Variable	Input	Rationale
Age of contaminants	"Aged" (>2 years)	Age of potential areas of concern likely to be greater than 2 years
pH	6.3	Measured across the site

CEC	4.4 $cmol_c/kg$	Measured across the site
Clay content	10%	Measured across the site
Traffic volumes	low	Rural property located away from roads
State / Territory	NSW	Site is located in NSW

Table 5: Ecological investigation levels (mg/kg)

Contaminant	EIL-A-B-C
Metals	
Arsenic	100
Copper	100
Nickel	30
Chromium III	410
Lead	1100
Zinc	290
PAH	
Naphthalene	170
OCP	
DDT	180

Notes:
EIL-A-B-C urban residential and public open space

2.4 Ecological screening levels

Ecological screening levels (ESL) are used to assess the risk of selected petroleum hydrocarbon compounds, BTEX and benzo(a)pyrene to terrestrial ecosystems. The adopted ESL are shown in Table 6.

Table 6: Ecological screening levels (mg/kg)

Contaminant	Soil type	ESL-A-B-C
Benzene	Fine	65
Toluene	Fine	105
Ethylbenzene	Fine	125
Xylenes	Fine	45
TRH F1	Coarse/ Fine	180*
TRH F2	Coarse/ Fine	120*
TRH F3	Fine	1300

Contaminant	Soil type	ESL-A-B-C
TRH F4	Fine	5600
B(a)P	Fine	0.7

Notes: ESL are of low reliability except where indicated by * which indicates that the ESL is of moderate reliability
TRH F1 is TRH C_6-C_{10} minus BTEX
TRH F2 is TRH >C_{10}-C_{16} including naphthalene
ESL-A-B-C urban residential and public open space

Table 7: Management limits (mg/kg)

Contaminant	Soil type	ML-A-B-C
TRH F1	Fine	800
TRH F2	Fine	1000
TRH F3	Fine	3500
TRH F4	Fine	10 000

Notes: TRH F1 is TRH C_6-C_{10} including BTEX
TRH F2 is TRH >C_{10}-C_{16} including naphthalene
ML-A-B-C residential, parkland and public open space

3. References

CRC CARE. (2011). *Health screening levels for petroleum hydrocarbons in soil and groundwater.* Parts 1 to 3, Technical Report No. 10: Cooperative Research Centre for Contamination Assessment and Remediation of the Environment.

NEPC. (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM].* Australian Government Publishing Services Canberra: National Environment Protection Council.

Appendix I

Summary of Laboratory Results Tables

Douglas PARTNERS

Table I1: Summary of Laboratory Results – Priority metals, Priority PAH, Priority TRH, BTEX

			Priority metals								Priority PAH				Priority TRH						BTEX			
			Total Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	Naphthalene [b]	Benzo(a)pyrene (B(a)P)	Benzo(a)pyrene TEQ (B(a)P TEQ)	Total PAH	TRH C6 - C10	TRH >C10-C16	F1 ((C6-C10)-BTEX)	F2 (>C10-C16 less Naphthalene)	F3 (>C16-C34)	F4 (>C34-C40)	Benzene	Toluene	Ethylbenzene	Total Xylenes
		PQL	4	0.4	1	1	1	0.1	1	1	1	0.05	0.5	0.05	25	50	25	50	100	100	0.2	0.5	1	1
Sample ID	Depth	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Pit 3	0.1 m	15/02/22	<4	<0.4	10	5	7	<0.1	4	10	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 3	0.5 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 3	1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 6	0.1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 6	0.5 m	15/02/22	<4	<0.4	10	4	6	<0.1	4	14	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
R11	0 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 6	1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 7	0.1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 7	0.5 m	15/02/22	<4	<0.4	10	5	4	<0.1	4	30	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 7	1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 8	0.1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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Pit 8	0.5 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 8	1 m	15/02/22	<4	<0.4	18	10	11	<0.1	8	18	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	NL 170	- 0.7	3 -	300 -	- -	- 120	90 180	NL -	- 1,300	- 5,600	1 65	NL 105	NL 125	310 45
Pit 11	0.1 m	31/01/22	<4	<0.4	17	4	6	<0.1	3	9	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 12	0.1 m	01/02/22	<4	<0.4	5	3	3	<0.1	1	13	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 13	2 m	01/02/22	<4	<0.4	4	<1	3	<0.1	2	36	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	NL 170	- 0.7	3 -	300 -	- -	- 120	150 180	NL -	- 1,300	- 5,600	2 65	NL 105	NL 125	NL 45
Pit 14	1 m	01/02/22	<4	<0.4	7	<1	1	<0.1	3	10	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	NL 170	- 0.7	3 -	300 -	- -	- 120	90 180	NL -	- 1,300	- 5,600	1 65	NL 105	NL 125	310 45
Pit 15	0.1 m	31/01/22	<4	<0.4	15	5	9	<0.1	5	6	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 16	0.5 m	01/02/22	<4	<0.4	18	3	11	<0.1	7	18	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 17	0.1 m	01/02/22	<4	<0.4	2	2	3	<0.1	<1	6	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
R1	0 m	02/02/22	<4	<0.4	2	2	3	<0.1	<1	5	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 18	0.1 m	04/01/22	<4	<0.4	16	7	9	<0.1	6	11	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 19	0.1 m	01/02/22	<4	<0.4	5	3	3	<0.1	2	16	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 20	1.5 m	01/02/22	<4	<0.4	5	2	10	<0.1	2	28	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	NL 170	- 0.7	3 -	300 -	- -	- 120	90 180	NL -	- 1,300	- 5,600	1 65	NL 105	NL 125	310 45
Pit 21	0.1 m	04/01/22	<4	<0.4	5	3	3	<0.1	2	13	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 22	0.5 m	01/02/22	<4	<0.4	7	<1	3	<0.1	1	8	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
R2	0 m	02/02/22	<4	<0.4	6	<1	4	<0.1	1	7	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 23	1 m	04/01/22	<4	<0.4	13	8	7	<0.1	7	33	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	NL 170	- 0.7	3 -	300 -	- -	- 120	90 180	NL -	- 1,300	- 5,600	1 65	NL 105	NL 125	310 45
Pit 24	0.1 m	01/02/22	<4	<0.4	4	1	3	<0.1	1	5	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 25	0.1 m	02/02/22	<4	<0.4	5	3	3	<0.1	3	10	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 26	1 m	01/02/22	5	<0.4	5	2	9	<0.1	3	12	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	NL 170	- 0.7	3 -	300 -	- -	- 120	90 180	NL -	- 1,300	- 5,600	1 65	NL 105	NL 125	310 45
Pit 27	0.1 m	04/01/22	<4	<0.4	11	7	9	<0.1	5	14	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 28	0.1 m	02/02/22	<4	<0.4	7	1	3	<0.1	2	5	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 29	0.1 m	01/02/22	<4	<0.4	8	<1	5	<0.1	2	6	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 30	0.5 m	04/01/22	<4	<0.4	13	1	16	<0.1	3	6	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 31	1 m	04/01/22	<4	<0.4	9	5	9	<0.1	3	10	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	NL 170	- 0.7	3 -	300 -	- -	- 120	90 180	NL -	- 1,300	- 5,600	1 65	NL 105	NL 125	310 45
Pit 32	0.1 m	03/02/22	<4	<0.4	8	3	7	<0.1	3	6	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 33	0.5 m	02/02/22	<4	<0.4	4	<1	3	<0.1	2	18	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 34	0.5 m	04/01/22	<4	<0.4	16	1	7	<0.1	3	4	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 35	0.1 m	04/01/22	<4	<0.4	11	<1	6	<0.1	2	3	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 36	0.1 m	03/02/22	<4	<0.4	16	<1	9	<0.1	2	3	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 37	0.5 m	02/02/22	<4	<0.4	1	<1	3	<0.1	<1	15	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 38	0.1 m	02/02/22	<4	<0.4	8	2	5	<0.1	3	43	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 39	0.1 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 39	0.5 m	14/02/22	<4	<0.4	10	2	8	<0.1	3	6	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 39	1 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 40	0.1 m	14/02/22	<4	<0.4	9	<1	4	<0.1	<1	3	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 40	0.5 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 40	1 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 41	0.1 m	02/02/22	<4	<0.4	6	4	4	<0.1	1	8	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 42	1 m	02/02/22	<4	<0.4	7	3	5	<0.1	3	11	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	NL 170	- 0.7	3 -	300 -	- -	- 120	90 180	NL -	- 1,300	- 5,600	1 65	NL 105	NL 125	310 45
Pit 43	0.1 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 43	0.5 m	14/02/22	<4	<0.4	9	<1	8	<0.1	5	4	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 43	1 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 43	1.5 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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Pit 43	2 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 43 - [TRIPLICATE]	0.5 m	14/02/22	<4	<0.4	13	1	11	<0.1	7	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 44	1 m	02/02/22	<4	<0.4	6	2	4	<0.1	2	23	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	NL 170	- 0.7	3 -	300 -	- -	- 120	90 180	NL -	- 1,300	- 5,600	1 65	NL 105	NL 125	310 45
Pit 45	1.5 m	02/02/22	<4	<0.4	3	11	28	<0.1	4	39	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	NL 170	- 0.7	3 -	300 -	- -	- 120	90 180	NL -	- 1,300	- 5,600	1 65	NL 105	NL 125	310 45
Pit 46	0.1 m	02/02/22	<4	<0.4	4	2	2	<0.1	<1	8	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 47	0.1 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 47	0.5 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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Pit 47	1 m	14/02/22	<4	<0.4	7	<1	8	<0.1	<1	2	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	NL 170	- 0.7	3 -	300 -	- -	- 120	90 180	NL -	- 1,300	- 5,600	1 65	NL 105	NL 125	310 45
Pit 47	1.5 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 48	0.1 m	15/02/22	<4	<0.4	7	1	9	<0.1	1	2	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 48	0.5 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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Pit 48	1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 49	0.1 m	03/02/22	<4	<0.4	8	2	5	<0.1	1	8	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 50	0.1 m	14/02/22	<4	<0.4	10	3	8	<0.1	3	10	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 50	0.5 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 50	1 m	14/02/22	<4	<0.4	7	8	13	<0.1	3	14	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	NL 170	- 0.7	3 -	300 -	- -	- 120	90 180	NL -	- 1,300	- 5,600	1 65	NL 105	NL 125	310 45
Pit 51	0.1 m	03/02/22	<4	<0.4	9	9	12	<0.1	6	19	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 52	0.1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 52	0.5 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 52	1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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Pit 52	1.5 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 53	0.1 m	03/02/22	<4	<0.4	4	6	3	<0.1	2	14	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 54	0.1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
R4	0 m	03/02/22	<4	<0.4	8	9	10	<0.1	4	16	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 54	0.5 m	15/02/22	<4	<0.4	8	2	5	<0.1	2	3	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 54	1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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Pit 55	0.1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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Pit 55	0.5 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 55	1 m	15/02/22	<4	<0.4	9	5	13	<0.1	5	7	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	NL 170	- 0.7	3 -	300 -	- -	- 120	90 180	NL -	- 1,300	- 5,600	1 65	NL 105	NL 125	310 45
Pit 56	0.1 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 56	0.5 m	14/02/22	<4	<0.4	4	<1	3	<0.1	2	2	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
R8	0 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 56	1 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 57	0.1 m	14/02/22	<4	<0.4	5	<1	3	<0.1	<1	4	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 57	0.5 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 57	1 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 58	0.1 m	14/02/22	<4	<0.4	14	<1	7	<0.1	2	3	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
R9	0 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 58	0.5 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 58	1 m	14/02/22	<4	<0.4	3	<1	3	<0.1	<1	1	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	NL 170	- 0.7	3 -	300 -	- -	- 120	90 180	NL -	- 1,300	- 5,600	1 65	NL 105	NL 125	310 45
Pit 59	0.1 m	15/02/22	<4	<0.4	2	<1	2	<0.1	<1	2	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 59	0.5 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 60	0.1 m	15/02/22	4	<0.4	8	6	19	<0.1	3	16	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
R10	0 m	14/02/22	6	<0.4	9	5	19	<0.1	2	16	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 60	0.5 m	15/02/22	<4	<0.4	8	2	8	<0.1	2	3	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 60	1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pit 61	0.1 m	03/02/22	<4	<0.4	5	3	6	0.1	1	4	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 62	0.1 m	03/02/22	<4	<0.4	8	4	7	<0.1	2	6	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
R5	0 m	03/02/22	<4	<0.4	7	3	6	<0.1	2	6	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 63	0.5 m	03/02/22	<4	<0.4	11	<1	8	<0.1	3	5	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 64	0.5 m	03/02/22	<4	<0.4	7	1	5	<0.1	2	3	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 65	0.1 m	04/01/22	<4	<0.4	11	6	8	<0.1	4	14	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 66	0.1 m	04/01/22	<4	<0.4	5	1	7	<0.1	<1	1	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45
Pit 67	0.1 m	04/01/22	<4	<0.4	7	1	4	<0.1	1	4	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<3
			100 100	20 -	100 410	6,000 100	300 1,100	40 -	400 30	7,400 290	5 170	- 0.7	3 -	300 -	- -	- 120	50 180	280 -	- 1,300	- 5,600	0.7 65	480 105	NL 125	110 45

Lab result
HIL/HSL value EIL/ESL/EGV value

HIL/HSL exceedance   EIL/ESL exceedance   HIL/HSL and EIL/ESL exceedance   ML exceedance   ML and HIL/HSL or EIL/ESL exceedance

Indicates that asbestos has been detected by the lab, refer to the lab report   **Blue** = DC exceedance   **Red** = EGV-indirect exceedance   HSL 0-<1 Exceedance

Bold = Lab detections   - = Not tested or No HIL/HSL/EIL/ESL (as applicable) or Not applicable   NL = Not limiting   NAD = No Asbestos detected

HIL = Health investigation level   HSL = Health screening level (excluding DC)   EIL = Ecological investigation level   ESL = Ecological screening level   EGV = Environmental Guideline Value   ML = Management Limit   DC = Direct Contact HSL

Notes:

a QA/QC replicate of sample listed directly below the primary sample
b Naphthalene reported as highest detection from the BTEXN or PAH suite, or if both results <PQL as lowest PQL
c EIL criteria applies to DDT only

Site Assessment Criteria (SAC):

SAC based on generic land use thresholds for Residential A with garden/accessible soil

Refer to the SAC section of report for information of SAC sources and rationale. Summary information as follows:

HIL	HIL-A (NEPC, 2013 or HEPA, 2020 (PFAS only))	EGV	EGV, all land uses, direct exposure (HEPA, 2020)
HSL (vapour intrusion)	HSL-A/B (NEPC, 2013)	ESL	Urban Residential and Public Open Space (NEPC, 2013)
DC	Direct contact HSL A Residential (Low density) (CRC CARE, 2011)	ML	Residential, Parkland and Public Open Space (NEPC, 2013)

Table I2: Summary of Laboratory Results – Priority OCP, Priority OPP, PCB

			Priority OCP								Priority OPP	PCB
			DDT+DDE+DDD c	Aldrin + Dieldrin	Total Chlordane	Total Endosulfan	Endrin	Heptachlor	Hexachlorobenzene	Methoxychlor	Chlorpyrifos	Total PCB
		PQL	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Sample ID	Depth	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Pit 3	0.1 m	15/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 3	0.5 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 3	1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 6	0.1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 6	0.5 m	15/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
RI1	0 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 6	1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 7	0.1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 7	0.5 m	15/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 7	1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 8	0.1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 8	0.5 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 8	1 m	15/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 11	0.1 m	31/01/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 12	0.1 m	01/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 13	2 m	01/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 14	1 m	01/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 15	0.1 m	31/01/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 16	0.5 m	01/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 17	0.1 m	01/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
RI	0 m	02/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 18	0.1 m	04/01/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 19	0.1 m	01/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 20	1.5 m	01/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 21	0.1 m	04/01/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 22	0.5 m	01/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
R2	0 m	02/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 23	1 m	04/01/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 24	0.1 m	01/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 25	0.1 m	02/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 26	1 m	01/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 27	0.1 m	04/01/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 28	0.1 m	02/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 29	0.1 m	01/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 30	0.5 m	04/01/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 31	1 m	04/01/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 32	0.1 m	03/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 33	0.5 m	02/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 34	0.5 m	04/01/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 35	0.1 m	04/01/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 36	0.1 m	03/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 37	0.5 m	02/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 38	0.1 m	02/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 39	0.1 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 39	0.5 m	14/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 39	1 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 40	0.1 m	14/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 40	0.5 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 40	1 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 41	0.1 m	02/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 42	1 m	03/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 43	0.1 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 43	0.5 m	14/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 43	1 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 43	1.5 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 43	2 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 43 - [TRIPLICATE]	0.5 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 44	1 m	02/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 45	1.5 m	02/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 46	0.1 m	02/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 47	0.1 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 47	0.5 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 47	1 m	14/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 47	1.5 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 48	0.1 m	15/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 48	0.5 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 48	1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 49	0.1 m	03/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 50	0.1 m	14/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 50	0.5 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 50	1 m	14/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 51	0.1 m	03/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 52	0.1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 52	0.5 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 52	1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 52	1.5 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 53	0.1 m	03/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 54	0.1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R4	0 m	03/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 54	0.5 m	15/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 54	1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 55	0.1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 55	0.5 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 55	1 m	15/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 56	0.1 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 56	0.5 m	14/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
R8	0 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 56	1 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 57	0.1 m	14/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 57	0.5 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 57	1 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 58	0.1 m	14/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
R9	0 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 58	0.5 m	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 58	1 m	14/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 59	0.1 m	15/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 59	0.5 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 60	0.1 m	15/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
RI0	0 m	14/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 60	0.5 m	15/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 60	1 m	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 61	0.1 m	03/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 62	0.1 m	03/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
R5	0 m	03/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 63	0.5 m	03/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 64	0.5 m	03/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 65	0.1 m	04/01/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 66	0.1 m	04/01/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-
Pit 67	0.1 m	04/01/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
			240	180	6	-	50	-	270	10	-	6	-	50	-	300	160	-	-

Lab result

HIL/HSL value EIL/ESL/ECV value

HIL/HSL exceedance EIL/ESL exceedance HIL/HSL and EIL/ESL exceedance ML exceedance ML and HIL/HSL or EIL/ESL exceedance

Indicates that asbestos has been detected by the lab, refer to the lab report **Blue** = DC exceedance **Red** = ECV-indirect exceedance HSL 0-1 Exceedance

Bold = Lab detections - = Not tested or No HIL/HSL/EIL/ESL (as applicable) or Not applicable NL = Not limiting NAD = No Asbestos detected

HIL = Health investigation level HSL = Health screening level (excluding DC) EIL = Ecological investigation level ESL = Ecological screening level EGV = Environmental Guideline Value ML = Management Limit DC = Direct Contact HSL

Notes:

a QA/QC replicate of sample listed directly below the primary sample

b Naphthalene reported as highest detection from the BTEXN or PAH suite, or if both results <PQL as lowest PQL

c EIL criteria applies to DDT only

Site Assessment Criteria (SAC):

SAC based on generic land use thresholds for Residential A with garden/accessible soil

Refer to the SAC section of report for information of SAC sources and rationale. Summary information as follows:

HIL	HIL-A (NEPC, 2013 or HEPA, 2020 (PFAS only))	EGV	EGV, all land uses, direct exposure (HEPA, 2020)
HSL (vapour intrusion)	HSL-A/B (NEPC, 2013)	ESL	Urban Residential and Public Open Space (NEPC, 2013)
DC	Direct contact HSL A Residential (Low density) (CRC CARE, 2011)	ML	Residential, Parkland and Public Open Space (NEPC, 2013)

Douglas PARTNERS

Table G3: Summary of Laboratory Results – Metals, TRH, BTEX, PAH, Phenol, OCP, OPP, PCB

			Metals								TRH				
			Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C9	TRH C10 - C14	TRH C15 - C28	TRH C29 - C36	C10-C36 recoverable hydrocarbons
		PQL	4	0.4	1	1	1	0.1	1	1	25	50	100	100	50
Sample ID	Depth	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Pit 11	0.1 m	31/01/2022	<4	<0.4	17	4	6	<0.1	3	9	<25	<50	<100	<100	<50
Pit 15	0.1 m	31/01/2022	<4	<0.4	15	5	9	<0.1	5	6	<25	<50	<100	<100	<50
Pit 12	0.1 m	01/02/2022	<4	<0.4	5	3	3	<0.1	1	13	<25	<50	<100	<100	<50
Pit 16	0.5 m	01/02/2022	<4	<0.4	18	3	11	<0.1	7	18	<25	<50	<100	<100	<50
Pit 13	2 m	01/02/2022	<4	<0.4	4	<1	3	<0.1	2	36	<25	<50	<100	<100	<50
Pit 17	0.1 m	01/02/2022	<4	<0.4	2	2	3	<0.1	<1	6	<25	<50	<100	<100	<50
Pit 14	1 m	01/02/2022	<4	<0.4	7	<1	1	<0.1	3	10	<25	<50	<100	<100	<50
Pit 19	0.1 m	01/02/2022	<4	<0.4	5	3	3	<0.1	2	16	<25	<50	<100	<100	<50
Pit 20	1.5 m	01/02/2022	<4	<0.4	5	2	10	<0.1	2	28	<25	<50	<100	<100	<50
Pit 22	0.5 m	01/02/2022	<4	<0.4	7	<1	3	<0.1	1	8	<25	<50	<100	<100	<50
Pit 24	0.1 m	01/02/2022	<4	<0.4	4	1	3	<0.1	1	5	<25	<50	<100	<100	<50
Pit 26	1 m	01/02/2022	5	<0.4	5	2	9	<0.1	3	12	<25	<50	<100	<100	<50
Pit 29	0.1 m	01/02/2022	<4	<0.4	8	<1	5	<0.1	2	6	<25	<50	<100	<100	<50
Pit 25	0.1 m	02/02/2022	<4	<0.4	5	3	3	<0.1	3	10	<25	<50	<100	<100	<50
Pit 28	0.1 m	02/02/2022	<4	<0.4	7	1	3	<0.1	2	5	<25	<50	<100	<100	<50
Pit 33	0.5 m	02/02/2022	<4	<0.4	4	<1	3	<0.1	2	18	<25	<50	<100	<100	<50
Pit 37	0.5 m	02/02/2022	<4	<0.4	1	<1	3	<0.1	<1	15	<25	<50	<100	<100	<50
Pit 38	0.1 m	02/02/2022	<4	<0.4	8	2	5	<0.1	3	43	<25	<50	<100	<100	<50
Pit 41	0.1 m	02/02/2022	<4	<0.4	6	4	4	<0.1	1	8	<25	<50	<100	<100	<50
Pit 44	1 m	02/02/2022	<4	<0.4	6	2	4	<0.1	2	23	<25	<50	<100	<100	<50
Pit 46	0.1 m	02/02/2022	<4	<0.4	4	2	2	<0.1	<1	8	<25	<50	<100	<100	<50
Pit 45	1.5 m	02/02/2022	<4	<0.4	3	11	28	<0.1	4	39	<25	<50	<100	<100	<50
Pit 42	1 m	02/02/2022	<4	<0.4	7	3	5	<0.1	3	11	<25	<50	<100	<100	<50
Pit 51	0.1 m	03/02/2022	<4	<0.4	9	9	12	<0.1	6	19	<25	<50	<100	<100	<50
Pit 53	0.1 m	03/02/2022	<4	<0.4	4	6	3	<0.1	2	14	<25	<50	<100	<100	<50
Pit 49	0.1 m	03/02/2022	<4	<0.4	8	2	5	<0.1	1	8	<25	<50	<100	<100	<50
Pit 32	0.1 m	03/02/2022	<4	<0.4	8	3	7	<0.1	3	6	<25	<50	<100	<100	<50
Pit 64	0.5 m	03/02/2022	<4	<0.4	7	1	5	<0.1	2	3	<25	<50	<100	<100	<50
Pit 63	0.5 m	03/02/2022	<4	<0.4	11	<1	8	<0.1	3	5	<25	<50	<100	<100	<50
Pit 62	0.1 m	03/02/2022	<4	<0.4	8	4	7	<0.1	2	6	<25	<50	<100	<100	<50
Pit 61	0.1 m	03/02/2022	<4	<0.4	5	3	6	0.1	1	4	<25	<50	<100	<100	<50
Pit 36	0.1 m	03/02/2022	<4	<0.4	16	<1	9	<0.1	2	3	<25	<50	<100	<100	<50
Pit 35	0.1 m	04/01/2022	<4	<0.4	11	<1	6	<0.1	2	3	<25	<50	<100	<100	<50
Pit 65	0.1 m	04/01/2022	<4	<0.4	11	6	8	<0.1	4	14	<25	<50	<100	<100	<50
Pit 66	0.1 m	04/01/2022	<4	<0.4	5	1	7	<0.1	<1	1	<25	<50	<100	<100	<50
Pit 34	0.5 m	04/01/2022	<4	<0.4	16	1	7	<0.1	3	4	<25	<50	<100	<100	<50
Pit 31	1 m	04/01/2022	<4	<0.4	9	5	9	<0.1	3	10	<25	<50	<100	<100	<50
Pit 67	0.1 m	04/01/2022	<4	<0.4	7	1	4	<0.1	1	4	<25	<50	<100	<100	<50
Pit 30	0.5 m	04/01/2022	<4	<0.4	13	1	16	<0.1	3	6	<25	<50	<100	<100	<50
Pit 27	0.1 m	04/01/2022	<4	<0.4	11	7	9	<0.1	5	14	<25	<50	<100	<100	<50
Pit 21	0.1 m	04/01/2022	<4	<0.4	5	3	3	<0.1	2	13	<25	<50	<100	<100	<50
Pit 23	1 m	04/01/2022	<4	<0.4	13	8	7	<0.1	7	33	<25	<50	<100	<100	<50
Pit 18	0.1 m	04/01/2022	<4	<0.4	16	7	9	<0.1	6	11	<25	<50	<100	<100	<50
Pit 43	0.5 m	14/02/2022	<4	<0.4	9	<1	8	<0.1	5	4	<25	<50	<100	<100	<50
Pit 39	0.5 m	14/02/2022	<4	<0.4	10	2	8	<0.1	3	6	<25	<50	<100	<100	<50
Pit 40	0.1 m	14/02/2022	<4	<0.4	9	<1	4	<0.1	<1	3	<25	<50	<100	<100	<50
Pit 47	1 m	14/02/2022	<4	<0.4	7	<1	8	<0.1	<1	2	<25	<50	<100	<100	<50
Pit 50	0.1 m	14/02/2022	<4	<0.4	10	3	8	<0.1	3	10	<25	<50	<100	<100	<50
Pit 50	1 m	14/02/2022	<4	<0.4	7	8	13	<0.1	3	14	<25	<50	<100	<100	<50
Pit 56	0.5 m	14/02/2022	<4	<0.4	4	<1	3	<0.1	2	2	<25	<50	<100	<100	<50
Pit 57	0.1 m	14/02/2022	<4	<0.4	5	<1	3	<0.1	<1	4	<25	<50	<100	<100	<50
Pit 58	0.1 m	14/02/2022	<4	<0.4	14	<1	7	<0.1	2	3	<25	<50	<100	<100	<50
Pit 58	1 m	14/02/2022	<4	<0.4	3	<1	3	<0.1	<1	1	<25	<50	<100	<100	<50
Pit 55	1 m	15/02/2022	<4	<0.4	9	5	13	<0.1	5	7	<25	<50	<100	<100	<50
Pit 54	0.5 m	15/02/2022	<4	<0.4	8	2	5	<0.1	2	3	<25	<50	<100	<100	<50
Pit 48	0.1 m	15/02/2022	<4	<0.4	7	1	9	<0.1	1	2	<25	<50	<100	<100	<50
Pit 60	0.1 m	15/02/2022	4	<0.4	8	6	19	<0.1	3	16	<25	<50	<100	<100	<50
Pit 60	0.5 m	15/02/2022	<4	<0.4	8	2	8	<0.1	2	3	<25	<50	<100	<100	<50
Pit 59	0.1 m	15/02/2022	<4	<0.4	2	<1	2	<0.1	<1	2	<25	<50	<100	<100	<50
Pit 3	0.1 m	15/02/2022	<4	<0.4	10	5	7	<0.1	4	10	<25	<50	<100	<100	<50
Pit 7	0.5 m	15/02/2022	<4	<0.4	10	5	4	<0.1	4	30	<25	<50	<100	<100	<50
Pit 8	1 m	15/02/2022	<4	<0.4	18	10	11	<0.1	8	18	<25	<50	<100	<100	<50
Pit 6	0.5 m	15/02/2022	<4	<0.4	10	4	6	<0.1	4	14	<25	<50	<100	<100	<50
Waste Classification Criteria[f]															
CT1			100	20	100	NC	100	4	40	NC	650	NC	NC	NC	10000
SCC1			500	100	1900	NC	1500	50	1050	NC	650	NC	NC	NC	10000
TCLP1			N/A	N/A	N/A	NC	N/A	N/A	N/A	NC	N/A	NC	NC	NC	N/A
CT2			400	80	400	NC	400	16	160	NC	2600	NC	NC	NC	40000
SCC2			2000	400	7600	NC	6000	200	4200	NC	2600	NC	NC	NC	40000
TCLP2			N/A	N/A	N/A	NC	N/A	N/A	N/A	NC	N/A	NC	NC	NC	N/A

		BTEX						PAH															
		Benzene	Toluene	Ethylbenzene	m+p-Xylene	o-Xylene	Xylenes (total)	Benzo(a)pyrene (BaP)	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(b,j+k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs
	PQL	0.2	0.5	1	2	1	1	0.05	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05
Sample ID	Depth	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Pit 11	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 15	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 12	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 16	0.5 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 13	2 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 17	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 14	1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 19	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 20	1.5 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 22	0.5 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 24	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 26	1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 29	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 25	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 28	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 33	0.5 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 37	0.5 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 38	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 41	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 44	1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 46	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 45	1.5 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 42	1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 51	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 53	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 49	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 32	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 64	0.5 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 63	0.5 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 62	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 61	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 36	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 35	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 65	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 66	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 34	0.5 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 31	1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 67	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 30	0.5 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 27	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 21	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 23	1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 18	0.1 m	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 43	0.5 m	<0.2	<0.5	<1	<2	<1	<1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 39	0.5 m	<0.2	<0.5	<1	<2	<1	<1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 40	0.1 m	<0.2	<0.5	<1	<2	<1	<1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 47	1 m	<0.2	<0.5	<1	<2	<1	<1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 50	0.1 m	<0.2	<0.5	<1	<2	<1	<1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 50	1 m	<0.2	<0.5	<1	<2	<1	<1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 56	0.5 m	<0.2	<0.5	<1	<2	<1	<1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 57	0.1 m	<0.2	<0.5	<1	<2	<1	<1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 58	0.1 m	<0.2	<0.5	<1	<2	<1	<1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 58	1 m	<0.2	<0.5	<1	<2	<1	<1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 55	1 m	<0.2	<0.5	<1	<2	<1	<1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 54	0.5 m	<0.2	<0.5	<1	<2	<1	<1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 48	0.1 m	<0.2	<0.5	<1	<2	<1	<1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 60	0.1 m	<0.2	<0.5	<1	<2	<1	<1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 60	0.5 m	<0.2	<0.5	<1	<2	<1	<1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 59	0.1 m	<0.2	<0.5	<1	<2	<1	<1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 3	0.1 m	<0.2	<0.5	<1	<2	<1	<1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 7	0.5 m	<0.2	<0.5	<1	<2	<1	<1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 8	1 m	<0.2	<0.5	<1	<2	<1	<1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Pit 6	0.5 m	<0.2	<0.5	<1	<2	<1	<1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Waste Classification Criteria[f]																							
CT1		10	288	600	NC	NC	1000	0.8	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	200
SCC1		18	518	1080	NC	NC	1800	10	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	200
TCLP1		N/A	N/A	N/A	NC	NC	N/A	N/A	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	N/A
CT2		40	1152	2400	NC	NC	4000	3.2	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	800
SCC2		72	2073	4320	NC	NC	7200	23	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	800
TCLP2		N/A	N/A	N/A	NC	NC	N/A	N/A	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	N/A

		Phenol	OCP		OPP	PCB							
		Phenol	Total Endosulfan	Total Analysed OCP	Total Analysed OPP	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Aroclor 1260	Total PCB
	PQL	5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Sample ID	Depth	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Pit 11	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 15	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 12	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 16	0.5 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 13	2 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 17	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 14	1 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 19	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 20	1.5 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 22	0.5 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 24	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 26	1 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 29	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 25	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 28	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 33	0.5 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 37	0.5 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 38	0.1 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 41	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 44	1 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 46	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 45	1.5 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 42	1 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 51	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 53	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 49	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 32	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 64	0.5 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 63	0.5 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 62	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 61	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 36	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 35	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 65	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 66	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 34	0.5 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 31	1 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 67	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 30	0.5 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 27	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 21	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 23	1 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 18	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 43	0.5 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 39	0.5 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 40	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 47	1 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 50	0.1 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 50	1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 56	0.5 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 57	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 58	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 58	1 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 55	1 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 54	0.5 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 48	0.1 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 60	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 60	0.5 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 59	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 3	0.1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 7	0.5 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 8	1 m	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pit 6	0.5 m	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Waste Classification Criteria[f]													
CT1		288	60	<50	4	NC	NC	NC	NC	NC	NC	NC	<50
SCC1		518	108	<50	7.5	NC	NC	NC	NC	NC	NC	NC	<50
TCLP1		N/A	N/A	N/A	N/A	NC	NC	NC	NC	NC	NC	NC	N/A
CT2		1152	240	<50	16	NC	NC	NC	NC	NC	NC	NC	<50
SCC2		2073	432	<50	30	NC	NC	NC	NC	NC	NC	NC	<50
TCLP2		N/A	N/A	N/A	N/A	NC	NC	NC	NC	NC	NC	NC	N/A

■ CT1 exceedance ■ TCLP1 and/or SCC1 exceedance ■ CT2 exceedance ■ TCLP2 and/or SCC2 exceedance ■ Asbestos detection

NT = Not tested NL = Non limiting NC = No criteria NA = Not applicable

Notes:

a	QA/QC replicate of sample listed directly below the primary sample
b	Total chromium used as initial screen for chromium(VI).
c	Total recoverable hydrocarbons (TRH) used as an initial screen for total petroleum hydrocarbons (TPH)
d	Criteria for scheduled chemicals used as an initial screen
e	Criteria for Chlorpyrifos used as initial screen
f	All criteria are in the same units as the reported results
PQL	Practical quantitation limit
CT1	NSW EPA, 2014, Waste Classification Guidelines Part 1; Classifying Waste, Maximum values of specific contaminant concentration (SCC) for classification without TCLP: General solid waste
SCC1	NSW EPA, 2014, Waste Classification Guidelines Part 1; Classifying Waste, Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: General solid waste
TCLP1	NSW EPA, 2014, Waste Classification Guidelines Part 1; Classifying Waste, Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: General solid waste
CT2	NSW EPA, 2014, Waste Classification Guidelines Part 1; Classifying Waste, Maximum values of specific contaminant concentration (SCC) for classification without TCLP: Restricted solid waste
SCC2	NSW EPA, 2014, Waste Classification Guidelines Part 1; Classifying Waste, Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: Restricted solid waste
TCLP2	NSW EPA, 2014, Waste Classification Guidelines Part 1; Classifying Waste, Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: Restricted solid waste

Appendix J

Test Pit Logs

Terminology, Symbols and Abbreviations

November 2023

Introduction to Terminology, Symbols and Abbreviations

Douglas Partners' reports, investigation logs, and other correspondence may use terminology which has quantitative or qualitative connotations. To remove ambiguity or uncertainty surrounding the use of such terms, the following sets of notes pages may be attached Douglas Partners' reports, depending on the work performed and conditions encountered:

- Soil Descriptions;
- Rock Descriptions; and
- Sampling, insitu testing, and drilling methodologies

In addition to these pages, the following notes generally apply to most documents.

Abbreviation Codes

Site conditions may also be presented in a number of different formats, such as investigation logs, field mapping, or as a written summary. In some of these formats textual or symbolic terminology may be presented using textual abbreviation codes or graphic symbols, and, where commonly used, these are listed alongside the terminology definition. For ease of identification in these note pages, textual codes are presented in these notes in the following style XW. Code usage conforms with the following guidelines:

- Textual codes are case insensitive, although herein they are generally presented in upper case; and
- Textual codes are contextual (i.e. the same or similar combinations of characters may be used in different contexts with different meanings (for example `PL` is used for plastic limit in the context of soil moisture condition, as well as in `PL(A)` for point load test result in the testing results column)).

Data Integrity Codes

Subsurface investigation data recorded by Douglas Partners is generally managed in a highly structured database environment, where records "span" between a top and bottom depth interval. Depth interval "gaps" between records are considered to introduce ambiguity, and, where appropriate, our practice guidelines may require contiguous data sets. Recording meaningful data is not always appropriate (for example assigning a "strength" to a concrete pavement) and the following codes may be used to maintain contiguity in such circumstances.

Term	Description	Abbreviation Code
Core loss	No core recovery	KL
Unknown	Information was not available to allow classification of the property. For example, when auguring in loose, saturated sand auger cuttings may not be returned.	UK
No data	Information required to allow classification of the property was not available. For example if drilling is commenced from the base of a hole predrilled by others	ND
Not Applicable	Derivation of the properties not appropriate or beyond the scope of the investigation. For example providing a description of the strength of a concrete pavement	NA

Graphic Symbols

Douglas Partners' logs contain a "graphic" column which provides a pictorial representation of the basic composition of the material. The symbols used are directly representing the material name stated in the adjacent "Description of Strata" column, and as such no specific graphic symbology legend has been provided in these notes.

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Soil Descriptions

Terminology
Symbols
Abbreviations

March 2024

Introduction

All materials which are not considered to be "in-situ rock" are described in general accordance with the soil description model of AS 1726-2017 Part 6.1.3, and can be broken down into the following description structure:



The "classification" comprises a two character "group symbol" providing a general summary of dominant soil characteristics. The "name" summarises the particle sizes within the soil which most influence its behaviour. The detailed description presents more information about composition, condition, structure, and origin of the soil.

Classification, naming and description of soils require the relative proportion of particles of different sizes within the whole soil mixture to be considered.

Particle size designation and Behaviour Model

Solid particles within a soil are differentiated on the basis of size.

The engineering behaviour properties of a soil can subsequently be modelled to be either "fine grained" (also known as "cohesive" behaviour) or "coarse grained" ("non cohesive" behaviour), depending on the relative proportion of fine or coarse fractions in the soil mixture.

Particle Size Designation	Particle Size (mm)	Behaviour Model	
		Behaviour	Approximate Dry Mass
Boulder	>200	Excluded from particle behaviour model as "oversize"	
Cobble	63 - 200		
Gravel[1]	2.36 - 63	Coarse	>65%
Sand[1]	0.075 - 2.36		
Silt	0.002 - 0.075	Fine	>35%
Clay	<0.002		

[1] – refer grain size subdivision descriptions below

The behaviour model boundaries defined above are not precise, and the material behaviour should be assumed from the name given to the material (which considers the particle fraction which dominates the behaviour, refer "component proportions" below), rather than strict observance of the proportions of particle sizes. For example, if a material is named a "Sandy CLAY", this is indicative that the material exhibits fine grained behaviour, even if the dry mass of coarse grained material may exceed 65%.

Component proportions

The relative proportion of the dry mass of each particle size fraction is assessed to be a "primary", "secondary", or "minor" component of the soil mixture, depending on its influence over the soil behaviour.

Component Proportion Designation	Definition[1]	Relative Proportion	
		In Fine Grained Soil	In Coarse Grained Soil
Primary	The component (particle size designation, refer above) which dominates the engineering behaviour of the soil	The clay/silt component with the greater proportion	The sand/gravel component with the greater proportion
Secondary	Any component which is not the primary, but is significant to the engineering properties of the soil	Any component with greater than 30% proportion	Any granular component with greater than 30%; or Any fine component with greater than 12%
Minor[2]	Present in the soil, but not significant to its engineering properties	All other components	All other components

[1] As defined in AS1726-2017 6.1.4.4

[2] In the detailed material description, minor components are split into two further sub-categories. Refer "identification of minor components" below.

Composite Materials

In certain situations, a lithology description may describe more than one material, for example, collectively describing a layer of interbedded sand and clay. In such a scenario, the two materials would be described independently, with the names preceded or followed by a statement describing the arrangement by which the materials co-exist. For example, "INTERBEDDED Silty CLAY AND SAND".

Soil Descriptions

Classification

The soil classification comprises a two character group symbol. The first character identifies the primary component. The second character identifies either the grading or presence of fines in a coarse grained soil, or the plasticity in a fine grained soil. Refer AS1726-2017 6.1.6 for further clarification.

Soil Name

For most soils, the name is derived with the primary component included as the noun (in upper case), preceded by any secondary components stated in an adjective form. In this way, the soil name also describes the general composition and indicates the dominant behaviour of the material.

Component [1]	Prominence in Soil Name
Primary	Noun (eg "CLAY")
Secondary	Adjective modifier (eg "Sandy")
Minor	No influence

[1] – for determination of component proportions, refer component proportions on previous page

For materials which cannot be disaggregated, or which are not comprised of rock or mineral fragments, the names "ORGANIC MATTER" or "ARTIFICIAL MATERIAL" may be used, in accordance with AS1726-2017 Table 14.

Commercial or colloquial names are not used for the soil name where a component derived name is possible (for example "Gravelly SAND" rather than "CRACKER DUST").

Materials of "fill" or "topsoil" origin are generally assigned a name derived from the primary/secondary component (where appropriate). In log descriptions this is preceded by uppercase "FILL" or "TOPSOIL". Origin uncertainty is indicated in the description by the characters (?), with the degree of uncertainty described (using the terms "probably" or "possibly" in the origin column, or at the end of the description).

Identification of minor components

Minor components are identified in the soil description immediately following the soil name. The minor component fraction is usually preceded with a term indicating the relative proportion of the component.

Minor Component Proportion Term	Relative Proportion	
	In Fine Grained Soil	In Coarse Grained Soil
With	All fractions: 15-30%	Clay/silt: 5-12% sand/gravel: 15-30%
Trace	All fractions: 0-15%	Clay/silt: 0-5% sand/gravel: 0-15%

The terms "with" and "trace" generally apply only to gravel or fine particle fractions. Where cobbles/boulders are encountered in minor proportions (generally less than about 12%) the term "occasional" may be used. This term describes the sporadic distribution of the material within the confines of the investigation excavation only, and there may be considerable variation in proportion over a wider area which is difficult to factually characterise due to the relative size of the particles and the investigation methods.

Soil Composition

Plasticity

Descriptive Term	Laboratory liquid limit range	
	Silt	Clay
Non-plastic materials	Not applicable	Not applicable
Low plasticity	≤50	≤35
Medium plasticity	Not applicable	>35 and ≤50
High plasticity	>50	>50

Note, Plasticity descriptions generally describe the plasticity behaviour of the whole of the fine grained soil, not individual fine grained fractions.

Grain Size

Type		Particle size (mm)
Gravel	Coarse	19 - 63
	Medium	6.7 - 19
	Fine	2.36 – 6.7
Sand	Coarse	0.6 - 2.36
	Medium	0.21 - 0.6
	Fine	0.075 - 0.21

Grading

Grading Term	Particle size (mm)
Well	A good representation of all particle sizes
Poorly	An excess or deficiency of particular sizes within the specified range
Uniformly	Essentially of one size
Gap	A deficiency of a particular size or size range within the total range

Note, AS1726-2017 provides terminology for additional attributes not listed here.

Soil Condition

Moisture

The moisture condition of soils is assessed relative to the plastic limit for fine grained soils, while for coarse grained soils it is assessed based on the appearance and feel of the material. The moisture condition of a material is considered to be independent of stratigraphy (although commonly these are related), and this data is presented in its own column on logs.

Applicability	Term	Tactile Assessment	Abbreviation code
Fine	Dry of plastic limit	Hard and friable or powdery	w<PL
	Near plastic limit	Can be moulded	w=PL
	Wet of plastic limit	Water residue remains on hands when handling	w>PL
	Near liquid limit	"oozes" when agitated	w=LL
	Wet of liquid limit	"oozes"	w>LL
Coarse	Dry	Non-cohesive and free running	D
	Moist	Feels cool, darkened in colour, particles may stick together	M
	Wet	Feels cool, darkened in colour, particles may stick together, free water forms when handling	W

The abbreviation code NDF, meaning "not-assessable due to drilling fluid use" may also be used.

Note, observations relating to free ground water or drilling fluids are provided independent of soil moisture condition.

Consistency/Density/Compaction/Cementation/Extremely Weathered Material

These concepts give an indication of how the material may respond to applied forces (when considered in conjunction with other attributes of the soil). This behaviour can vary independent of the composition of the material, and on logs these are described in an independent column and are generally mutually exclusive (i.e it is inappropriate to describe both consistency and compaction at the same time). The method by which the behaviour is described depends on the behaviour model and other characteristics of the soil as follows:

- In fine grained soils, the "consistency" describes the ease with which the soil can be remoulded, and is generally correlated against the materials undrained shear strength;
- In granular materials, the relative density describes how tightly packed the particles are, and is generally correlated against the density index;
- In anthropogenically modified materials, the compaction of the material is described qualitatively;
- In cemented soils (both natural and anthropogenic), the cemented "strength" is described qualitatively, relative to the difficulty with which the material is disaggregated; and
- In soils of extremely weathered material origin, the engineering behaviour may be governed by relic rock features, and expected behaviour needs to be assessed based the overall material description.

Quantitative engineering performance of these materials may be determined by laboratory testing or estimated by correlated field tests (for example penetration or shear vane testing). In some cases, performance may be assessed by tactile or other subjective methods, in which case investigation logs will show the estimated value enclosed in round brackets, for example (VS).

Consistency (fine grained soils)

Consistency Term	Tactile Assessment	Undrained Shear Strength (kPa)	Abbreviation Code
Very soft	Extrudes between fingers when squeezed	<12	VS
Soft	Mouldable with light finger pressure	>12 - ≤25	S
Firm	Mouldable with strong finger pressure	>25 - ≤50	F
Stiff	Cannot be moulded by fingers	>50 - ≤100	St
Very stiff	Indented by thumbnail	>100 - ≤200	VSt
Hard	Indented by thumbnail with difficulty	>200	H
Friable	Easily crumbled or broken into small pieces by hand	-	Fr

Relative Density (coarse grained soils)

Relative Density Term	Density Index	Abbreviation Code
Very loose	<15	VL
Loose	>15 - ≤35	L
Medium dense	>35 - ≤65	MD
Dense	>65 - ≤85	D
Very dense	>85	VD

Note, tactile assessment of relative density is difficult, and generally requires penetration testing, hence a tactile assessment guide is not provided.

Compaction (anthropogenically modified soil)

Compaction Term	Abbreviation Code
Well compacted	WC
Poorly compacted	PC
Moderately compacted	MC
Variably compacted	VC

Cementation (natural and anthropogenic)

Cementation Term	Abbreviation Code
Moderately cemented	MOD
Weakly cemented	WEK

Extremely Weathered Material

AS1726-2017 considers weathered material to be soil if the unconfined compressive strength is less than 0.6 MPa (i.e. less than very low strength rock). These materials may be identified as "extremely weathered material" in reports and by the abbreviation code XWM on log sheets. This identification is not correlated to any specific qualitative or quantitative behaviour, and the engineering properties of this material must therefore be assessed according to engineering principles with reference to any relic rock structure, fabric, or texture described in the description.

Soil Origin

Term	Description	Abbreviation Code
Residual	Derived from in-situ weathering of the underlying rock	RS
Extremely weathered material	Formed from in-situ weathering of geological formations. Has strength of less than 'very low' as per as1726 but retains the structure or fabric of the parent rock.	XWM
Alluvial	Deposited by streams and rivers	ALV
Fluvial	Deposited by channel fill and overbank (natural levee, crevasse splay or flood basin)	FLV
Estuarine	Deposited in coastal estuaries	EST
Marine	Deposited in a marine environment	MAR
Lacustrine	Deposited in freshwater lakes	LAC
Aeolian	Carried and deposited by wind	AEO
Colluvial	Soil and rock debris transported down slopes by gravity	COL
Slopewash	Thin layers of soil and rock debris gradually and slowly deposited by gravity and possibly water	SW
Topsoil	Mantle of surface soil, often with high levels of organic material	TOP
Fill	Any material which has been moved by man	FILL
Littoral	Deposited on the lake or seashore	LIT
Unidentifiable	Not able to be identified	UID

Cobbles and Boulders

The presence of particles considered to be "oversize" may be described using one of the following strategies:

- Oversize encountered in a minor proportion (when considered relative to the wider area) are noted in the soil description; or
- Where a significant proportion of oversize is encountered, the cobbles/boulders are described independent of the soil description, in a similar manner to composite soils (described above) but qualified with "MIXTURE OF".

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Rock Strength

Rock strength is defined by the unconfined compressive strength, and it refers to the strength of the rock substance and not the strength of the overall rock mass, which may be considerably weaker due to defects.

The Point Load Strength Index $I_{s(50)}$ is commonly used to provide an estimate of the rock strength and site specific correlations should be developed to allow UCS values to be determined. The point load strength test procedure is described by Australian Standard AS4133.4.1-2007. The terms used to describe rock strength are as follows:

Strength Term	Unconfined Compressive Strength (MPa)	Point Load Index[1] $I_{s(50)}$ MPa	Abbreviation Code
Very low	0.6 - 2	0.03 - 0.1	VL
Low	2 - 6	0.1 - 0.3	L
Medium	6 - 20	0.3 - 1.0	M
High	20 - 60	1 - 3	H
Very high	60 - 200	3 - 10	VH
Extremely high	>200	>10	EH

[1] Rock strength classification is based on UCS. The UCS to $I_{s(50)}$ ratio varies significantly for different rock types and specific ratios may be required for each site. The point load Index ranges shown above are as suggested in AS1726 and should not be relied upon without supporting evidence.

The following abbreviation codes are used for soil layers or seams of material "within rock" but for which the equivalent UCS strength is less than 0.6 MPa.

Scenario	Abbreviation Code
The material encountered has an equivalent UCS strength of less than 0.6 MPa, and therefore is considered to be soil (as per Note 1 of Table 20 of AS 1726-2017). The properties of the material encountered over this interval are described in the "Description of Strata" and soil properties columns.	SOIL
The material encountered has an equivalent UCS strength of less than 0.6 MPa, and therefore is considered to be soil (as per Note 1 of Table 20 of AS 1726-2017). The prominence of the material is such that it can be considered to be a seam (as defined in Table 22 of AS1726-2017) and the properties of the material are described in the defect column.	SEAM

Degree of Weathering

The degree of weathering of rock is classified as follows:

Weathering Term	Description	Abbreviation Code
Residual Soil[1]	Material is weathered to such an extent that it has soil properties. Mass structure and material texture and fabric of original rock are no longer visible, but the soil has not been significantly transported.	RS
Extremely weathered[1]	Material is weathered to such an extent that it has soil properties. Mass structure and material texture and fabric of original rock are still visible	XW
Highly weathered	The whole of the rock material is discoloured, usually by iron staining or bleaching to the extent that the colour of the original rock is not recognisable. Rock strength is significantly changed by weathering. Some primary minerals have weathered to clay minerals. Porosity may be increased by leaching or may be decreased due to deposition of weathering products in pores.	HW
Moderately weathered	The whole of the rock material is discoloured, usually by iron staining or bleaching to the extent that the colour of the original rock is not recognisable but shows little or no change of strength from fresh rock.	MW
Slightly weathered	Rock is partially discoloured with staining or bleaching along joints but shows little or no change of strength from fresh rock.	SW
Fresh	No signs of decomposition or staining.	FR
Note: If HW and MW cannot be differentiated use DW (see below)		
Distinctly weathered	Rock strength usually changed by weathering. The rock may be highly discoloured, usually by iron staining. Porosity may be increased by leaching or may be decreased due to deposition of weathered products in pores.	DW

[1] The parent rock type, of which the residual/extremely weathered material is a derivative, will be stated in the description (where discernible).

Degree of Alteration

The degree of alteration of the rock material (physical or chemical changes caused by hot gasses or liquids at depth) is classified as follows:

Term	Description	Abbreviation Code
Extremely altered	Material is altered to such an extent that it has soil properties. Mass structure and material texture and fabric of original rock are still visible.	XA
Highly altered	The whole of the rock material is discoloured, usually by staining or bleaching to the extent that the colour of the original rock is not recognisable. Rock strength is changed by alteration. Some primary minerals are altered to clay minerals. Porosity may be increased by leaching or may be decreased due to precipitation of secondary materials in pores.	HA
Moderately altered	The whole of the rock material is discoloured, usually by staining or bleaching to the extent that the colour of the original rock is not recognisable but shows little or no change of strength from fresh rock.	MA
Slightly altered	Rock is slightly discoloured but shows little or no change of strength from fresh rock	SA
Note: If HA and MA cannot be differentiated use DA (see below)		
Distinctly altered	Rock strength usually changed by alteration. The rock may be highly discoloured, usually by staining or bleaching. Porosity may be increased by leaching or may be decreased due to precipitation of secondary minerals in pores.	DA

Degree of Fracturing

The following descriptive classification apply to the spacing of natural occurring fractures in the rock mass. It includes bedding plane partings, joints and other defects, but excludes drilling breaks. These terms are generally not required on investigation logs where fracture spacing is presented as a histogram, and where used are presented in an unabbreviated format.

Term	Description
Fragmented	Fragments of <20 mm
Highly Fractured	Core lengths of 20-40 mm with occasional fragments
Fractured	Core lengths of 30-100 mm with occasional shorter and longer sections
Slightly Fractured	Core lengths of 300 mm or longer with occasional sections of 100-300 mm
Unbroken	Core contains very few fractures

Rock Quality Designation

The quality of the cored rock can be measured using the Rock Quality Designation (RQD) index, defined as:

$$\text{RQD \%} = \frac{\text{cumulative length of 'sound' core sections > 100 mm long}}{\text{total drilled length of section being assessed}}$$

where 'sound' rock is assessed to be rock of low strength or stronger. The RQD applies only to natural fractures. If the core is broken by drilling or handling (i.e., drilling breaks) then the broken pieces are fitted back together and are not included in the calculation of RQD.

Stratification Spacing

These terms may be used to describe the spacing of bedding partings in sedimentary rocks. Where used, these terms are generally presented in an unabbreviated format

Term	Separation of Stratification Planes
Thinly laminated	< 6 mm
Laminated	6 mm to 20 mm
Very thinly bedded	20 mm to 60 mm
Thinly bedded	60 mm to 0.2 m
Medium bedded	0.2 m to 0.6 m
Thickly bedded	0.6 m to 2 m
Very thickly bedded	> 2 m

Defect Descriptions

Defect Type

Term	Abbreviation Code
Bedding plane	B
Cleavage	CL
Crushed seam	CS
Crushed zone	CZ
Drilling break	DB
Decomposed seam	DS
Drill lift	DL
Extremely Weathered seam	EW
Fault	F
Fracture	FC
Fragmented	FG
Handling break	HB
Infilled seam	IS
Joint	JT
Lamination	LAM
Shear seam	SS
Shear zone	SZ
Vein	VN
Mechanical break	MB
Parting	P
Sheared Surface	S

Rock Defect Orientation

Term	Abbreviation Code
Horizontal	H
Vertical	V
Sub-horizontal	SH
Sub-vertical	SV

Rock Defect Coating

Term	Abbreviation Code
Clean	CN
Coating	CT
Healed	HE
Infilled	INF
Stained	SN
Tight	TI
Veneer	VNR

Rock Defect Infill

Term	Abbreviation Code
Calcite	CA
Carbonaceous	CBS
Clay	CLAY
Iron oxide	FE
Manganese	MN
Pyrite	Py
Secondary material	MS
Silt	M
Quartz	Qz
Unidentified material	MU

Rock Defect Shape/Planarity

Term	Abbreviation Code
Curved	CU
Discontinuous	DIS
Irregular	IR
Planar	PR
Stepped	ST
Undulating	UN

Rock Defect Roughness

Term	Abbreviation Code
Polished	PO
Rough	RF
Smooth	SM
Slickensided	SL
Very rough	VR

Defect Orientation

The inclination of defects is always measured from the perpendicular to the core axis.

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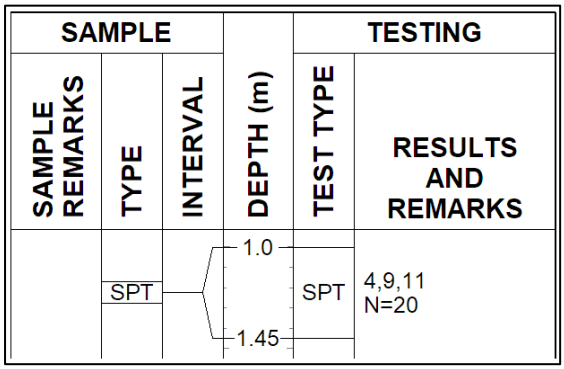
Sampling, Testing and Excavation Methodology

Terminology
Symbols
Abbreviations

October 2024

Sampling and Testing

A record of samples retained, and field testing performed is usually shown on a Douglas Partners' log with samples appearing to the left of a depth scale, and selected field and laboratory testing (including results, where relevant) appearing to the right of the scale, as illustrated below:



Sampling

The type or intended purpose for which a sample was taken is indicated by the following abbreviation codes.

Sample Type	Code
Auger sample	A
Acid Sulfate sample	ASS
Bulk sample	B
Core sample	C
Disturbed sample	D
Environmental sample	ES
Driven Tube sample	DT
Gas sample	G
Piston sample	P
Sample from SPT test	SPT
Undisturbed tube sample	U[1]
Water sample	W
Material Sample	MT
Core sample for unconfined compressive strength testing	UCS

[1] – numeric suffixes indicate tube diameter/width in mm

The above codes only indicate that a sample was retained, and not that testing was scheduled or performed.

Field and Laboratory Testing

A record that field and laboratory testing was performed is indicated by the following abbreviation codes.

Test Type	Code
Pocket penetrometer (kPa)	PP
Photo ionisation detector (ppm)	PID
Standard Penetration Test x/y =*x* blows for *y* mm penetration HB = hammer bouncing HW = fell under weight of hammer	SPT
Shear vane (kPa)	V
Unconfined compressive strength, (MPa)	UCS

Field and laboratory testing (continued)

Test Type	Code
Point load test, (MPa), axial (A), diametric (D), irregular (I)	PLT(_)
Dynamic cone penetrometer, followed by blow count penetration increment in mm (cone tip, generally in accordance with AS1289.6.3.2)	DCP9/150
Perth sand penetrometer, followed by blow count penetration increment in mm (flat tip, generally in accordance with AS1289.6.3.3)	PSP/150

Groundwater Observations

▷	seepage/inflow
▽	standing or observed water level
NFGWO	no free groundwater observed
OBS	observations obscured by drilling fluids

Drilling or Excavation Methods/Tools

The drilling/excavation methods used to perform the investigation may be shown either in a dedicated column down the left-hand edge of the log, or stated in the log footer. In some circumstances abbreviation codes may be used.

Method	Abbreviation Code
Direct Push	DP
Solid flight auger. Suffixes: /T = tungsten carbide tip, /V = v-shaped tip	AD[1]
Air Track	AT
Diatube	DT[1]
Hand auger	HA[1]
Hand tools (unspecified)	HAND
Existing exposure	X
Hollow flight auger	HSA[1]
HQ coring	HQ3
HMLC series coring	HMLC
NMLC series coring	NMLC
NQ coring	NQ3
PQ coring	PQ3
Predrilled	PD
Push tube	PT[1]
Ripping tyne/ripper	R
Rock roller	RR[1]
Rock breaker/hydraulic hammer	EH
Sonic drilling	SON[1]
Mud/blade bucket	MB[1]
Toothed bucket	TB[1]
Vibrocore	VC[1]
Vacuum excavation	VE
Wash bore (unspecified bit type)	WB[1]

[1] – numeric suffixes indicate tool diameter/width in mm

Douglas PARTNERS

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 441.5 AHD
EASTING: 733626
NORTHING: 6422743

PIT No: 3
PROJECT No: 206153.00
DATE: 15/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
441	0.2	TOPSOIL/Clayey SAND (SC): fine to coarse grained, brown, low plasticity clay, with rootlets, dry to moist, topsoil		E	0.1				
	0.4	Clayey SAND (SC): fine to coarse grained, pale red-brown, low plasticity fines, dry to moist, medium dense, alluvial		D E B	0.5 0.7		pp = 250-350		
		Silty CLAY (CI): medium plasticity, red-brown, trace fine to coarse grained sand, w~PL, very stiff, alluvial							
	0.9	Sandy CLAY (CL): low plasticity, red-brown, with fine gravel, w~PL, very stiff, alluvial		D E	1.0		pp = 280-320		
440	1.3	Silty CLAY (CH): high plasticity, brown, trace fine to coarse grained sand, w<PL, hard, possible residual or alluvial		D	1.5		pp >400		
	1.7	Sandy CLAY (CL): low plasticity, brown, mottled yellow-brown and red-brown, fine to coarse grained sand, with ironstone nodules, w<PL, hard, alluvial			1.8		pp >400		
	2.1	Clayey SAND (SC): fine to coarse grained, mottled red-brown and yellow, low plasticity clay, with ironstone nodules, dry to moist, dense to very dense (cemented), possible residual or alluvial		D	2.0				
439	2.5	Pit discontinued at 2.5m -slow progress							
438									
437									
436									



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 461.5 AHD
EASTING: 733058
NORTHING: 6423396

PIT No: 6
PROJECT No: 206153.00
DATE: 15/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
461	0.15	TOPSOIL/Sandy CLAY (CL): low plasticity, brown, fine to coarse grained sand, with rootlets, w<PL, topsoil		E	0.1				
	0.45	Sandy CLAY (CI): medium plasticity, red-brown, fine to coarse grained sand, trace fine to medium gravel, w<PL, very stiff, residual		D E	0.5		pp = 290-350 R11		
		CLAY (CH): high plasticity, yellow-brown, trace fine to coarse grained sand, silt and fine to coarse gravel, w<PL, hard, residual		U_{50}					
	0.9				0.9				
460	1	Clayey SAND (SC): fine to coarse grained, grey-brown, low plasticity clay, with silt, moist to dry, medium dense to dense, extremely weathered granite		D E	1.0		pp >400		1
				D	1.5				
	1.6	GRANITE: medium to coarse grained, pale yellow-brown and grey-brown, very low to low strength, highly weathered, Gulgong Granite		D	1.8				
459	2	Pit discontinued at 2.0m -limit of investigation							2
458	3								3
457	4								4
456	5								5



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 464.5 AHD
EASTING: 733796
NORTHING: 6423412

PIT No: 7
PROJECT No: 206153.00
DATE: 15/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
464	0.2	TOPSOIL/Clayey SAND (SC): fine to coarse grained, brown, low plasticity clay, with fine to coarse gravel and rootlets, dry to moist, topsoil		E	0.1				
	0.4	Clayey SAND (SC): fine to coarse grained, pale red-brown, low plasticity, dry to moist, medium dense, possible alluvial		D E	0.5		pp = 290-340		
	1	Silty SAND (SM): fine to coarse grained sand, mottled red-brown and orange-brown, with fine to coarse gravel, w<PL, estimated medium dense to dense, residual		U_{50}	0.9				
				D E	1.0				
463	1.3	GRANITE: medium to coarse grained, grey-brown, very low strength, highly weathered, Gulgong Granite		D	1.5				
	1.9	Pit discontinued at 1.9m -slow progress							
462	2								
461	3								
460	4								
459	5								



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 469.75 AHD
EASTING: 733417
NORTHING: 6423648

PIT No: 8
PROJECT No: 206153.00
DATE: 15/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
469	0.2	TOPSOIL/Clayey SAND (SC): fine to coarse grained, brown, low plasticity clay, with rootlets, dry to moist, topsoil		E	0.1				
	0.45	Sandy CLAY (CL): low plasticity, brown, fine to coarse grained sand, w~PL, very stiff, residual		D	0.5				
		Silty CLAY (CL): low plasticity, brown, trace fine to coarse grained sand and iron staining, w~PL, very stiff, residual		E	0.6				
				B	0.8				
	0.9	Silty CLAY (CI): medium plasticity, yellow-brown, trace fine to coarse grained sand, w<PL, very stiff to hard, residual		D	1.0		pp = 220-280		
				E	1.2		pp = 300-420		
468	1.3	Silty CLAY (CH): high plasticity, yellow-brown, trace fine to coarse grained sand, w<PL, hard, residual		D	1.5		pp >400		
					2.0		pp >400		
		-from 2.5m, with iron staining and ironstone nodules		D	2.5				
467		-from 2.8m, grey, with fine to coarse grained sand		D	3.0				
	3.2	GRANITE: medium to coarse grained, grey-brown, very low strength, highly weathered, Gulgong Granite							
	3.5	Pit discontinued at 3.5m -slow progress							
466									
465									
464									



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 474 AHD
EASTING: 733721
NORTHING: 6424056

PIT No: 11
PROJECT No: 206153.00
DATE: 31/1/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
474	0.2	TOPSOIL/Clayey SAND (SC): fine to coarse grained, brown, low plasticity clay, with rootlets, dry to moist, topsoil		E	0.1		PID < 1ppm		
	0.5	Clayey SAND (SC): fine to coarse grained, pale brown, low plasticity clay, dry to moist, very loose to loose, possible colluvial		E B	0.5 0.7		PID < 1ppm		
473	1	Silty CLAY (CI): medium plasticity, mottled yellow-brown, grey and red-brown, with fine to coarse grained sand, trace ironstone nodules, w<PL, stiff, residual -from 0.6m, very stiff -from 0.75m, hard -from 1.05m, very stiff		D E	1.0		PID = 1.0ppm		
				E	1.5		PID = 1.4ppm		
472	2	-from 2.0m, hard -from 2.2m, orange-brown		D E	2.0		pp >400 PID = 1.4ppm		
	2.7	Silty CLAY (CI): medium plasticity, grey, with fine to coarse grained sand, w<PL, hard, residual		D	2.8		pp >400		
471	3								
	3.5	Sandy CLAY (CI): medium plasticity, grey/grey-brown, fine to coarse grained sand, with iron staining, trace fine to coarse quartz gravel, w<PL, hard, extremely weathered granite			3.8		pp >400		
470	4								
	4.0	Pit discontinued at 4.0m -limit of investigation							
469	5								



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 494.5 AHD
EASTING: 733279
NORTHING: 6424085

PIT No: 12
PROJECT No: 206153.00
DATE: 1/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
494	0.2	TOPSOIL/Clayey SAND (SC): fine to coarse grained, brown, low plasticity clay, with rootlets, trace fine to coarse gravel, dry to moist, topsoil		E	0.1				
	0.4	Silty SAND (SM): fine to coarse grained, pale brown, low plasticity silt, with rootlets, trace fine to medium gravel, dry to moist, dense, possible colluvial		D E	0.5				
	0.7	Sandy CLAY (CI-CH): medium to high plasticity, red-brown, fine to coarse grained sand, w<PL, hard, residual/extremely weathered granite							
493	1	GRANITE: medium to coarse grained, grey/red brown, very low strength, highly weathered, Gulgong Granite		D E	1.0				
	2	-from 2.0m, very low to low strength							
492	2.5	Pit discontinued at 2.5m -slow progress							
491	3								
490	4								
489	5								



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 482.5 AHD
EASTING: 732866
NORTHING: 6424168

PIT No: 13
PROJECT No: 206153.00
DATE: 1/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
482	0.2	TOPSOIL/Silty SAND (SM): fine to coarse grained, dark brown, low plasticity silt, with rootlets, dry to moist, topsoil		E	0.1				
	0.35	Silty SAND (SM): fine to coarse grained, grey, low plasticity silt, with fine gravel, dry to moist, medium dense, possible colluvial		D E	0.5				
	0.7	Sandy CLAY (CL): low plasticity, yellow-brown mottled grey, fine to coarse grained sand, w<PL, very stiff, residual							
	1	Sandy CLAY (CI): medium plasticity, orange-brown mottled grey, fine to coarse grained sand, trace fine to coarse gravel, w~PL, stiff to very stiff, residual -from 0.9m, w<PL, hard		D E	1.0				
481	1.3	GRANITE: medium to coarse grained, mottled grey and red-brown, very low strength, highly weathered, Gulgong Granite, with extremely weathered (gravelly sandy clay) seams		D E	1.5				
	2	-from 2.0m, very low to low strength		D E	2.0				
480	2.7	Pit discontinued at 2.7m -slow progress							
	3								
479									
	4								
478									
	5								
477									



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 474.5 AHD
EASTING: 732340
NORTHING: 6424287

PIT No: 14
PROJECT No: 206153.00
DATE: 1/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
474	0.2	TOPSOIL/Silty CLAY (CL): low plasticity, dark red-brown, with rootlets, w~PL, topsoil		E	0.1				
	0.4	Silty CLAY (CL): low plasticity, red-brown, w~PL, firm to stiff, residual							
	0.8	Silty CLAY (CI-CH): medium to high plasticity, red-brown mottled orange and grey, with fine to coarse grained sand, w~PL, firm to stiff, residual -from 0.6m, stiff -from 0.75m, w<PL, hard		D E	0.5				
	1.1	RHYOLITE: fine to medium grained, grey, very low to low strength, highly weathered, Dungeree Volcanics, difficult to excavate		D E	1.0				
		Pit discontinued at 1.1m -slow progress							



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket
LOGGED: SDG
SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 478.5 AHD
EASTING: 733604
NORTHING: 6424340

PIT No: 15
PROJECT No: 206153.00
DATE: 31/1/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
478	0.2	TOPSOIL/Clayey SAND (SC): fine to coarse grained, dark red-brown, low plasticity clay, with rootlets, dry to moist, topsoil		E	0.1				
		Silty CLAY (CL-CI): low to medium plasticity, red-brown, trace fine to coarse grained sand and ironstone nodules, w<PL, stiff, alluvial		E B	0.5				
	0.7	Silty CLAY (CI): medium plasticity, yellow-brown, grey mottled orange and red, with fine to coarse grained sand, trace ironstone nodules, w<PL, stiff, alluvial			0.7				
	1.0	Silty CLAY (CH): high plasticity, grey, trace fine to coarse grained sand and fine to medium gravel, w<PL, stiff, residual		E U50	1.0				
477					1.4				
				E	1.5				
	2	-from 2.0m, very stiff		D E	2.0		pp >350		
476	2.8	Sandy CLAY (CI): medium plasticity, grey, fine to coarse grained sand, with iron staining and fine to coarse gravel, w<PL, hard, residual		D	3.0		pp >400		
475		-from 3.5m, mottled red-brown and orange-brown, very stiff to hard		D	3.8		pp = 300-450		
	4.0	Pit discontinued at 4.0m -limit of investigation							
474									
473									



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 503 AHD
EASTING: 733130
NORTHING: 6424421

PIT No: 16
PROJECT No: 206153.00
DATE: 1/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
503	0.05	TOPSOIL/Silty SAND (SM): fine to coarse grained, brown, low plasticity silt, with rootlets and fine to medium gravel, dry to moist, topsoil		E	0.1				
	0.3	Silty SAND (SM): fine to coarse grained, pale brown, low plasticity silt, with fine to coarse gravel, dry to moist, medium dense, possible colluvial		E	0.5				
		Silty CLAY (CL): low plasticity, red-brown, with fine to coarse grained sand, w<PL, very stiff, residual		B	0.7				
		-from 0.45m, very stiff to hard							
502	0.9	GRANITE: medium to coarse grained, grey/red brown, very low strength, highly weathered, Gulgong Granite		D E	1.0				
	1.3	-from 1.2m, low to medium strength, highly to moderately weathered		D	1.3				
		Pit discontinued at 1.3m							
		-slow progress							



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 484 AHD
EASTING: 732547
NORTHING: 6424444

PIT No: 17
PROJECT No: 206153.00
DATE: 1/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
484	0.2	TOPSOIL/Clayey SAND (SC): fine to coarse grained, dark brown, low plasticity clay, with rootlets, trace fine to coarse gravel, dry to moist, topsoil		E	0.1		R1		
		Silty SAND (SM): fine to coarse grained, pale brown, low plasticity silt, with fine to coarse gravel, dry to moist, medium dense to dense, possible colluvial or residual		D	0.5				
	0.6	-from 0.3m, very dense		E					
	0.8	Clayey SAND (SC): fine to coarse grained, mottled red-brown and grey, low plasticity clay, dry to moist,		D	0.7				
	0.9	dense, extremely weathered granite		D	0.9				
483	1	GRANITE: fine to coarse grained, grey/orange-brown, very low to low strength, highly weathered, Gulgong Granite, with a very high strength quartz vein through the bottom of the test pit							
		Pit discontinued at 1.0m -refusal							
482	2								
481	3								
480	4								
479	5								



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 472.5 AHD
EASTING: 733843
NORTHING: 6424496

PIT No: 18
PROJECT No: 206153.00
DATE: 4/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
472	0.2	TOPSOIL/Sandy CLAY (CL): low plasticity, red-brown, fine to coarse grained sand, with rootlets, w<PL, topsoil		E	0.1				
	0.4	Clayey SAND (SC): fine to coarse grained, pale red-brown, low plasticity, dry to moist, w~PL, loose to medium dense, alluvial		D E B	0.5 0.7				
	0.8	Silty CLAY (CL): low plasticity, mottled red-brown and yellow-orange-brown, trace fine to coarse grained sand, w~PL, stiff, alluvial							
	1	CLAY (CH): high plasticity, grey, with fine to coarse grained sand, ironstone nodules,fine to coarse gravel, w~PL, stiff, alluvial -from 0.9m, very stiff -from 1.2m, hard		D E U50	1.0 1.4				
471	1.5	Sandy CLAY (CL-CI): low to medium plasticity, mottled grey-brown and red-brown, fine to coarse grained sand, with silt, w<PL, estimated hard, extremely weathered granite		D	1.5				
	2	-from 2.5m, with fine to coarse gravel							
470	3			D	3.0				
	3.4	GRANITE: medium to coarse grained, yellow-orange-brown, very low strength, highly weathered, Gulgong Granite							
469	3.6	Pit discontinued at 3.6m -slow progress							
	4								
468	5								
467									



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 491 AHD
EASTING: 733258
NORTHING: 6424635

PIT No: 19
PROJECT No: 206153.00
DATE: 1/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
491	0.25	TOPSOIL/Silty SAND (SM): fine to coarse grained, pale brown, low plasticity silt, with rootlets and fine to medium gravel, dry to moist, topsoil		E	0.1				
		Sandy CLAY (CI): medium plasticity, brown, fine to coarse grained sand, w<PL, hard, extremely weathered granite		D E	0.5				
	0.7	GRANITE: medium to coarse grained, orange-brown/grey-brown, very low strength, Gulgong Granite		D E	1.0				
490	1			D E	1.5				
489	2			E	2.0				
488	3								
	3.0	Pit discontinued at 3.0m -slow progress							
487	4								
486	5								



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 487.5 AHD
EASTING: 732598
NORTHING: 6424767

PIT No: 20
PROJECT No: 206153.00
DATE: 1/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
487	0.2	TOPSOIL/Clayey SAND (SC): fine to coarse grained, dark brown, low plasticity clay, with rootlets, dry to moist, topsoil		E	0.1				
	0.5	Clayey SAND (SC): fine to coarse grained, brown, low plasticity clay, fine to medium gravel, w<PL, loose to medium dense, residual -from 0.3m, medium dense		D E	0.5 0.6				
	0.9	Gravelly Sandy CLAY (CI-CH): medium to high plasticity, mottled grey and orange-brown, fine to coarse grained sand, fine to medium gravel, w~PL, stiff, residual		U50					
486	1	GRANITE: medium to coarse grained, pale yellow-grey-brown, very low to low strength, highly weathered, Gulgong Granite with extremely weathered (sandy clay) seams		D E	1.0				
		-from 1.8m, orange-grey		D E	1.5				
485	2			E	2.0				
484	3	-from 3.3m, white and grey-brown		D	3.0				
483	4	4.0 Pit discontinued at 4.0m -limit of investigation							
482	5								



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 479 AHD
EASTING: 733706
NORTHING: 6424850

PIT No: 21
PROJECT No: 206153.00
DATE: 4/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
479	0.2	TOPSOIL/Clayey SAND (SC): fine to coarse grained, pale red-brown, low plasticity clay, with rootlets, moist to dry, topsoil		E	0.1				
	0.4	Clayey SAND (SC): fine to coarse grained, pale red-brown, low plasticity, dry to moist, w~PL, firm to stiff, alluvial		D E B	0.5 0.7				
478	1	Clayey SAND (SC): mottled red-brown and grey, medium plasticity clay, w~PL, medium dense, residual -from 1.0m, dense		D E	1.0				
	1.4	GRANITE: medium to coarse grained, yellow-orange-brown, very low strength, highly weathered, Gulgong Granite		D	1.5			▽	
477	2								
	2.2	Pit discontinued at 2.2m -slow progress							
476	3								
475	4								
474	5								



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket **LOGGED:** SDG **SURVEY DATUM:** MGA94 Zone 55H

WATER OBSERVATIONS: Groundwater observed at 1.4m moderate to fast seepage

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 482.5 AHD
EASTING: 732280
NORTHING: 6424968

PIT No: 22
PROJECT No: 206153.00
DATE: 1/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
482	0.2	TOPSOIL/Silty CLAY (CL): low plasticity, red-brown, with rootlets, trace fine to coarse gravel, w~PL, topsoil		E	0.1				
		Silty CLAY (CI): medium plasticity, red-brown, trace fine to coarse grained sand, w~PL, stiff, possible alluvial			0.4				
		-from 0.3m, very stiff		B	0.5		R2		
		-from 0.45m, hard		D					
	0.6			E	0.6				
		Silty CLAY (CL): low plasticity, orange-brown, with fine to coarse grained sand, w<PL, hard, possible alluvial							
	1	-from 1.0m, pale orange-grey, with fine to coarse grained sand		D E	1.0				
481	1.4	Clayey SILT (ML): low plasticity, grey, trace fine grained sand, w<PL, hard (dessicated), possible alluvial		D E	1.5 1.6		pp >400		
	2	-form 2.0m, mottled orange brown		D	2.0				
	2.3	Pit discontinued at 2.3m -refusal							
480	3								
479	4								
478	5								
477									



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 464 AHD
EASTING: 734054
NORTHING: 6425036

PIT No: 23
PROJECT No: 206153.00
DATE: 4/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
464	0.2	TOPSOIL/Clayey SAND (SC): fine to coarse grained, brown, low plasticity clay, with rootlets, moist to dry, topsoil		E	0.1				
		Silty CLAY (CL): low plasticity, mottled red-brown and yellow-orange-brown, trace fine to coarse grained sand, w~PL, very stiff, possible alluvial		D E	0.5				
	0.6	-from 0.3m, stiff to very stiff -from 0.45m, stiff							
463	1	Silty CLAY (CH): high plasticity, dark yellow-brown, trace fine to coarse grained sand, iron staining, w~PL, estimated stiff, possible alluvial		D E	1.0				
		-from 1.2m, hard		U50					
		-from 1.35m, very stiff			1.4				
	1.5	Silty CLAY (CI): medium plasticity, grey-brown mottled red, trace fine to coarse grained sand, w~PL, very stiff, residual		D	1.6				
462	2								
	2.8	GRANITE: medium to coarse grained, pale yellow-brown, very low strength, highly weathered, Gulgong Granite with extremely weathered (sandy clay) seams		D	3.0				
461	3								
	3.3	Pit discontinued at 3.3m -slow progress							
460	4								
459	5								



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 482.5 AHD
EASTING: 732948
NORTHING: 6424937

PIT No: 24
PROJECT No: 206153.00
DATE: 1/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
482	0.15	TOPSOIL/Clayey SAND (SC): fine to coarse grained, brown, low plasticity clay, with rootlets, w<PL, topsoil		E	0.1				
		Sandy CLAY (CI): medium plasticity, mottled grey and orange-brown, fine to coarse grained sand, with silt, w~PL, stiff, possible alluvial		D	0.3				
	0.4								
	0.5	Gravelly SAND (SW): fine to coarse grained, orange-brown, fine to medium gravel, trace low plasticity clay and sand, dry to moist, very dense, possible colluvial or alluvial		D E	0.5				
		Pit discontinued at 0.5m -refusal							



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 474.5 AHD
EASTING: 733475
NORTHING: 6425027

PIT No: 25
PROJECT No: 206153.00
DATE: 2/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
474	0.2	TOPSOIL/Clayey SAND (SC): fine to coarse grained, brown, low plasticity clay, dry to moist, topsoil		E	0.1				
		Clayey SAND (SC): fine to coarse grained, orange-brown, low plasticity clay, with fine to medium gravel, moist, loose, residual		D	0.5				
	0.6			E	0.6				
		Sandy CLAY (CL): low plasticity, orange-brown, fine to coarse grained sand, w~PL, very stiff, residual		U50					
	1	-from 0.75m, stiff to very stiff							1
		-from 0.9m, w<PL, hard		E	1.0				
473	1.4	Sandy CLAY (CI): medium plasticity, yellow-brown mottled grey and orange-brown, fine to coarse grained sand, w<PL, hard, residual		D	1.5				
				E	1.7		pp >400		
	2								2
472	2.5	GRANITE: medium to coarse grained, pale brown-grey, very low strength, highly weathered, Gulgong Granite							
	3			D	3.0				3
471									
	4								4
	4.0	Pit discontinued at 4.0m -limit of investigation							
470	5								5
469									



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 477 AHD
EASTING: 732626
NORTHING: 6425309

PIT No: 26
PROJECT No: 206153.00
DATE: 1/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
477	0.15	TOPSOIL/Clayey SAND (SC): fine to coarse grained, dark brown, low plasticity clay, with rootlets, w<PL, topsoil		E	0.1				
	0.3	Clayey SAND (SC): fine to coarse grained, brown, low plasticity clay, trace fine to medium gravel, w<PL, loose to medium dense, possible alluvial		D	0.5				
		Sandy CLAY (CL): low plasticity, orange-brown mottled grey, fine to coarse grained sand, trace fine to coarse gravel, w<PL, hard, possible alluvial		E B	0.7				
	0.8	Gravelly SAND (SW): fine to coarse grained, orange-brown, fine to medium gravel, trace low plasticity clay and sand, dry to moist, estimated dense to very dense, possible residual		D E	1.0				
476	1								1
	1.3	Clayey SAND (SC): fine grained, orange-brown, low plasticity clay, dry to moist, estimated dense to very dense, cemented, possible residual		E	1.5				
	1.6	Pit discontinued at 1.6m -slow progress		D	1.6				
475	2								2
474	3								3
473	4								4
472	5								5



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 459 AHD
EASTING: 733949
NORTHING: 6425343

PIT No: 27
PROJECT No: 206153.00
DATE: 4/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
459	0.2	TOPSOIL/Clayey SAND (SC): fine to coarse grained, brown, low plasticity clay, with rootlets, moist to dry, topsoil							
	0.35	Sandy CLAY (CL): low plasticity, red-brown mottled grey, fine to coarse grained sand, w<PL, firm to stiff, alluvial		D	0.5				
		Silty CLAY (CH): high plasticity, red-brown, trace fine to coarse grained sand, w~PL, firm to stiff, residual		E	0.6				
				B	0.8				
458	1			D	1.0				1
	1.1	Sandy Silty CLAY (CL-CI): low to medium plasticity, grey-brown, fine to coarse grained sand, w<PL, very stiff to hard, extremely weathered granite							
		-from 1.2m, hard		D	1.5				
	1.6	GRANITE: medium to coarse grained, pale yellow-grey, very low strength, highly weathered, estimated slightly fractured, with extremely weathered (clay) seams							
457	2			D	2.0				2
		-from 2.6m, very low to low strength, pale grey-brown							
456	3			D	3.0				3
	3.0	Pit discontinued at 3.0m -slow progress							
455	4								4
454	5								5



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 463.5 AHD
EASTING: 733578
NORTHING: 6425342

PIT No: 28
PROJECT No: 206153.00
DATE: 2/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
463	0.2	TOPSOIL/Clayey SAND (SC): fine to coarse grained, pale brown/ orange-brown, low plasticity clay, dry to moist, topsoil		E	0.1				
		Sandy CLAY (CI): medium plasticity, yellow-grey, fine to coarse grained sand, with gravel, w<PL, very stiff, residual		D	0.5				
		-from 0.5m, red-brown		E					
				B	0.7				
	0.9	Silty CLAY (CI): medium plasticity, dark red-brown mottled grey, with fine to coarse grained sand, w<PL, very stiff, residual		D	1.0				
462	1			E					
		Estimated strength from 1.05m							
		-from 1.3m, yellow-grey mottled orange-brown		D	1.5				
				E					
	2	-from 2.0m, grey-brown/pale orange-brown		E	2.0				
	2.3	GRANITE: medium to coarse grained, pale pink-grey, very low strength, highly weathered, Gulgong Granite		D	2.4				
461	3								
	3.0	Pit discontinued at 3.0m							
		-slow progress							
460	4								
459	5								
458									



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 471 AHD
EASTING: 733092
NORTHING: 6425439

PIT No: 29
PROJECT No: 206153.00
DATE: 1/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
471	0.15	TOPSOIL/Clayey SAND (SC): fine to coarse grained, red-brown, low plasticity clay, with rootlets, w<PL, topsoil		E	0.1				
		Silty CLAY (CI): medium plasticity, red-brown mottled dark grey, with fine to coarse grained sand, w~PL, estimated very stiff, possible residual		D E	0.5				
470	1			E	1.0				1
	1.1	GRANITE: medium to coarse grained, orange-brown, very low to low strength, highly weathered, Gulgong Granite							
	1.4	Pit discontinued at 1.4m -slow progress		D	1.4				
469	2								2
468	3								3
467	4								4
466	5								5



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 455 AHD
EASTING: 734261
NORTHING: 6425671

PIT No: 30
PROJECT No: 206153.00
DATE: 4/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
455	0.15	TOPSOIL/Clayey SAND (SC): fine to coarse grained, orange-brown, low plasticity clay, with rootlets, moist to dry, topsoil		E	0.1				
	0.4	Clayey SAND (SC): fine to coarse grained, pale red-brown, low plasticity, dry to moist, w~PL, loose to medium, alluvial		D E	0.5				
		Sandy CLAY (CI-CH): medium to high plasticity, yellow-brown, fine to coarse grained sand, with silt, w~PL, stiff, possible alluvial		U50					
454	0.9	-from 0.45m, very stiff -from 0.6m, hard		D E	0.9 1.0				
	1	Silty CLAY (CI): medium plasticity, pale yellow-brown mottled grey, trace fine to coarse gained sand, w<PL, hard, possible alluvial							
453	1.7	Silty CLAY (CH): high plasticity, pale yellow-grey mottled pale grey, orange and brown, fine to coarse grained sand, w<PL, estimated hard, possible alluvial -from 2.0m, some pockets of orange-brown clayey sand/sandy clay		D	1.8 2.2		pp >400		
	2								
452	3								
	3.2	Pit discontinued at 3.2m -slow progress							
451	4								
450	5								



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 454.5 AHD
EASTING: 733822
NORTHING: 6425750

PIT No: 31
PROJECT No: 206153.00
DATE: 4/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
454	0.2	TOPSOIL/Clayey SAND (SC): fine to coarse grained, brown, low plasticity clay, with rootlets, moist to dry, topsoil		E	0.1				
	0.3	Clayey SAND (SC): fine to coarse grained, pale red-brown, low plasticity, dry to moist, w~PL, medium dense, alluvial		D E	0.5				
		Silty CLAY (CI-CH): medium to high plasticity, red-brown mottled yellow-brown, with fine to medium grained sand, w<PL, very stiff, alluvial.							
	0.9	- Note: some pockets of dense clayey sand		D E	1.0				
		Silty CLAY (CL): low plasticity, red-brown mottled pale grey, trace fine grained sand, w<PL, very stiff, alluvial		U50					
453		-from 1.05m, hard			1.4				
	1.8	Silty Sandy CLAY (CL): low plasticity, yellow-grey, fine to coarse grained sand, w<PL, estimated very stiff, alluvial		D	1.5				
452				D	2.0				
451				D	3.0				
450	4.0	Pit discontinued at 4.0m -limit of investigation							
449									



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 461.5 AHD
EASTING: 733218
NORTHING: 6425835

PIT No: 32
PROJECT No: 206153.00
DATE: 3/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
461	0.25	TOPSOIL/Sandy CLAY (CL): low plasticity, brown, fine to coarse grained sand, with rootlets, w<PL, topsoil		E	0.1				
		Silty CLAY (CI-CH): medium to high plasticity, red-brown mottled yellow-brown and orange-brown, with fine to coarse grained sand, w~PL, firm, alluvial			0.4				
		-from 0.45m, firm to stiff		B	0.5				
		-from 0.6m, stiff to very stiff		D	0.6				
	0.8	-from 0.75m, very stiff		E					
	1	Silty CLAY (CI): medium plasticity, pale yellow-brown mottled grey, trace fine to coarse grained sand, w<PL, very stiff, alluvial		D	1.0				
460		-from 0.9m, hard		E					
	1.7	Silty CLAY (CI-CH): medium to high plasticity, grey mottled red-brown and yellow-brown, trace fine to coarse grained sand, w<PL, estimated hard, alluvial		D	2.0				
	2								
459				D	2.8				
	2.9	Clayey SAND (SC): fine to medium grained, red-brown mottled grey, low plasticity clay, dry to moist, estimated dense to very dense, alluvial							
	3								
458	3.6	Pit discontinued at 3.6m		D	3.6				
		-slow progress							
	4								
457									
	5								
456									



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 470 AHD
EASTING: 732414
NORTHING: 6425967

PIT No: 33
PROJECT No: 206153.00
DATE: 2/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
470	0.3	TOPSOIL/Gravelly Silty CLAY (CL): low plasticity, red-brown, fine to coarse gravel, with rootlets, w<PL, topsoil		E	0.1				
	0.45	Gravelly Silty CLAY (CL): low plasticity, red-brown, fine to coarse gravel, w<PL, very stiff, colluvial		D E	0.5				
		Gravelly CLAY (CI-CH): medium to high plasticity, yellow-brown mottled red-brown, fine to coarse gravel, with sand, trace cobbles up to 100mm in size, w<PL, stiff, colluvial/residual		U50					
469	1	-from 0.75m, very stiff			0.9				
				D E	1.0		pp = 200-300		
				D E	1.5				
	1.7	RHYOLITE: fine to coarse grained, blue-grey/brown-grey, low to medium strength, highly to moderately weathered, estimated highly fractured, with extremely weathered (clay) seams, Dungeree Volcanics		D	1.8				
468	2	2.0 Pit discontinued at 2.0m -refusal							
467	3								
466	4								
465	5								



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 450 AHD
EASTING: 734308
NORTHING: 6426163

PIT No: 34
PROJECT No: 206153.00
DATE: 4/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
450	0.2	TOPSOIL/Clayey SAND (SC): fine to coarse grained, brown, low plasticity clay, with rootlets, moist to dry, topsoil		E	0.1				
	0.4	Clayey SAND (SC): fine to coarse grained, pale red-brown, low plasticity, dry to moist, w~PL, very stiff, alluvial -from 0.3m, stiff		D E B	0.5 0.7				
	0.8	Sandy CLAY (CI): medium plasticity, red-brown, fine to medium grained sand, w~PL, stiff, possible alluvial -from 0.6m, very stiff							
449	1	Silty CLAY (CI-CH): medium to high plasticity, yellow-brown mottled grey, with fine to medium grained sand, w<PL, very stiff, possible alluvial -from 1.05m, hard		D E	1.0				
	1.5	Clayey SAND (SC): fine to coarse grained, orange-brown mottled grey, trace silt, dry to moist, estimated dense, possible alluvial							
448	2			D	2.0				
	2.5	Sandy Silty CLAY (CI-CH): medium to high plasticity, pale grey mottled red-brown, fine to coarse grained sand, w<PL, hard, possible alluvial							
447	3			D	3.0		pp >400		
	3.3	Pit discontinued at 3.3m -slow progress							
446	4								
445	5								



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 450.5 AHD
EASTING: 733803
NORTHING: 6426171

PIT No: 35
PROJECT No: 206153.00
DATE: 4/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water
450	0.2	TOPSOIL/Clayey SAND (SC): fine to coarse grained, brown, low plasticity clay, with rootlets, moist to dry, topsoil		E	0.1			
	0.4	Clayey SAND (SC): fine to coarse grained, pale red-brown, low plasticity, dry to moist, w~PL, firm to stiff, alluvial		D E	0.5			
		Silty CLAY (CI): medium plasticity, yellow-brown mottled grey, with fine to coarse grained sand, w~PL, stiff, alluvial		U50				
	1				0.9			
				D E	1.0			
449	1.4	Sandy CLAY (CL): low plasticity, red-brown mottled grey, fine to coarse grained sand, w<PL, hard, alluvial		D	1.6			
		-from 1.8m, red-brown mottled pale grey, very stiff						
	2			D	2.0		pp = 250-300	
448	2.7	Silty CLAY (CI-CH): medium to high plasticity, pale grey mottled red, trace fine to coarse grained sand, w<PL, very stiff to hard, alluvial						
	3			D	3.0		pp = 200-400	
447	3.8	GRANITE: medium to coarse grained, grey-brown, very low strength, highly weathered, Gulgong Granite						
	4	4.0 Pit discontinued at 4.0m -limit of investigation						
446	5							
445								

Dynamic Penetrometer Test (blows per 150mm): 5, 10, 15, 20



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 453 AHD
EASTING: 733441
NORTHING: 6426306

PIT No: 36
PROJECT No: 206153.00
DATE: 3/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
453	0.2	TOPSOIL/Silty SAND (SM): fine to coarse grained, pale red-brown, low plasticity silt, with rootlets, moist, topsoil		E	0.1				
	0.4	Silty SAND (SM): fine to coarse grained, pale red grey, low plasticity silt, moist, loose to medium dense, alluvial							
		Sandy CLAY (CL): low plasticity, yellow-grey, fine to coarse grained sand, w<PL, very stiff, alluvial		D E	0.5				
452	0.8 1	Silty SAND (SM): fine to coarse grained, orange-brown mottled grey, low plasticity silt, with fine to medium gravel, dry to moist, very dense, alluvial		D E	1.0				
	1.3	Sandy CLAY (CL): low plasticity clay, grey, fine to medium grained sand, dry to moist, estimated hard, alluvial		D	1.5				
451	1.9 2	Sandy CLAY (CL-CI): low to medium plasticity, grey mottled orange, fine to medium grained sand, w<PL, estimated hard, alluvial							
450	3	-from 3.0m, fine to coarse grained sand, trace fine to medium gravel		D	3.0				
	3.2	Pit discontinued at 3.2m -slow progress							
449	4								
448	5								



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 477 AHD
EASTING: 732369
NORTHING: 6426375

PIT No: 37
PROJECT No: 206153.00
DATE: 2/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
477	0.15	TOPSOIL/Silty CLAY (CL): low plasticity, red-brown, with rootlets and fine grained sand, trace fine to coarse gravel, w~PL, topsoil		E	0.1				
	0.4	Silty CLAY (CL): low plasticity, red-brown, with fine to coarse gravel and trace cobbles up to 100mm in size, w~PL, very stiff to stiff, possible colluvial		B D E	0.4 0.5 0.6				
		RHYOLITE: fine to coarse grained, blue-grey and yellow-grey/brown, medium to high strength, moderately weathered, Dungeree Volcanics							
476	1 1.0	Pit discontinued at 1.0m -refusal		D	1.0				
475	2								
474	3								
473	4								
472	5								



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 462.5 AHD
EASTING: 732747
NORTHING: 6426407

PIT No: 38
PROJECT No: 206153.00
DATE: 2/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
462	0.2	TOPSOIL/Clayey SAND (SC): fine to coarse grained, pale brown, low plasticity clay, with rootlets, dry to moist, topsoil		E	0.1				
		Silty CLAY (CL-CI): low to medium plasticity, red-brown, with fine to coarse grained sand, w~PL, stiff, residual		D E	0.5				
	0.7	Sandy Silty CLAY (CI): medium plasticity, grey-brown, fine to coarse grained sand, with fine to medium gravel, w<PL, hard, extremely weathered granite		D E	1.0				
461	1.4	GRANITE: medium to coarse grained, orange-brown dark grey, low to medium strength, highly to moderately weathered, Gulgong Granite		D E	1.5				
	1.5	Pit discontinued at 1.5m -refusal							
460	2								
459	3								
458	4								
457	5								



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 453.5 AHD
EASTING: 733341
NORTHING: 6426672

PIT No: 39
PROJECT No: 206153.00
DATE: 14/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
453	0.15	TOPSOIL/Silty SAND (SM): fine to coarse grained, pale brown, low plasticity silt, with rootlets, trace fine to medium gravel, dry to moist, topsoil		E	0.1				
	0.4	Silty SAND (SM): fine to coarse grained, pale red-brown, low plasticity silt, with fine to coarse gravel, dry to moist, very dense, alluvial		D E	0.5				
		Sandy CLAY (CI-CH): medium to high plasticity, orange-brown, mottled grey fine to coarse grained sand, w<PL, hard, alluvial		U_{50}	0.7		pp >400		
	1				0.9				1
				D E	1.0				
452	1.2	Sandy CLAY (CL): low plasticity, mottled orange-brown and grey, fine to coarse grained sand, w<PL, hard, alluvial		D	1.5		pp >400		
	2								2
	2.1	Clayey SAND [SM]: fine to coarse grained, orange-brown, low plasticity clay, dry to moist, estimated dense to very dense, alluvial							
451	2.3	Pit discontinued at 2.3m -slow progress		D	2.3				
	3								3
450									
	4								4
449									
	5								5
448									



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 449 AHD
EASTING: 734090
NORTHING: 6426708

PIT No: 40
PROJECT No: 206153.00
DATE: 14/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
449	0.15	TOPSOIL/Silty SAND (SM): fine to coarse grained, pale brown, low plasticity silt, with rootlets, trace fine to medium gravel, dry to moist, topsoil		E	0.1				
	0.45	Silty SAND (SM): fine to coarse grained, pale red-brown, low plasticity silt, with fine to coarse gravel, dry to moist, very dense, alluvial		D	0.5				
		Silty CLAY (CI-CH): medium to high plasticity, red-brown, mottled grey, with fine to coarse grained sand, w~PL, very stiff, residual		E	0.6		pp = 150-290		
448	0.9	Sandy CLAY (CI): medium plasticity, grey, fine to coarse grained sand, trace fine to medium gravel, w<PL, very stiff, residual		D	1.0				
	1.2	GRANITE: medium to coarse grained, orange-brown and grey, very low strength, highly weathered, Gulgong Granite		E	1.1		pp = 200-300		
				D	1.5				
447	2.2	Pit discontinued at 2.2m -slow progress		D	2.0				
446									
445									
444									



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 466 AHD
EASTING: 732589
NORTHING: 6426798

PIT No: 41
PROJECT No: 206153.00
DATE: 2/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
466	0.15	TOPSOIL/Silty SAND (SM): fine to coarse grained, brown, low plasticity silt, with rootlets, moist, topsoil		E	0.1				
		Gravelly Silty SAND (SM): fine to coarse grained, pale brown, low plasticity silt, fine to coarse gravel, moist to dry,medium dense, alluvial/colluvial		D E	0.5				
	0.7	Gravelly SAND (SW): fine to coarse grained, pale brown, well graded,fine to coarse gravel, with clay and silt, dry to moist, very dense (cemented), alluvial/colluvial		D	0.9				
465	0.9	Pit discontinued at 0.9m -refusal							
464	1								
463	2								
462	3								
461	4								
	5								



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 458.5 AHD
EASTING: 732909
NORTHING: 6426968

PIT No: 42
PROJECT No: 206153.00
DATE: 2/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
458	0.15	TOPSOIL/Silty SAND (SM): fine to coarse grained, brown, low plasticity silt, with rootlets, moist, topsoil		E	0.1				
		Silty SAND (SM): fine to coarse grained, orange-brown/red-brown, low plasticity silt, trace clay, moist, loose, alluvial		E	0.5				
				B	0.7				
	1.0	Sandy CLAY (CL): low plasticity, red-brown/grey brown, fine to coarse grained sand, with fine to medium gravel, w>PL, firm, alluvial		E	1.0				
		-from 1.2m, hard		U50	1.4				
457	1.5	Clayey SAND (SC): fine to coarse grained, yellow-grey, low plasticity clay, with fine to medium gravel, moist, estimated dense to very dense, possible residual		D	1.5				
	2.0	Pit discontinued at 2.0m		D	2.0				
		-slow progress							
456									
455									
454									
453									



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 453 AHD
EASTING: 733491
NORTHING: 6426976

PIT No: 43
PROJECT No: 206153.00
DATE: 14/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
453	0.15	TOPSOIL/Silty CLAY (CI): brown, medium plasticity silty clay, with fine to coarse grained sand and rootlets, trace fine to coarse gravel, topsoil		E	0.1				
		Silty CLAY (CI-CH): medium to high plasticity, red-brown, trace fine to coarse grained sand, gravel up to 20mm and ironstone nodules, w<PL, hard, possible alluvial -from 0.45m, very stiff		D E B	0.5 0.7				
	0.8								
452	1	Sandy Silty CLAY (CL-CI): low to medium plasticity, red-brown mottled grey, fine to coarse grained sand, w<PL, very stiff, possible alluvial -from 1.05m, hard		D	1.0				1
				D	1.5				
	1.9								
451	2	Silty CLAY (CH): high plasticity, yellow-brown, mottled grey, trace fine to medium grained sand, w<PL, estimated hard, possible alluvial		D	2.0				2
450	3			D	3.0				3
	3.7	Silty CLAY (CL-CI): low to medium plasticity, red-brown, trace fine to medium grained sand, w<PL, estimated very stiff, possible alluvial							
449	4	Pit discontinued at 4.0m -limit of investigation							4
448	5								5



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 468 AHD
EASTING: 732504
NORTHING: 6427036

PIT No: 44
PROJECT No: 206153.00
DATE: 2/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
468	0.15	TOPSOIL/Clayey SAND (SC): fine to coarse grained, dark brown, low plasticity clay, with rootlets, dry to moist, topsoil		E	0.1				
		Gravelly SAND (SW): fine to coarse grained, orange-brown, well sorted, fine to medium gravel, trace clay and silt, dry to moist, dense, residual		D E	0.5				
467	0.9 1	GRANITE: medium to coarse grained, orange-brown, very low strength, highly weathered, Gulgong Granite		D E	1.0				
		-from 1.3m, pale orange-grey		D E	1.5		R3		
466	2	-from 2.0m, grey		E	2.0				
465	3.0 3	Pit discontinued at 3.0m -slow progress							
464	4								
463	5								



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 462 AHD
EASTING: 732922
NORTHING: 6427301

PIT No: 45
PROJECT No: 206153.00
DATE: 2/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
462	0.2	TOPSOIL/Clayey SAND (SC): fine to coarse grained, pale brown, low plasticity clay, with rootlets, dry to moist, topsoil		E	0.1				
		Sandy CLAY (CI): medium plasticity, red-brown mottled dark grey, fine to coarse grained sand, with silt, w<PL, hard, residual		D E	0.5				
				U50	0.9				
461	1.0	Silty CLAY (CL): low plasticity, grey-brown, with fine to coarse grained sand, w<PL, hard, extremely weathered granite		D E	1.0				
	1.4	GRANITE: medium to coarse grained, pale grey and pale orange-grey, very low strength, highly weathered, Gulgong Granite		D E	1.5				
460	2			E	2.0				
	2.8	Sandy CLAY (CL-CI): low to medium plasticity, grey, fine to coarse grained sand, w~PL, estimated hard, extremely weathered granite							
459	3			D	3.0				
	3.7	GRANITE: medium to coarse grained, pale grey and pale orange-grey, very low strength, highly weathered, Gulgong Granite							
458	4								
	4.0	Pit discontinued at 4.0m -limit of investigation							
457	5								



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket
LOGGED: SDG
SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 478 AHD
EASTING: 732456
NORTHING: 6427375

PIT No: 46
PROJECT No: 206153.00
DATE: 2/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
478	0.2	TOPSOIL/Gravelly SAND (SW): fine to coarse grained, brown, well graded, fine to medium gravel, with rootlets, dry to moist, topsoil		E	0.1				
				D	0.3				
	0.45	Sandy CLAY (CI): medium plasticity, red-brown, fine to coarse grained sand, with silt, trace fine to medium gravel, w<PL, very stiff to hard, residual		D E	0.5				
477	1	GRANITE: medium to coarse grained, orange-brown and orange-grey, dry to moist, very low strength, highly weathered, Gulgong Granite, with some extremely weathered (sandy clay) seams		D E	1.0				1
				E	1.5				
476	2								2
	2.0	Pit discontinued at 2.0m -slow progress		D E	2.0				
475	3								3
474	4								4
473	5								5



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 451.5 AHD
EASTING: 733629
NORTHING: 6427402

PIT No: 47
PROJECT No: 206153.00
DATE: 14/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
451	0.15	TOPSOIL/Clayey SAND (SC): fine to coarse grained, dark brown, low plasticity clay, with rootlets, trace fine to coarse gravel, dry to moist, topsoil		E	0.1				
	0.3	Silty SAND (SM): fine to coarse grained, pale red-brown, low plasticity silt, with fine to coarse gravel, dry to moist, estimated very dense, alluvial		D	0.5		pp >400		
		CLAY (CI-CH): medium to high plasticity, red-brown, with fine to coarse grained sand, trace silt, w<<PL, hard, alluvial		E B	0.7				
	0.9	Silty CLAY (CI-CH): medium to high plasticity, red-brown, mottled pale grey, with fine to coarse grained sand, w<PL, hard, alluvial		D	1.0		pp >400		
450				E	1.5		pp >400		
	2.0	Pit discontinued at 2.0m -slow progress		D	2.0				
449									
448									
447									
446									



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 448 AHD
EASTING: 734293
NORTHING: 6427423

PIT No: 48
PROJECT No: 206153.00
DATE: 15/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
448	0.2	TOPSOIL/Silty CLAY (CL): low plasticity, brown, with fine to coarse grained sand, trace fine to coarse gravel, w<PL, topsoil		E	0.1				
	0.45	Silty CLAY (CI): medium plasticity, brown, trace fine to coarse grained sand and fine to medium gravel, w<PL, hard, alluvial		D E	0.4 0.5		pp >400		
447	1	GRAVEL (GW): well graded, fine to coarse, mottled orange-brown and grey, low plasticity silt, dry to moist, estimated very dense (cemented), alluvial		B D E	0.7 1.0		pp >400		1
	1.2	Pit discontinued at 1.2m -slow progress							
446	2								2
445	3								3
444	4								4
443	5								5



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 467.5 AHD
EASTING: 732732
NORTHING: 6427597

PIT No: 49
PROJECT No: 206153.00
DATE: 3/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
467	0.2	TOPSOIL/Clayey SAND (SC): fine to coarse grained, dark brown, low plasticity clay, with rootlets, trace fine to coarse gravel, dry to moist, topsoil		E	0.1				
				D	0.3				
	0.45	Sandy CLAY (CH): high plasticity, red-brown, fine to coarse grained sand, w~PL, very stiff, residual		D	0.5				
	0.6	Sandy CLAY (CL): low plasticity, mottled yellow-brown and orange-brown, fine to coarse grained sand, w~PL, very stiff, extremely weathered granite		E					
466	1	GRANITE: medium to coarse grained, red-brown, dry to moist, very low strength, highly weathered, Gulgong Granite with a band of high to very high strength, slightly weathered to fresh granite (approximately 100 - 200mm thick) ranging from depths of 0.5m to 2.0m across the test pit		D	1.0				
				E					
				D	1.5				
465	2			E	2.0				
	3								
	3.0	Pit discontinued at 3.0m -slow progress							
464	4								
463	5								
462									



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 455.5 AHD
EASTING: 733393
NORTHING: 6427693

PIT No: 50
PROJECT No: 206153.00
DATE: 14/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
455	0.15	TOPSOIL/Sandy CLAY (CL): low plasticity, brown, fine to coarse grained sand, with silt and rootlets, trace fine to coarse gravel, w<PL, topsoil		E	0.1				
		CLAY (CH): high plasticity, red-brown, with silt, trace fine grained sand, w<PL, hard, residual		D E	0.5				
	0.7	Silty CLAY (CL): low plasticity, pale red-brown, mottled pale grey, trace fine to coarse grained sand, trace fine to medium gravel, w<PL, very stiff, residual		D E U_{50}	1.0 1.4				
454	1				1.5		pp = 200-350		
	1.8	Silty CLAY (CL): low plasticity, grey and pale grey, with fine to coarse grained sand, w<PL, hard, extremely weathered granite		D	2.0				
453	2								
	3.0	GRANITE: medium to coarse grained, grey, very low strength, highly weathered, Gulgong Granite							
452	3								
	3.5	Pit discontinued at 3.5m -slow progress							
451	4								
450	5								



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 458.5 AHD
EASTING: 733083
NORTHING: 6427719

PIT No: 51
PROJECT No: 206153.00
DATE: 3/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
458	0.2	TOPSOIL/Sandy CLAY (CL): low plasticity, dark brown, fine to coarse grained sand, with rootlets, w<PL, topsoil		E	0.1		R4		
		Sandy CLAY (CI): medium plasticity, red-brown, fine to coarse grained sand, w<PL, stiff, residual							
		-from 0.45m, hard		D	0.5				
	0.6			E	0.6				
		Sandy CLAY (CI): medium plasticity, yellow-brown, fine to coarse grained sand, w<PL, estimated hard, extremely weathered granite		B	0.8				
	1			D	1.0				
	1.1			E					
457		GRANITE: medium to coarse grained, red-brown, very low to low strength, highly weathered, Gulgong Granite with extremely weathered (clayey sand) seams		D	1.5				
	2	-from 2.0m, grey and red-brown							
456									
	3								
455									
	4	4.0		D	4.0				
		Pit discontinued at 4.0m -limit of investigation							
454									
	5								
453									



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 452 AHD
EASTING: 734081
NORTHING: 6427725

PIT No: 52
PROJECT No: 206153.00
DATE: 15/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
452	0.2	TOPSOIL/Silty SAND (SM): fine to coarse grained, pale red-brown, low plasticity silt, with rootlets and fine to coarse gravel, dry to moist, topsoil		E	0.1				
	0.35	Silty SAND (SM): fine to coarse grained, red-brown, low plasticity silt, with fine to coarse gravel, dry to moist, estimated medium dense, possible colluvial		D E	0.5		pp = 390-450		
451	1	Silty CLAY (CI): medium plasticity, red-brown, mottled grey, with fine to coarse grained sand, w<PL, very stiff to hard, alluvial		D E	1.0				1
	1.1	Silty SAND (SM): fine to medium grained, grey, mottled orange-brown, low plasticity silt, trace fine gravel, dry to moist, dense to very dense (cemented), alluvial		U_{50}	1.3 1.4		pp >400		
	1.5	Pit discontinued at 1.5m -slow progress		D E	1.5				
450	2								2
449	3								3
448	4								4
447	5								5



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 466.5 AHD
EASTING: 732652
NORTHING: 6427915

PIT No: 53
PROJECT No: 206153.00
DATE: 3/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
466	0.25	TOPSOIL/Silty SAND (SM): fine to coarse grained, pale brown, low plasticity silt, with rootlets, trace fine to coarse gravel, dry to moist, topsoil		E	0.1				
		Sandy CLAY (CI): medium plasticity, red-brown mottled yellow-brown, fine to coarse grained sand, w~PL, very stiff, residual		D E	0.5				
	0.8	GRANITE: medium to coarse grained, red-brown, very low strength, highly weathered, Gulgong Granite		D E	1.0				
465				D	1.5				
464	2.5	Pit discontinued at 2.5m -slow progress							



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 450.5 AHD
EASTING: 734052
NORTHING: 6427936

PIT No: 54
PROJECT No: 206153.00
DATE: 15/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
450	0.2	TOPSOIL/Silty CLAY (CL): low plasticity, brown, with rootlets and fine to medium grained sand, trace fine to coarse gravel and charcoal (burnt wood), w<PL, topsoil		E	0.1				
		Silty CLAY (CI-CH): medium to high plasticity, red-brown, trace fine to medium grained sand, w<PL, alluvial		D E B	0.5 0.7				
	0.9	Sandy CLAY (CI): medium plasticity, orange-brown, fine to coarse grained sand, with gravel, w<PL, very stiff, alluvial		D E	1.0		pp = 300-350		
449	1.3	Sandy CLAY (CI-CH): medium to high plasticity, yellow-brown, orange-brown and grey, with fine to coarse grained sand, w<PL, hard, alluvial		D	1.5		pp >400		
	1.8	Silty SAND (SM): fine to coarse grained, pale grey, low plasticity silt, dry to moist, estimated dense to very dense (cemented), alluvial		D	2.0				
448	2.1	Pit discontinued at 2.1m -slow progress							
447									
446									
445									



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 449.5 AHD
EASTING: 734007
NORTHING: 6428000

PIT No: 55
PROJECT No: 206153.00
DATE: 15/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
449	0.2	TOPSOIL/Silty CLAY (CL): low plasticity, brown, with rootlets and fine to medium grained sand, w<PL, topsoil		E	0.1				
		Silty CLAY (CI-CH): medium to high plasticity, grey-brown, mottled yellow-brown, with fine to medium grained sand, w~PL, very stiff, alluvial -from 0.3m, w<PL, hard -from 0.45m, w~PL, very stiff		D E	0.5				
				U_{50}					
		-from 0.75m, w<PL, hard			0.9				
	1			D E	1.0				
448				D	1.5				
	1.6	Sandy CLAY (CL): low plasticity, pale grey, fine to coarse grained sand, with silt, w<PL, estimated hard, alluvial							
	2			D	2.0				
	2.1	Silty SAND (SM): fine to medium grained, grey, orange mottle, low plasticity silt, trace fine gravel, dry to moist, dense to very dense (cemented), alluvial							
447	2.3	Pit discontinued at 2.3m -slow progress		D	2.3				
	3								
446									
	4								
445									
	5								
444									



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 450.5 AHD
EASTING: 733674
NORTHING: 6428127

PIT No: 56
PROJECT No: 206153.00
DATE: 14/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
450	0.15	TOPSOIL/Silty SAND (SM): fine to coarse grained, pale brown, low plasticity silt, with rootlets, trace fine to medium gravel, dry to moist, topsoil		E	0.1		R8		
	0.3	Silty SAND (SM): fine to coarse grained, pale red-brown, low plasticity silt, with fine to coarse gravel, dry to moist, very dense, alluvial		B D E	0.4 0.5 0.6				
	0.8	Silty SAND (SM): fine to coarse grained, well graded, orange-brown, grey mottle, with fine to medium gravel, dry to moist, estimated dense, alluvial							
449	1	Silty CLAY (CL): low plasticity, grey, trace fine to coarse gained sand, w~PL, very stiff, possible alluvial		D E	1.0		pp = 200-250		
	1.2	SAND (SP): poorly graded, medium to coarse grained, trace silt, dry to moist, estimated very dense (cemented), possible alluvial							
	1.4	Pit discontinued at 1.4m -slow progress			1.4				
448	2								
447	3								
446	4								
445	5								



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 454 AHD
EASTING: 733742
NORTHING: 6427877

PIT No: 57
PROJECT No: 206153.00
DATE: 14/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
454	0.15	TOPSOIL FILL/Silty CLAY (CL): low plasticity, brown, with rootlets, trace fine to coarse grained sand, w<PL, topsoil FILL		E	0.1				
		Sandy CLAY (CL): low plasticity, orange-brown, pale grey mottle, fine to medium grained sand, w~PL, estimated stiff to very stiff, alluvial		E	0.5				
453	1.0	Pit discontinued at 1.0m -limit of investigation		E	1.0				
452	2								
451	3								
450	4								
449	5								

Dynamic Penetrometer Test (blows per 150mm): 5, 10, 15, 20



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 455 AHD
EASTING: 733789
NORTHING: 6427769

PIT No: 58
PROJECT No: 206153.00
DATE: 14/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
455	0.15	TOPSOIL FILL/Silty CLAY (CL): low plasticity, brown, with rootlets, trace fine to coarse grained sand, w<PL, topsoil FILL		E	0.1		R9		
		Sandy CLAY (CL): low plasticity, orange-brown, mottled pale grey, fine to medium grained, w<PL, estimated very stiff to hard, alluvial		E	0.5				
454	0.8	Clayey SAND (SC): fine to coarse grained, pale orange-brown, low plasticity clay, moist, estimated medium dense, alluvial		E	1.0				
	1.2	Pit discontinued at 1.2m -limit of investigation							
453	2								
452	3								
451	4								
450	5								



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 449 AHD
EASTING: 733939
NORTHING: 6427270

PIT No: 59
PROJECT No: 206153.00
DATE: 15/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
449	0.15	TOPSOIL FILL/Clayey SAND (SC): fine to coarse grained, brown, low plasticity clay, with rootlets, dry to moist, topsoil FILL		E	0.1				
		Silty CLAY (CL-CI): low to medium plasticity, orange-brown, mottled pale grey, fine to coarse grained sand, w~PL, estimated very stiff, alluvial		E	0.5				
	0.6	Pit discontinued at 0.6m -limit of investigation							
448	1								
447	2								
446	3								
445	4								
444	5								



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 443.5 AHD
EASTING: 734097
NORTHING: 6427196

PIT No: 60
PROJECT No: 206153.00
DATE: 15/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
443	0.4	FILL/Silty CLAY (CL): low plasticity, pale brown, with fine to coarse grained sand, fine to coarse gravel, trace brick fragments, beer cans and rusted metal pipe fragments, w<PL, FILL		E	0.1		R10		
	0.8	Sandy CLAY (CL): low plasticity, orange-brown, mottled grey, fine to medium grained sand, w~PL, very stiff, alluvial		E	0.5				
442	1.0	Clayey SAND (SC): fine to coarse grained, orange-brown, low plasticity clay, dry to moist, estimated medium dense, alluvial		E	1.0				
		Pit discontinued at 1.0m -limit of investigation							



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 454 AHD
EASTING: 733359
NORTHING: 6426328

PIT No: 61
PROJECT No: 206153.00
DATE: 3/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
454	0.3	FILL/Silty CLAY (CI-CH): medium to high plasticity, pale grey mottled orange, with fine to coarse grained sand, w<PL, hard, FILL		E	0.1				
	0.8	Sandy CLAY (CL-CI): low to medium plasticity, yellow-orange-brown, fine to coarse grained sand, w<PL, hard, alluvial		E	0.5				
453	1	Pit discontinued at 0.8m -limit of investigation							
452	2								
451	3								
450	4								
449	5								



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▽	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 454.5 AHD
EASTING: 733256
NORTHING: 6426290

PIT No: 62
PROJECT No: 206153.00
DATE: 3/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
454	0.0	FILL/Silty CLAY (CL): low plasticity, orange-brown and pale grey, with fine to coarse grained sand, w<PL, FILL		E	0.1		R5		
		-from 0.45m, brown		E	0.5				
	0.8	Sandy CLAY (CL): low plasticity, yellow-brown, fine to coarse grained sand, w<PL, estimated hard, alluvial		E	1.0				
453	1.3	Pit discontinued at 1.3m -limit of investigation							
452									
451									
450									
449									



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 457 AHD
EASTING: 733179
NORTHING: 6426088

PIT No: 63
PROJECT No: 206153.00
DATE: 3/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
457	0	FILL/Sandy CLAY (CL): low plasticity, brown, fine to coarse grained sand, with fine to coarse gravel, w<PL, FILL		E	0.1				
				E	0.5				
	0.7	Sandy CLAY (CL): low plasticity, dark red-brown, fine to coarse grained sand, w~PL, estimated very stiff, alluvial		E	1.0				
456	1								1
	1.2	Pit discontinued at 1.2m -limit of investigation							
455	2								2
454	3								3
453	4								4
452	5								5



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 460 AHD
EASTING: 733099
NORTHING: 6425969

PIT No: 64
PROJECT No: 206153.00
DATE: 3/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
460	0	FILL/Silty CLAY (CH): high plasticity, red-brown mottled pale grey, trace fine to coarse grained sand, w<PL, FILL		E	0.1				
				E	0.5				
	0.6	Sandy CLAY (CI): medium plasticity, red-brown mottled grey, fine to coarse grained sand, w<PL, estimated hard, alluvial							
459	1	-from 0.9m, yellow-brown mottled dark grey		E	1.0				1
	1.1	Pit discontinued at 1.1m -limit of investigation							
458	2								2
457	3								3
456	4								4
455	5								5



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 454 AHD
EASTING: 734027
NORTHING: 6426077

PIT No: 65
PROJECT No: 206153.00
DATE: 4/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
454	0	FILL/Sandy CLAY (CI): medium plasticity, brown/red-brown mottled pale grey, fine to coarse grained sand, with silt, w<PL, FILL		E	0.1		R6		
	0.3	Clayey SAND (SC): fine to coarse grained, red-brown, low plasticity clay, trace fine to medium gravel, moist, estimated loose to medium dense, alluvial		E	0.5				
453	1			E	1.0				
	1.2	Pit discontinued at 1.2m -limit of investigation							
452	2								
451	3								
450	4								
449	5								



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 454 AHD
EASTING: 734334
NORTHING: 6425865

PIT No: 66
PROJECT No: 206153.00
DATE: 4/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
454	0.2	FILL/Silty CLAY (CI): medium plasticity, white, w<PL, FILL		E	0.1				
		Silty CLAY (CI): medium plasticity, yellow-brown mottled orange-brown, trace fine to medium grained sand, w<PL, estimated hard, alluvial		E	0.5				
	0.7	Pit discontinued at 0.7m -limit of investigation							
453	1								
452	2								
451	3								
450	4								
449	5								



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: RES Australia Pty Ltd
PROJECT: Proposed Solar Farm
LOCATION: Castlereagh Highway, Tallawang

SURFACE LEVEL: 456 AHD
EASTING: 733813
NORTHING: 6425657

PIT No: 67
PROJECT No: 206153.00
DATE: 4/2/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
456	0.2	FILL/Sandy CLAY (CI): medium plasticity, brown/red-brown mottled pale grey, fine to coarse grained sand, with silt, w<PL, FILL		E	0.1				
	0.5	Clayey SAND (SC): fine to coarse grained, pale red-brown, low plasticity, dry to moist, w~PL, estimated loose, alluvial		E	0.5				
	0.8	Silty CLAY (CI-CH): medium to high plasticity, red-brown mottled yellow-brown and orange-brown, trace fine to coarse grained sand, w<PL, estimated hard, alluvial							
455	1	Silty CLAY (CH): high plasticity, dark yellow-brown, trace fine to medium grained sand, w<PL, estimated hard, alluvial		E	1.0				1
	1.2	Pit discontinued at 1.2m -limit of investigation							
454	2								2
453	3								3
452	4								4
451	5								5



RIG: Komatsu PC210LCi fitted with a 1.2m wide toothed bucket

LOGGED: SDG

SURVEY DATUM: MGA94 Zone 55H

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Appendix K

Laboratory Certificates of Analysis

Douglas Partners
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CHAIN OF CUSTODY DESPATCH SHEET

Project No:	206153.00	**Suburb:**	Beryl			**To:**	*Envirolab Services*
Project Manager:	Alexandra Radulovich	**Order Number:**		CA155290	**Sampler:** SDG		*12 Ashley St, Chatswood NSW 2067*
Email:	Alexandra.Radulovich@douglaspartners.com.au					**Attn:**	*Sample Receipt*
Turnaround time:	☑ Standard ☐ 72 hour ☐ 48 hour ☐ 24 hour ☐ Same day					**Contact:**	*(02) 9910 6200 samplereceipt@envirolab.com.au*
Prior Storage:	☑ Fridge ☐ Freezer ☐ Shelf	**Do samples contain 'potential' HBM?**	☑ No ☐ Yes	(If YES, then handle, transport and store in accordance with FPM HAZID)			

Lab ID	Sample ID: Location / Other ID	Depth From	Depth To	Date Sampled	Sample Type: S - soil W - water	Container Type: G - glass P - plastic	Analytes: Combo. 8	Combo. 6	Clay Content	pH	CEC							Notes/ Preservation/ Additional Requirements
1	Pit 11	0.1	0.1	31/01/22	S	G	✓		✓	✓	✓							
2	Pit 15	0.1	0.1	31/01/22	S	G	✓											
3	Pit 12	0.1	0.1	1/02/22	S	G	✓											
4	Pit 16	0.5	0.5	1/02/22	S	G		✓										
5	Pit 13	2	2	1/02/22	S	G		✓										
6	Pit 17	0.1	0.1	1/02/22	S	G	✓											
7	Pit 14	1	1	1/02/22	S	G		✓										
8	Pit 19	0.1	0.1	1/02/22	S	G	✓											
9	Pit 20	1.5	1.5	1/02/22	S	G		✓										
10	Pit 22	0.5	0.5	1/02/22	S	G	✓											
11	Pit 24	0.1	0.1	1/02/22	S	G	✓											
12	Pit 26	1	1	1/02/22	S	G		✓										
13	Pit 29	0.1	0.1	1/02/22	S	G	✓											
14	Pit 25	0.1	0.1	2/02/22	S	G	✓											

Metals to analyse:		**LAB RECEIPT**	288386
Number of samples in container:	**Transported to laboratory by:** FedEx	**Lab Ref. No:**	
Send results to:	Douglas Partners Pty Ltd	**Received by:**	ECS
Address:	Unit 2, 73 Sheppard Street, Hume ACT 262 **Phone:** (02) 6260 2788	**Date & Time:**	9-2-22 @ 10:30
Relinquished by:	**Date:** 8/02/2022 **Signed:**	**Signed:**	
Project Manager: Alexandra Radulovich	**Order Number:** **Dispatch date:** 08/02/2022	*12 Ashley St, Chatswood NSW 2067*	

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CHAIN OF CUSTODY DESPATCH SHEET

Project No:	206153.00	Suburb:	Beryl	To:	Envirolab Services

Lab ID	Sample ID			Date Sampled	Sample Type	Container Type	Analytes											Notes/ Preservation/ Additional Requirements
	Location / Other ID	Depth From	Depth To		S - soil W - water	G - glass P - plastic	Combo. 8	Combo. 6	Clay Content	pH	CEC							
16	Pit 28	0.1	0.1	2/02/22	S	G	✓											
16	Pit 33	0.5	0.5	2/02/22	S	G		✓										
17	Pit 37	0.5	0.5	2/02/22	S	G		✓										
18	Pit 38	0.1	0.1	2/02/22	S	G		✓										
19	Pit 41	0.1	0.1	2/02/22	S	G	✓											
20	Pit 44	1	1	2/02/22	S	G		✓										
21	Pit 46	0.1	0.1	2/02/22	S	G	✓											
22	Pit 45	1.5	1.5	2/02/22	S	G		✓										
23	Pit 42	1	1	2/02/22	S	G		✓	✓	✓	✓							
24	Pit 51	0.1	0.1	3/02/2022	S	G	✓											
25	Pit 53	0.1	0.1	3/02/2022	S	G	✓											
26	Pit 49	0.1	0.1	3/02/2022	S	G	✓											
27	Pit 32	0.1	0.1	3/02/2022	S	G	✓											
28	Pit 64	0.5	0.5	3/02/2022	S	G		✓										
29	Pit 63	0.5	0.5	3/02/2022	S	G		✓										288386
30	Pit 62	0.1	0.1	3/02/2022	S	G	✓											
31	Pit 61	0.1	0.1	3/02/2022	S	G	✓											
32	Pit 36	0.1	0.1	3/02/2022	S	G	✓											

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CHAIN OF CUSTODY DESPATCH SHEET

Project No:	206153.00	**Suburb:** Beryl	**To:** *Envirolab Services*
Project Manager:	Unit 2, 73 Sheppard Street, Hume ACT		**Dispatch date:**

Lab ID	Sample ID: Location / Other ID	Sample ID: Depth From	Sample ID: Depth To	Date Sampled	Sample Type: S - soil W - water	Container Type: G - glass P - plastic	Analytes: Combo. 8	Analytes: Combo. 6	Analytes: Clay Content	Analytes: pH	Analytes: CEC	Analytes	Analytes	Analytes	Analytes	Analytes	Analytes	Notes/ Preservation/ Additional Requirements
33	Pit 35	0.1	0.1	4/02/2022	S	G	✓											
34	Pit 65	0.1	0.1	4/02/2022	S	G	✓											
35	Pit 66	0.1	0.1	4/02/2022	S	G	✓											
36	Pit 34	0.5	0.5	4/02/2022	S	G		✓										
37	Pit 31	1	1	4/02/2022	S	G		✓										
38	Pit 67	0.1	0.1	4/02/2022	S	G	✓											
39	Pit 30	0.5	0.5	4/02/2022	S	G		✓										
40	Pit 27	0.1	0.1	4/02/2022	S	G	✓											
41	Pit 21	0.1	0.1	4/02/2022	S	G	✓											
42	Pit 23	1	1	4/02/2022	S	G		✓										
43	Pit 18	0.1	0.1	4/02/2022	S	G	✓											
44	R1	NA	NA	2/02/2022	S	G	✓											
45	R2	NA	NA	2/02/2022	S	G	✓											
—	R3	NA	NA	3/02/2022	S	G	✓											
46	R4	NA	NA	3/02/2022	S	G	✓											
47	R5	NA	NA	3/02/2022	S	G	✓											288386

Project Manager:			**Dispatch date:**

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CERTIFICATE OF ANALYSIS 288386

Client Details

Client	Douglas Partners Canberra
Attention	Alexandra Radulovich
Address	Unit 2, 73 Sheppard St,, HUME, ACT, 2620

Sample Details

Your Reference	**206153.00, Beryl**
Number of Samples	47 Soil
Date samples received	09/02/2022
Date completed instructions received	09/02/2022

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	16/02/2022
Date of Issue	16/02/2022

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Results Approved By
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Hannah Nguyen, Metals Supervisor
Josh Williams, LC Supervisor
Kyle Gavrily, Chemist
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Authorised By



Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		288386-1	288386-2	288386-3	288386-4	288386-5
Your Reference	UNITS	Pit 11	Pit 15	Pit 12	Pit 16	Pit 13
Depth		0.1	0.1	0.1	0.5	2.0
Date Sampled		31/01/2022	31/01/2022	01/02/2022	01/02/2022	01/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	98	104	97	88	107

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		288386-6	288386-7	288386-8	288386-9	288386-10
Your Reference	UNITS	Pit 17	Pit 14	Pit 19	Pit 20	Pit 22
Depth		0.1	1.0	0.1	1.5	0.5
Date Sampled		01/02/2022	01/02/2022	01/02/2022	01/02/2022	01/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	93	102	92	101	91

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		288386-11	288386-12	288386-13	288386-14	288386-15
Your Reference	UNITS	Pit 24	Pit 26	Pit 29	Pit 25	Pit 28
Depth		0.1	1.0	0.1	0.1	0.1
Date Sampled		01/02/2022	01/02/2022	01/02/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	86	87	92	83	87

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		288386-16	288386-17	288386-18	288386-19	288386-20
Your Reference	UNITS	Pit 33	Pit 37	Pit 38	Pit 41	Pit 44
Depth		0.5	0.5	0.1	0.1	1.0
Date Sampled		02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	100	88	94	93	87

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		288386-21	288386-22	288386-23	288386-24	288386-25
Your Reference	UNITS	Pit 46	Pit 45	Pit 42	Pit 51	Pit 53
Depth		0.1	1.5	1.0	0.1	0.1
Date Sampled		02/02/2022	02/02/2022	02/02/2022	03/02/2022	03/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	89	84	82	81	94

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		288386-26	288386-27	288386-28	288386-29	288386-30
Your Reference	UNITS	Pit 49	Pit 32	Pit 64	Pit 63	Pit 62
Depth		0.1	0.1	0.5	0.5	0.1
Date Sampled		03/02/2022	03/02/2022	03/02/2022	03/02/2022	03/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	89	79	86	86	89

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		288386-31	288386-32	288386-33	288386-34	288386-35
Your Reference	UNITS	Pit 61	Pit 36	Pit 35	Pit 65	Pit 66
Depth		0.1	0.1	0.1	0.1	0.1
Date Sampled		03/02/2022	03/02/2022	04/01/2022	04/01/2022	04/01/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	11/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	87	82	86	89	78

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		288386-36	288386-37	288386-38	288386-39	288386-40
Your Reference	UNITS	Pit 34	Pit 31	Pit 67	Pit 30	Pit 27
Depth		0.5	1.0	0.1	0.5	0.1
Date Sampled		04/01/2022	04/01/2022	04/01/2022	04/01/2022	04/01/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	86	83	82	84	80

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		288386-41	288386-42	288386-43	288386-44	288386-45
Your Reference	UNITS	Pit 21	Pit 23	Pit 18	R1	R2
Depth		0.1	1.0	0.1	-	-
Date Sampled		04/01/2022	04/01/2022	04/01/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	85	76	83	98	91

vTRH(C6-C10)/BTEXN in Soil			
Our Reference		288386-46	288386-47
Your Reference	UNITS	R4	R5
Depth		-	-
Date Sampled		03/02/2022	03/02/2022
Type of sample		Soil	Soil
Date extracted	-	10/02/2022	10/02/2022
Date analysed	-	11/02/2022	11/02/2022
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	%	91	96

svTRH (C10-C40) in Soil						
Our Reference		288386-1	288386-2	288386-3	288386-4	288386-5
Your Reference	UNITS	Pit 11	Pit 15	Pit 12	Pit 16	Pit 13
Depth		0.1	0.1	0.1	0.5	2.0
Date Sampled		31/01/2022	31/01/2022	01/02/2022	01/02/2022	01/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	75	78	78	78	77

svTRH (C10-C40) in Soil						
Our Reference		288386-6	288386-7	288386-8	288386-9	288386-10
Your Reference	UNITS	Pit 17	Pit 14	Pit 19	Pit 20	Pit 22
Depth		0.1	1.0	0.1	1.5	0.5
Date Sampled		01/02/2022	01/02/2022	01/02/2022	01/02/2022	01/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022	10/02/2022	11/02/2022	11/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	84	75	87	76	78

svTRH (C10-C40) in Soil						
Our Reference		288386-11	288386-12	288386-13	288386-14	288386-15
Your Reference	UNITS	Pit 24	Pit 26	Pit 29	Pit 25	Pit 28
Depth		0.1	1.0	0.1	0.1	0.1
Date Sampled		01/02/2022	01/02/2022	01/02/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	75	78	89	78	83

svTRH (C10-C40) in Soil						
Our Reference		288386-16	288386-17	288386-18	288386-19	288386-20
Your Reference	UNITS	Pit 33	Pit 37	Pit 38	Pit 41	Pit 44
Depth		0.5	0.5	0.1	0.1	1.0
Date Sampled		02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	74	76	76	77	75

svTRH (C10-C40) in Soil						
Our Reference		288386-21	288386-22	288386-23	288386-24	288386-25
Your Reference	UNITS	Pit 46	Pit 45	Pit 42	Pit 51	Pit 53
Depth		0.1	1.5	1.0	0.1	0.1
Date Sampled		02/02/2022	02/02/2022	02/02/2022	03/02/2022	03/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	73	72	73	71	71

svTRH (C10-C40) in Soil						
Our Reference		288386-26	288386-27	288386-28	288386-29	288386-30
Your Reference	UNITS	Pit 49	Pit 32	Pit 64	Pit 63	Pit 62
Depth		0.1	0.1	0.5	0.5	0.1
Date Sampled		03/02/2022	03/02/2022	03/02/2022	03/02/2022	03/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	71	71	71	73	70

svTRH (C10-C40) in Soil						
Our Reference		288386-31	288386-32	288386-33	288386-34	288386-35
Your Reference	UNITS	Pit 61	Pit 36	Pit 35	Pit 65	Pit 66
Depth		0.1	0.1	0.1	0.1	0.1
Date Sampled		03/02/2022	03/02/2022	04/01/2022	04/01/2022	04/01/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	73	71	74	72	72

svTRH (C10-C40) in Soil						
Our Reference		288386-36	288386-37	288386-38	288386-39	288386-40
Your Reference	UNITS	Pit 34	Pit 31	Pit 67	Pit 30	Pit 27
Depth		0.5	1.0	0.1	0.5	0.1
Date Sampled		04/01/2022	04/01/2022	04/01/2022	04/01/2022	04/01/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	74	73	74	74	72

svTRH (C10-C40) in Soil						
Our Reference		288386-41	288386-42	288386-43	288386-44	288386-45
Your Reference	UNITS	Pit 21	Pit 23	Pit 18	R1	R2
Depth		0.1	1.0	0.1	-	-
Date Sampled		04/01/2022	04/01/2022	04/01/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	73	73	72	71	72

svTRH (C10-C40) in Soil			
Our Reference		288386-46	288386-47
Your Reference	UNITS	R4	R5
Depth		-	-
Date Sampled		03/02/2022	03/02/2022
Type of sample		Soil	Soil
Date extracted	-	10/02/2022	10/02/2022
Date analysed	-	11/02/2022	11/02/2022
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
Total +ve TRH (C10-C36)	mg/kg	<50	<50
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	%	84	73

PAHs in Soil						
Our Reference		288386-1	288386-2	288386-3	288386-4	288386-5
Your Reference	UNITS	Pit 11	Pit 15	Pit 12	Pit 16	Pit 13
Depth		0.1	0.1	0.1	0.5	2.0
Date Sampled		31/01/2022	31/01/2022	01/02/2022	01/02/2022	01/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<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
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	92	89	96	93	87

PAHs in Soil						
Our Reference		288386-6	288386-7	288386-8	288386-9	288386-10
Your Reference	UNITS	Pit 17	Pit 14	Pit 19	Pit 20	Pit 22
Depth		0.1	1.0	0.1	1.5	0.5
Date Sampled		01/02/2022	01/02/2022	01/02/2022	01/02/2022	01/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<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
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	91	98	80	84	90

PAHs in Soil						
Our Reference		288386-11	288386-12	288386-13	288386-14	288386-15
Your Reference	UNITS	Pit 24	Pit 26	Pit 29	Pit 25	Pit 28
Depth		0.1	1.0	0.1	0.1	0.1
Date Sampled		01/02/2022	01/02/2022	01/02/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<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
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	90	88	89	85	89

PAHs in Soil						
Our Reference		288386-16	288386-17	288386-18	288386-19	288386-20
Your Reference	UNITS	Pit 33	Pit 37	Pit 38	Pit 41	Pit 44
Depth		0.5	0.5	0.1	0.1	1.0
Date Sampled		02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<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
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	86	83	81	81	92

PAHs in Soil						
Our Reference		288386-21	288386-22	288386-23	288386-24	288386-25
Your Reference	UNITS	Pit 46	Pit 45	Pit 42	Pit 51	Pit 53
Depth		0.1	1.5	1.0	0.1	0.1
Date Sampled		02/02/2022	02/02/2022	02/02/2022	03/02/2022	03/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<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
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	91	81	85	84	87

PAHs in Soil						
Our Reference		288386-26	288386-27	288386-28	288386-29	288386-30
Your Reference	UNITS	Pit 49	Pit 32	Pit 64	Pit 63	Pit 62
Depth		0.1	0.1	0.5	0.5	0.1
Date Sampled		03/02/2022	03/02/2022	03/02/2022	03/02/2022	03/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<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
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	77	70	94	100	85

PAHs in Soil						
Our Reference		288386-31	288386-32	288386-33	288386-34	288386-35
Your Reference	UNITS	Pit 61	Pit 36	Pit 35	Pit 65	Pit 66
Depth		0.1	0.1	0.1	0.1	0.1
Date Sampled		03/02/2022	03/02/2022	04/01/2022	04/01/2022	04/01/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<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
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	102	95	97	108	83

PAHs in Soil						
Our Reference		288386-36	288386-37	288386-38	288386-39	288386-40
Your Reference	UNITS	Pit 34	Pit 31	Pit 67	Pit 30	Pit 27
Depth		0.5	1.0	0.1	0.5	0.1
Date Sampled		04/01/2022	04/01/2022	04/01/2022	04/01/2022	04/01/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<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
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	96	104	100	96	112

PAHs in Soil						
Our Reference		288386-41	288386-42	288386-43	288386-44	288386-45
Your Reference	UNITS	Pit 21	Pit 23	Pit 18	R1	R2
Depth		0.1	1.0	0.1	-	-
Date Sampled		04/01/2022	04/01/2022	04/01/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<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
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	96	87	86	85	99

PAHs in Soil			
Our Reference		288386-46	288386-47
Your Reference	UNITS	R4	R5
Depth		-	-
Date Sampled		03/02/2022	03/02/2022
Type of sample		Soil	Soil
Date extracted	-	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022
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	<0.1
Pyrene	mg/kg	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05
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	<0.05
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 p-Terphenyl-d14	%	80	80

Organochlorine Pesticides in soil						
Our Reference		288386-1	288386-2	288386-3	288386-4	288386-5
Your Reference	UNITS	Pit 11	Pit 15	Pit 12	Pit 16	Pit 13
Depth		0.1	0.1	0.1	0.5	2.0
Date Sampled		31/01/2022	31/01/2022	01/02/2022	01/02/2022	01/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	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
gamma-BHC	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
delta-BHC	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
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	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
pp-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
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	95	87	96	93	85

Organochlorine Pesticides in soil						
Our Reference		288386-6	288386-7	288386-8	288386-9	288386-10
Your Reference	UNITS	Pit 17	Pit 14	Pit 19	Pit 20	Pit 22
Depth		0.1	1.0	0.1	1.5	0.5
Date Sampled		01/02/2022	01/02/2022	01/02/2022	01/02/2022	01/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	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
gamma-BHC	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
delta-BHC	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
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	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
pp-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
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	90	97	80	80	89

Organochlorine Pesticides in soil						
Our Reference		288386-11	288386-12	288386-13	288386-14	288386-15
Your Reference	UNITS	Pit 24	Pit 26	Pit 29	Pit 25	Pit 28
Depth		0.1	1.0	0.1	0.1	0.1
Date Sampled		01/02/2022	01/02/2022	01/02/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	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
gamma-BHC	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
delta-BHC	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
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	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
pp-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
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	89	86	90	87	90

Organochlorine Pesticides in soil						
Our Reference		288386-16	288386-17	288386-18	288386-19	288386-20
Your Reference	UNITS	Pit 33	Pit 37	Pit 38	Pit 41	Pit 44
Depth		0.5	0.5	0.1	0.1	1.0
Date Sampled		02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	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
gamma-BHC	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
delta-BHC	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
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	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
pp-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
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	86	84	82	81	92

Organochlorine Pesticides in soil						
Our Reference		288386-21	288386-22	288386-23	288386-24	288386-25
Your Reference	UNITS	Pit 46	Pit 45	Pit 42	Pit 51	Pit 53
Depth		0.1	1.5	1.0	0.1	0.1
Date Sampled		02/02/2022	02/02/2022	02/02/2022	03/02/2022	03/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	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
gamma-BHC	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
delta-BHC	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
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	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
pp-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
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	96	83	89	87	89

Organochlorine Pesticides in soil						
Our Reference		288386-26	288386-27	288386-28	288386-29	288386-30
Your Reference	UNITS	Pit 49	Pit 32	Pit 64	Pit 63	Pit 62
Depth		0.1	0.1	0.5	0.5	0.1
Date Sampled		03/02/2022	03/02/2022	03/02/2022	03/02/2022	03/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	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
gamma-BHC	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
delta-BHC	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
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	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
pp-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
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	81	67	93	104	89

Organochlorine Pesticides in soil						
Our Reference		288386-31	288386-32	288386-33	288386-34	288386-35
Your Reference	UNITS	Pit 61	Pit 36	Pit 35	Pit 65	Pit 66
Depth		0.1	0.1	0.1	0.1	0.1
Date Sampled		03/02/2022	03/02/2022	04/01/2022	04/01/2022	04/01/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	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
gamma-BHC	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
delta-BHC	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
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	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
pp-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
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	99	96	98	111	89

Organochlorine Pesticides in soil						
Our Reference		288386-36	288386-37	288386-38	288386-39	288386-40
Your Reference	UNITS	Pit 34	Pit 31	Pit 67	Pit 30	Pit 27
Depth		0.5	1.0	0.1	0.5	0.1
Date Sampled		04/01/2022	04/01/2022	04/01/2022	04/01/2022	04/01/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	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
gamma-BHC	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
delta-BHC	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
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	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
pp-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
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	102	99	98	100	109

Organochlorine Pesticides in soil						
Our Reference		288386-41	288386-42	288386-43	288386-44	288386-45
Your Reference	UNITS	Pit 21	Pit 23	Pit 18	R1	R2
Depth		0.1	1.0	0.1	-	-
Date Sampled		04/01/2022	04/01/2022	04/01/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	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
gamma-BHC	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
delta-BHC	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
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	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
pp-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
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	98	90	94	90	102

Organochlorine Pesticides in soil			
Our Reference		288386-46	288386-47
Your Reference	UNITS	R4	R5
Depth		-	-
Date Sampled		03/02/2022	03/02/2022
Type of sample		Soil	Soil
Date extracted	-	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022
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	%	88	83

Organophosphorus Pesticides in Soil						
Our Reference		288386-1	288386-2	288386-3	288386-4	288386-5
Your Reference	UNITS	Pit 11	Pit 15	Pit 12	Pit 16	Pit 13
Depth		0.1	0.1	0.1	0.5	2.0
Date Sampled		31/01/2022	31/01/2022	01/02/2022	01/02/2022	01/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	95	87	96	93	85

Organophosphorus Pesticides in Soil						
Our Reference		288386-6	288386-7	288386-8	288386-9	288386-10
Your Reference	UNITS	Pit 17	Pit 14	Pit 19	Pit 20	Pit 22
Depth		0.1	1.0	0.1	1.5	0.5
Date Sampled		01/02/2022	01/02/2022	01/02/2022	01/02/2022	01/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	90	97	80	80	89

Organophosphorus Pesticides in Soil						
Our Reference		288386-11	288386-12	288386-13	288386-14	288386-15
Your Reference	UNITS	Pit 24	Pit 26	Pit 29	Pit 25	Pit 28
Depth		0.1	1.0	0.1	0.1	0.1
Date Sampled		01/02/2022	01/02/2022	01/02/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	89	86	90	87	90

Organophosphorus Pesticides in Soil						
Our Reference		288386-16	288386-17	288386-18	288386-19	288386-20
Your Reference	UNITS	Pit 33	Pit 37	Pit 38	Pit 41	Pit 44
Depth		0.5	0.5	0.1	0.1	1.0
Date Sampled		02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	86	84	82	81	92

Organophosphorus Pesticides in Soil						
Our Reference		288386-21	288386-22	288386-23	288386-24	288386-25
Your Reference	UNITS	Pit 46	Pit 45	Pit 42	Pit 51	Pit 53
Depth		0.1	1.5	1.0	0.1	0.1
Date Sampled		02/02/2022	02/02/2022	02/02/2022	03/02/2022	03/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	96	83	89	87	89

Organophosphorus Pesticides in Soil						
Our Reference		288386-26	288386-27	288386-28	288386-29	288386-30
Your Reference	UNITS	Pit 49	Pit 32	Pit 64	Pit 63	Pit 62
Depth		0.1	0.1	0.5	0.5	0.1
Date Sampled		03/02/2022	03/02/2022	03/02/2022	03/02/2022	03/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	81	67	93	104	89

Organophosphorus Pesticides in Soil						
Our Reference		288386-31	288386-32	288386-33	288386-34	288386-35
Your Reference	UNITS	Pit 61	Pit 36	Pit 35	Pit 65	Pit 66
Depth		0.1	0.1	0.1	0.1	0.1
Date Sampled		03/02/2022	03/02/2022	04/01/2022	04/01/2022	04/01/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	99	96	98	111	89

Organophosphorus Pesticides in Soil						
Our Reference		288386-36	288386-37	288386-38	288386-39	288386-40
Your Reference	UNITS	Pit 34	Pit 31	Pit 67	Pit 30	Pit 27
Depth		0.5	1.0	0.1	0.5	0.1
Date Sampled		04/01/2022	04/01/2022	04/01/2022	04/01/2022	04/01/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	102	99	98	100	109

Organophosphorus Pesticides in Soil						
Our Reference		288386-41	288386-42	288386-43	288386-44	288386-45
Your Reference	UNITS	Pit 21	Pit 23	Pit 18	R1	R2
Depth		0.1	1.0	0.1	-	-
Date Sampled		04/01/2022	04/01/2022	04/01/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	98	90	94	90	102

Organophosphorus Pesticides in Soil			
Our Reference		288386-46	288386-47
Your Reference	UNITS	R4	R5
Depth		-	-
Date Sampled		03/02/2022	03/02/2022
Type of sample		Soil	Soil
Date extracted	-	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022
Dichlorvos	mg/kg	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1
Surrogate TCMX	%	88	83

PCBs in Soil						
Our Reference		288386-1	288386-2	288386-3	288386-4	288386-5
Your Reference	UNITS	Pit 11	Pit 15	Pit 12	Pit 16	Pit 13
Depth		0.1	0.1	0.1	0.5	2.0
Date Sampled		31/01/2022	31/01/2022	01/02/2022	01/02/2022	01/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	95	87	96	93	85

PCBs in Soil						
Our Reference		288386-6	288386-7	288386-8	288386-9	288386-10
Your Reference	UNITS	Pit 17	Pit 14	Pit 19	Pit 20	Pit 22
Depth		0.1	1.0	0.1	1.5	0.5
Date Sampled		01/02/2022	01/02/2022	01/02/2022	01/02/2022	01/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	90	97	80	80	89

PCBs in Soil						
Our Reference		288386-11	288386-12	288386-13	288386-14	288386-15
Your Reference	UNITS	Pit 24	Pit 26	Pit 29	Pit 25	Pit 28
Depth		0.1	1.0	0.1	0.1	0.1
Date Sampled		01/02/2022	01/02/2022	01/02/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	89	86	90	87	90

PCBs in Soil						
Our Reference		288386-16	288386-17	288386-18	288386-19	288386-20
Your Reference	UNITS	Pit 33	Pit 37	Pit 38	Pit 41	Pit 44
Depth		0.5	0.5	0.1	0.1	1.0
Date Sampled		02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	86	84	82	81	92

PCBs in Soil						
Our Reference		288386-21	288386-22	288386-23	288386-24	288386-25
Your Reference	UNITS	Pit 46	Pit 45	Pit 42	Pit 51	Pit 53
Depth		0.1	1.5	1.0	0.1	0.1
Date Sampled		02/02/2022	02/02/2022	02/02/2022	03/02/2022	03/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	96	83	89	87	89

PCBs in Soil						
Our Reference		288386-26	288386-27	288386-28	288386-29	288386-30
Your Reference	UNITS	Pit 49	Pit 32	Pit 64	Pit 63	Pit 62
Depth		0.1	0.1	0.5	0.5	0.1
Date Sampled		03/02/2022	03/02/2022	03/02/2022	03/02/2022	03/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	81	67	93	104	89

PCBs in Soil						
Our Reference		288386-31	288386-32	288386-33	288386-34	288386-35
Your Reference	UNITS	Pit 61	Pit 36	Pit 35	Pit 65	Pit 66
Depth		0.1	0.1	0.1	0.1	0.1
Date Sampled		03/02/2022	03/02/2022	04/01/2022	04/01/2022	04/01/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	99	96	98	111	89

PCBs in Soil						
Our Reference		288386-36	288386-37	288386-38	288386-39	288386-40
Your Reference	UNITS	Pit 34	Pit 31	Pit 67	Pit 30	Pit 27
Depth		0.5	1.0	0.1	0.5	0.1
Date Sampled		04/01/2022	04/01/2022	04/01/2022	04/01/2022	04/01/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	102	99	98	100	109

PCBs in Soil						
Our Reference		288386-41	288386-42	288386-43	288386-44	288386-45
Your Reference	UNITS	Pit 21	Pit 23	Pit 18	R1	R2
Depth		0.1	1.0	0.1	-	-
Date Sampled		04/01/2022	04/01/2022	04/01/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022	13/02/2022	13/02/2022	13/02/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	98	90	94	90	102

PCBs in Soil			
Our Reference		288386-46	288386-47
Your Reference	UNITS	R4	R5
Depth		-	-
Date Sampled		03/02/2022	03/02/2022
Type of sample		Soil	Soil
Date extracted	-	10/02/2022	10/02/2022
Date analysed	-	13/02/2022	13/02/2022
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	%	88	83

Acid Extractable metals in soil						
Our Reference		288386-1	288386-2	288386-3	288386-4	288386-5
Your Reference	UNITS	Pit 11	Pit 15	Pit 12	Pit 16	Pit 13
Depth		0.1	0.1	0.1	0.5	2.0
Date Sampled		31/01/2022	31/01/2022	01/02/2022	01/02/2022	01/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	17	15	5	18	4
Copper	mg/kg	4	5	3	3	<1
Lead	mg/kg	6	9	3	11	3
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	3	5	1	7	2
Zinc	mg/kg	9	6	13	18	36

Acid Extractable metals in soil						
Our Reference		288386-6	288386-7	288386-8	288386-9	288386-10
Your Reference	UNITS	Pit 17	Pit 14	Pit 19	Pit 20	Pit 22
Depth		0.1	1.0	0.1	1.5	0.5
Date Sampled		01/02/2022	01/02/2022	01/02/2022	01/02/2022	01/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	2	7	5	5	7
Copper	mg/kg	2	<1	3	2	<1
Lead	mg/kg	3	1	3	10	3
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	<1	3	2	2	1
Zinc	mg/kg	6	10	16	28	8

Acid Extractable metals in soil						
Our Reference		288386-11	288386-12	288386-13	288386-14	288386-15
Your Reference	UNITS	Pit 24	Pit 26	Pit 29	Pit 25	Pit 28
Depth		0.1	1.0	0.1	0.1	0.1
Date Sampled		01/02/2022	01/02/2022	01/02/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Arsenic	mg/kg	<4	5	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	4	5	8	5	7
Copper	mg/kg	1	2	<1	3	1
Lead	mg/kg	3	9	5	3	3
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	1	3	2	3	2
Zinc	mg/kg	5	12	6	10	5

Acid Extractable metals in soil						
Our Reference		288386-16	288386-17	288386-18	288386-19	288386-20
Your Reference	UNITS	Pit 33	Pit 37	Pit 38	Pit 41	Pit 44
Depth		0.5	0.5	0.1	0.1	1.0
Date Sampled		02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	4	1	8	6	6
Copper	mg/kg	<1	<1	2	4	2
Lead	mg/kg	3	3	5	4	4
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	<1	3	1	2
Zinc	mg/kg	18	15	43	8	23

Acid Extractable metals in soil						
Our Reference		288386-21	288386-22	288386-23	288386-24	288386-25
Your Reference	UNITS	Pit 46	Pit 45	Pit 42	Pit 51	Pit 53
Depth		0.1	1.5	1.0	0.1	0.1
Date Sampled		02/02/2022	02/02/2022	02/02/2022	03/02/2022	03/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	4	3	7	9	4
Copper	mg/kg	2	11	3	9	6
Lead	mg/kg	2	28	5	12	3
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	<1	4	3	6	2
Zinc	mg/kg	8	39	11	19	14

Acid Extractable metals in soil						
Our Reference		288386-26	288386-27	288386-28	288386-29	288386-30
Your Reference	UNITS	Pit 49	Pit 32	Pit 64	Pit 63	Pit 62
Depth		0.1	0.1	0.5	0.5	0.1
Date Sampled		03/02/2022	03/02/2022	03/02/2022	03/02/2022	03/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	8	8	7	11	8
Copper	mg/kg	2	3	1	<1	4
Lead	mg/kg	5	7	5	8	7
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	1	3	2	3	2
Zinc	mg/kg	8	6	3	5	6

Acid Extractable metals in soil						
Our Reference		288386-31	288386-32	288386-33	288386-34	288386-35
Your Reference	UNITS	Pit 61	Pit 36	Pit 35	Pit 65	Pit 66
Depth		0.1	0.1	0.1	0.1	0.1
Date Sampled		03/02/2022	03/02/2022	04/01/2022	04/01/2022	04/01/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	5	16	11	11	5
Copper	mg/kg	3	<1	<1	6	1
Lead	mg/kg	6	9	6	8	7
Mercury	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	1	2	2	4	<1
Zinc	mg/kg	4	3	3	14	1

Acid Extractable metals in soil						
Our Reference		288386-36	288386-37	288386-38	288386-39	288386-40
Your Reference	UNITS	Pit 34	Pit 31	Pit 67	Pit 30	Pit 27
Depth		0.5	1.0	0.1	0.5	0.1
Date Sampled		04/01/2022	04/01/2022	04/01/2022	04/01/2022	04/01/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	16	9	7	13	11
Copper	mg/kg	1	5	1	1	7
Lead	mg/kg	7	9	4	16	9
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	3	3	1	3	5
Zinc	mg/kg	4	10	4	6	14

Acid Extractable metals in soil						
Our Reference		288386-41	288386-42	288386-43	288386-44	288386-45
Your Reference	UNITS	Pit 21	Pit 23	Pit 18	R1	R2
Depth		0.1	1.0	0.1	-	-
Date Sampled		04/01/2022	04/01/2022	04/01/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	5	13	16	2	6
Copper	mg/kg	3	8	7	2	<1
Lead	mg/kg	3	7	9	3	4
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	7	6	<1	1
Zinc	mg/kg	13	33	11	5	7

Acid Extractable metals in soil			
Our Reference		288386-46	288386-47
Your Reference	UNITS	R4	R5
Depth		-	-
Date Sampled		03/02/2022	03/02/2022
Type of sample		Soil	Soil
Date prepared	-	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022
Arsenic	mg/kg	<4	<4
Cadmium	mg/kg	<0.4	<0.4
Chromium	mg/kg	8	7
Copper	mg/kg	9	3
Lead	mg/kg	10	6
Mercury	mg/kg	<0.1	<0.1
Nickel	mg/kg	4	2
Zinc	mg/kg	16	6

Moisture						
Our Reference		288386-1	288386-2	288386-3	288386-4	288386-5
Your Reference	UNITS	Pit 11	Pit 15	Pit 12	Pit 16	Pit 13
Depth		0.1	0.1	0.1	0.5	2.0
Date Sampled		31/01/2022	31/01/2022	01/02/2022	01/02/2022	01/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022
Moisture	%	20	12	15	24	12

Moisture						
Our Reference		288386-6	288386-7	288386-8	288386-9	288386-10
Your Reference	UNITS	Pit 17	Pit 14	Pit 19	Pit 20	Pit 22
Depth		0.1	1.0	0.1	1.5	0.5
Date Sampled		01/02/2022	01/02/2022	01/02/2022	01/02/2022	01/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022
Moisture	%	8.6	7.1	15	13	18

Moisture						
Our Reference		288386-11	288386-12	288386-13	288386-14	288386-15
Your Reference	UNITS	Pit 24	Pit 26	Pit 29	Pit 25	Pit 28
Depth		0.1	1.0	0.1	0.1	0.1
Date Sampled		01/02/2022	01/02/2022	01/02/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022
Moisture	%	6.6	15	16	14	13

Moisture						
Our Reference		288386-16	288386-17	288386-18	288386-19	288386-20
Your Reference	UNITS	Pit 33	Pit 37	Pit 38	Pit 41	Pit 44
Depth		0.5	0.5	0.1	0.1	1.0
Date Sampled		02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022
Moisture	%	24	11	19	11	9.9

Moisture						
Our Reference		288386-21	288386-22	288386-23	288386-24	288386-25
Your Reference	UNITS	Pit 46	Pit 45	Pit 42	Pit 51	Pit 53
Depth		0.1	1.5	1.0	0.1	0.1
Date Sampled		02/02/2022	02/02/2022	02/02/2022	03/02/2022	03/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022
Moisture	%	9.6	15	17	14	13

Moisture						
Our Reference		288386-26	288386-27	288386-28	288386-29	288386-30
Your Reference	UNITS	Pit 49	Pit 32	Pit 64	Pit 63	Pit 62
Depth		0.1	0.1	0.5	0.5	0.1
Date Sampled		03/02/2022	03/02/2022	03/02/2022	03/02/2022	03/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022
Moisture	%	11	13	10	15	1.1

Moisture						
Our Reference		288386-31	288386-32	288386-33	288386-34	288386-35
Your Reference	UNITS	Pit 61	Pit 36	Pit 35	Pit 65	Pit 66
Depth		0.1	0.1	0.1	0.1	0.1
Date Sampled		03/02/2022	03/02/2022	04/01/2022	04/01/2022	04/01/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022
Moisture	%	11	7.4	7.5	6.4	15

Moisture						
Our Reference		288386-36	288386-37	288386-38	288386-39	288386-40
Your Reference	UNITS	Pit 34	Pit 31	Pit 67	Pit 30	Pit 27
Depth		0.5	1.0	0.1	0.5	0.1
Date Sampled		04/01/2022	04/01/2022	04/01/2022	04/01/2022	04/01/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022
Moisture	%	9.4	15	1.7	13	5.4

Moisture						
Our Reference		288386-41	288386-42	288386-43	288386-44	288386-45
Your Reference	UNITS	Pit 21	Pit 23	Pit 18	R1	R2
Depth		0.1	1.0	0.1	-	-
Date Sampled		04/01/2022	04/01/2022	04/01/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022
Moisture	%	14	15	15	6.2	13

Moisture			
Our Reference		288386-46	288386-47
Your Reference	UNITS	R4	R5
Depth		-	-
Date Sampled		03/02/2022	03/02/2022
Type of sample		Soil	Soil
Date prepared	-	10/02/2022	10/02/2022
Date analysed	-	11/02/2022	11/02/2022
Moisture	%	22	7.3

Misc Soil - Inorg						
Our Reference		288386-1	288386-2	288386-3	288386-6	288386-8
Your Reference	UNITS	Pit 11	Pit 15	Pit 12	Pit 17	Pit 19
Depth		0.1	0.1	0.1	0.1	0.1
Date Sampled		31/01/2022	31/01/2022	01/02/2022	01/02/2022	01/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg						
Our Reference		288386-10	288386-11	288386-13	288386-14	288386-15
Your Reference	UNITS	Pit 22	Pit 24	Pit 29	Pit 25	Pit 28
Depth		0.5	0.1	0.1	0.1	0.1
Date Sampled		01/02/2022	01/02/2022	01/02/2022	02/02/2022	02/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg						
Our Reference		288386-19	288386-21	288386-24	288386-25	288386-26
Your Reference	UNITS	Pit 41	Pit 46	Pit 51	Pit 53	Pit 49
Depth		0.1	0.1	0.1	0.1	0.1
Date Sampled		02/02/2022	02/02/2022	03/02/2022	03/02/2022	03/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg						
Our Reference		288386-27	288386-30	288386-31	288386-32	288386-33
Your Reference	UNITS	Pit 32	Pit 62	Pit 61	Pit 36	Pit 35
Depth		0.1	0.1	0.1	0.1	0.1
Date Sampled		03/02/2022	03/02/2022	03/02/2022	03/02/2022	04/01/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg						
Our Reference		288386-34	288386-35	288386-38	288386-40	288386-41
Your Reference	UNITS	Pit 65	Pit 66	Pit 67	Pit 27	Pit 21
Depth		0.1	0.1	0.1	0.1	0.1
Date Sampled		04/01/2022	04/01/2022	04/01/2022	04/01/2022	04/01/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg						
Our Reference		288386-43	288386-44	288386-45	288386-46	288386-47
Your Reference	UNITS	Pit 18	R1	R2	R4	R5
Depth		0.1	-	-	-	-
Date Sampled		04/01/2022	02/02/2022	02/02/2022	03/02/2022	03/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Date analysed	-	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Inorg - Soil			
Our Reference		288386-1	288386-23
Your Reference	UNITS	Pit 11	Pit 42
Depth		0.1	1.0
Date Sampled		31/01/2022	02/02/2022
Type of sample		Soil	Soil
Date prepared	-	11/02/2022	11/02/2022
Date analysed	-	11/02/2022	11/02/2022
pH 1:5 soil:water	pH Units	5.7	5.6

Clay 50-120g			
Our Reference		288386-1	288386-23
Your Reference	UNITS	Pit 11	Pit 42
Depth		0.1	1.0
Date Sampled		31/01/2022	02/02/2022
Type of sample		Soil	Soil
Date prepared	-	10/02/2022	10/02/2022
Date analysed	-	11/02/2022	11/02/2022
Clay in soils <2µm	% (w/w)	17	13

CEC			
Our Reference		288386-1	288386-23
Your Reference	UNITS	Pit 11	Pit 42
Depth		0.1	1.0
Date Sampled		31/01/2022	02/02/2022
Type of sample		Soil	Soil
Date prepared	-	14/02/2022	14/02/2022
Date analysed	-	14/02/2022	14/02/2022
Exchangeable Ca	meq/100g	2.3	0.6
Exchangeable K	meq/100g	0.2	0.4
Exchangeable Mg	meq/100g	0.4	0.4
Exchangeable Na	meq/100g	<0.1	<0.1
Cation Exchange Capacity	meq/100g	3.0	1.5

Method ID	Methodology Summary
AS1289.3.6.3	Determination Particle Size Analysis using AS1289.3.6.3 and AS1289.3.6.1 and in house method INORG-107. Clay fraction at <2µm reported.
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Metals-020	Determination of various metals by ICP-AES.
Metals-020	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-OES analytical finish.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	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-020	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-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-021	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-022	Determination of VOCs sampled onto coconut shell charcoal sorbent tubes, that can be desorbed using carbon disulphide, and analysed by GC-MS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-MS/GC-MSMS. 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.
Org-022/025	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. For soil results:- 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. 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.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	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-023	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. 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.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	288386-2
Date extracted	-			10/02/2022	1	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Date analysed	-			11/02/2022	1	10/02/2022	10/02/2022		10/02/2022	10/02/2022
TRH C_6 - C_9	mg/kg	25	Org-023	<25	1	<25	<25	0	94	100
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	1	<25	<25	0	94	100
Benzene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	95	104
Toluene	mg/kg	0.5	Org-023	<0.5	1	<0.5	<0.5	0	89	95
Ethylbenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	89	93
m+p-xylene	mg/kg	2	Org-023	<2	1	<2	<2	0	99	104
o-Xylene	mg/kg	1	Org-023	<1	1	<1	<1	0	87	92
Naphthalene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	94	1	98	90	9	92	95

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	288386-22
Date extracted	-			[NT]	11	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Date analysed	-			[NT]	11	10/02/2022	10/02/2022		10/02/2022	10/02/2022
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	11	<25	<25	0	99	95
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	11	<25	<25	0	99	95
Benzene	mg/kg	0.2	Org-023	[NT]	11	<0.2	<0.2	0	97	96
Toluene	mg/kg	0.5	Org-023	[NT]	11	<0.5	<0.5	0	88	84
Ethylbenzene	mg/kg	1	Org-023	[NT]	11	<1	<1	0	95	91
m+p-xylene	mg/kg	2	Org-023	[NT]	11	<2	<2	0	108	102
o-Xylene	mg/kg	1	Org-023	[NT]	11	<1	<1	0	93	91
Naphthalene	mg/kg	1	Org-023	[NT]	11	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	11	86	93	8	91	87

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	288386-41
Date extracted	-			[NT]	21	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Date analysed	-			[NT]	21	10/02/2022	10/02/2022		11/02/2022	11/02/2022
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	21	<25	<25	0	101	91
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	21	<25	<25	0	101	91
Benzene	mg/kg	0.2	Org-023	[NT]	21	<0.2	<0.2	0	99	88
Toluene	mg/kg	0.5	Org-023	[NT]	21	<0.5	<0.5	0	100	91
Ethylbenzene	mg/kg	1	Org-023	[NT]	21	<1	<1	0	98	89
m+p-xylene	mg/kg	2	Org-023	[NT]	21	<2	<2	0	104	94
o-Xylene	mg/kg	1	Org-023	[NT]	21	<1	<1	0	102	93
Naphthalene	mg/kg	1	Org-023	[NT]	21	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	21	89	89	0	97	85

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	31	10/02/2022	10/02/2022		[NT]	[NT]
Date analysed	-			[NT]	31	10/02/2022	10/02/2022		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	31	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	31	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	31	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	31	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	31	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	31	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	31	<1	<1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	31	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	31	87	84	4	[NT]	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	40	10/02/2022	10/02/2022		[NT]	[NT]
Date analysed	-			[NT]	40	11/02/2022	11/02/2022		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	40	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	40	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	40	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	40	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	40	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	40	80	83	4	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	288386-2
Date extracted	-			10/02/2022	1	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Date analysed	-			11/02/2022	1	10/02/2022	10/02/2022		10/02/2022	10/02/2022
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	1	<50	<50	0	93	91
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	1	<100	<100	0	82	82
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	1	<100	<100	0	91	114
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	1	<50	<50	0	93	91
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	1	<100	<100	0	82	82
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	1	<100	<100	0	91	114
Surrogate o-Terphenyl	%		Org-020	75	1	75	77	3	120	119

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	288386-22
Date extracted	-			[NT]	11	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Date analysed	-			[NT]	11	11/02/2022	11/02/2022		11/02/2022	11/02/2022
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	11	<50	<50	0	89	85
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	11	<100	<100	0	79	76
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	11	<100	<100	0	109	109
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	11	<50	<50	0	89	85
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	11	<100	<100	0	79	76
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	11	<100	<100	0	109	109
Surrogate o-Terphenyl	%		Org-020	[NT]	11	75	77	3	88	72

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	288386-41
Date extracted	-			[NT]	21	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Date analysed	-			[NT]	21	11/02/2022	11/02/2022		11/02/2022	11/02/2022
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	21	<50	<50	0	95	94
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	21	<100	<100	0	82	80
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	21	<100	<100	0	91	119
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	21	<50	<50	0	95	94
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	21	<100	<100	0	82	80
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	21	<100	<100	0	91	119
Surrogate o-Terphenyl	%		Org-020	[NT]	21	73	71	3	119	116

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	40	10/02/2022	10/02/2022		[NT]	[NT]
Date analysed	-			[NT]	40	11/02/2022	11/02/2022		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	40	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	40	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	40	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	40	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	40	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	40	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	40	72	79	9	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	288386-2
Date extracted	-			10/02/2022	1	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Date analysed	-			13/02/2022	1	13/02/2022	13/02/2022		13/02/2022	13/02/2022
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	92	111
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	91	109
Fluorene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	93	113
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	98	118
Anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	92	108
Pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	91	107
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	75	77
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	1	<0.05	<0.05	0	76	80
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	96	1	92	97	5	88	98

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	288386-22
Date extracted	-			[NT]	11	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Date analysed	-			[NT]	11	13/02/2022	13/02/2022		13/02/2022	13/02/2022
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	99	97
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	97	95
Fluorene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	99	95
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	106	102
Anthracene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	98	92
Pyrene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	97	91
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	69	67
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	11	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	11	<0.05	<0.05	0	70	70
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	11	90	88	2	93	82

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	288386-41
Date extracted	-			[NT]	21	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Date analysed	-			[NT]	21	13/02/2022	13/02/2022		13/02/2022	13/02/2022
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	105	121
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	105	122
Fluorene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	109	122
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	112	126
Anthracene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	108	122
Pyrene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	107	123
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	83	101
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	21	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	21	<0.05	<0.05	0	76	103
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	21	91	74	21	104	123

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	40	10/02/2022	10/02/2022		[NT]	[NT]
Date analysed	-			[NT]	40	13/02/2022	13/02/2022		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	40	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	40	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	40	112	90	22	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	288386-2
Date extracted	-			10/02/2022	1	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Date analysed	-			13/02/2022	1	13/02/2022	13/02/2022		13/02/2022	13/02/2022
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	88	102
HCB	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	89	103
gamma-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	87	105
delta-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	99	116
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	94	119
gamma-Chlordane	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	88	103
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	96	110
Endrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	84	98
Endosulfan II	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	74	88
Endrin Aldehyde	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	72	80
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	94	1	95	97	2	85	99

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	288386-22
Date extracted	-			[NT]	11	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Date analysed	-			[NT]	11	13/02/2022	13/02/2022		13/02/2022	13/02/2022
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	92	86
HCB	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	92	85
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	91	88
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	105	100
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	106	94
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	94	88
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	102	92
Endrin	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	90	75
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	80	70
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	76	72
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	11	89	84	6	91	85

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	288386-41
Date extracted	-			[NT]	21	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Date analysed	-			[NT]	21	13/02/2022	13/02/2022		13/02/2022	13/02/2022
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	98	124
HCB	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	99	122
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	95	127
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	138	124
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	110	126
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	105	121
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	110	126
Endrin	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	94	112
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	88	116
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	82	100
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	21	96	78	21	99	124

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	40	10/02/2022	10/02/2022		[NT]	[NT]
Date analysed	-			[NT]	40	13/02/2022	13/02/2022		[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
HCB	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	40	109	90	19	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	288386-2
Date extracted	-			10/02/2022	1	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Date analysed	-			13/02/2022	1	13/02/2022	13/02/2022		13/02/2022	13/02/2022
Dichlorvos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	99	94
Dimethoate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	89	104
Fenitrothion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	77	75
Malathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	93	101
Chlorpyriphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	88	104
Parathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	70	80
Bromophos-ethyl	mg/kg	0.1	Org-022	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	72	84
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	94	1	95	97	2	85	99

QUALITY CONTROL: Organophosphorus Pesticides in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	288386-22
Date extracted	-			[NT]	11	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Date analysed	-			[NT]	11	13/02/2022	13/02/2022		13/02/2022	13/02/2022
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	88	104
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	95	89
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	77	63
Malathion	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	95	75
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	96	90
Parathion	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	74	64
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	74	72
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	11	89	84	6	91	85

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	288386-41
Date extracted	-			[NT]	21	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Date analysed	-			[NT]	21	13/02/2022	13/02/2022		13/02/2022	13/02/2022
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	91	112
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	99	121
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	65	77
Malathion	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	93	114
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	100	126
Parathion	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	74	87
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	74	98
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	21	96	78	21	99	124

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	40	10/02/2022	10/02/2022		[NT]	[NT]
Date analysed	-			[NT]	40	13/02/2022	13/02/2022		[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	40	109	90	19	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	288386-2
Date extracted	-			10/02/2022	1	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Date analysed	-			13/02/2022	1	13/02/2022	13/02/2022		13/02/2022	13/02/2022
Aroclor 1016	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	98	100
Aroclor 1260	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	94	1	95	97	2	85	99

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	288386-22
Date extracted	-			[NT]	11	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Date analysed	-			[NT]	11	13/02/2022	13/02/2022		13/02/2022	13/02/2022
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	11	<0.1	<0.1	0	107	100
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	11	89	84	6	91	85

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	288386-41
Date extracted	-			[NT]	21	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Date analysed	-			[NT]	21	13/02/2022	13/02/2022		13/02/2022	13/02/2022
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	21	<0.1	<0.1	0	115	124
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	21	96	78	21	99	124

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	40	10/02/2022	10/02/2022		[NT]	[NT]
Date analysed	-			[NT]	40	13/02/2022	13/02/2022		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	40	109	90	19	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	288386-2
Date prepared	-			10/02/2022	1	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Date analysed	-			10/02/2022	1	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Arsenic	mg/kg	4	Metals-020	<4	1	<4	<4	0	97	82
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	96	86
Chromium	mg/kg	1	Metals-020	<1	1	17	22	26	102	95
Copper	mg/kg	1	Metals-020	<1	1	4	5	22	98	98
Lead	mg/kg	1	Metals-020	<1	1	6	7	15	101	85
Mercury	mg/kg	0.1	Metals-021	<0.1	1	<0.1	<0.1	0	123	115
Nickel	mg/kg	1	Metals-020	<1	1	3	4	29	99	89
Zinc	mg/kg	1	Metals-020	<1	1	9	9	0	90	81

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	288386-22
Date prepared	-			[NT]	11	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Date analysed	-			[NT]	11	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Arsenic	mg/kg	4	Metals-020	[NT]	11	<4	<4	0	98	##
Cadmium	mg/kg	0.4	Metals-020	[NT]	11	<0.4	<0.4	0	98	74
Chromium	mg/kg	1	Metals-020	[NT]	11	4	4	0	104	81
Copper	mg/kg	1	Metals-020	[NT]	11	1	1	0	99	82
Lead	mg/kg	1	Metals-020	[NT]	11	3	3	0	103	#
Mercury	mg/kg	0.1	Metals-021	[NT]	11	<0.1	<0.1	0	111	130
Nickel	mg/kg	1	Metals-020	[NT]	11	1	<1	0	100	75
Zinc	mg/kg	1	Metals-020	[NT]	11	5	4	22	91	89

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	288386-41
Date prepared	-			[NT]	21	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Date analysed	-			[NT]	21	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Arsenic	mg/kg	4	Metals-020	[NT]	21	<4	<4	0	99	87
Cadmium	mg/kg	0.4	Metals-020	[NT]	21	<0.4	<0.4	0	98	89
Chromium	mg/kg	1	Metals-020	[NT]	21	4	3	29	102	95
Copper	mg/kg	1	Metals-020	[NT]	21	2	2	0	100	100
Lead	mg/kg	1	Metals-020	[NT]	21	2	2	0	102	93
Mercury	mg/kg	0.1	Metals-021	[NT]	21	<0.1	<0.1	0	126	113
Nickel	mg/kg	1	Metals-020	[NT]	21	<1	<1	0	100	94
Zinc	mg/kg	1	Metals-020	[NT]	21	8	7	13	91	84

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	31	10/02/2022	10/02/2022		[NT]	[NT]
Date analysed	-			[NT]	31	10/02/2022	10/02/2022		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	31	<4	<4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	31	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	31	5	4	22	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	31	3	3	0	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	31	6	4	40	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	31	0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	31	1	1	0	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	31	4	3	29	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	40	10/02/2022	10/02/2022		[NT]	[NT]
Date analysed	-			[NT]	40	10/02/2022	10/02/2022		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	40	<4	<4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	40	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	40	11	12	9	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	40	7	6	15	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	40	9	9	0	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	40	5	4	22	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	40	14	12	15	[NT]	[NT]

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	288386-2
Date prepared	-			10/02/2022	1	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Date analysed	-			10/02/2022	1	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	1	<5	<5	0	108	102

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	288386-41
Date prepared	-			[NT]	31	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Date analysed	-			[NT]	31	10/02/2022	10/02/2022		10/02/2022	10/02/2022
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	[NT]	31	<5	<5	0	105	103

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	40	10/02/2022	10/02/2022		[NT]	[NT]
Date analysed	-			[NT]	40	10/02/2022	10/02/2022		[NT]	[NT]
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	[NT]	40	<5	<5	0	[NT]	[NT]

QUALITY CONTROL: Misc Inorg - Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			11/02/2022	[NT]	[NT]	[NT]	[NT]	11/02/2022	[NT]
Date analysed	-			11/02/2022	[NT]	[NT]	[NT]	[NT]	11/02/2022	[NT]
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: CEC						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	288386-23
Date prepared	-			14/02/2022	1	14/02/2022	14/02/2022		14/02/2022	14/02/2022
Date analysed	-			14/02/2022	1	14/02/2022	14/02/2022		14/02/2022	14/02/2022
Exchangeable Ca	meq/100g	0.1	Metals-020	<0.1	1	2.3	2.3	0	109	105
Exchangeable K	meq/100g	0.1	Metals-020	<0.1	1	0.2	0.2	0	118	101
Exchangeable Mg	meq/100g	0.1	Metals-020	<0.1	1	0.4	0.4	0	109	104
Exchangeable Na	meq/100g	0.1	Metals-020	<0.1	1	<0.1	<0.1	0	119	102

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.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

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

8 metals in soil:
- # Percent recovery is not possible to report due to the inhomogeneous nature of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.
- ## Low spike recovery was obtained for this sample. Sample matrix interference is suspected. However, an acceptable recovery was obtained for the LCS

pH
Samples were out of the recommended holding time for this analysis.

Douglas Partners
Geotechnics | Environment | Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No: 206153.00	**Suburb:** Tallawa		**To:** *Lab name*
Project Manager: Alex Radulovich	**Order Number:**	**Sampler:** SDG	*Lab address*
Email: alexandra.radulovich@douglaspartners.com.au			**Attn:** *Name*
Turnaround time: ☐ Standard ☐ 72 hour ☐ 48 hour ☐ 24 hour ☐ Same day			**Contact:** *phone*
Prior Storage: ☑ Fridge ☐ Freezer ☐ Shelf	**Do samples contain 'potential' HBM?** ☑ No ☐ Yes (If YES, then handle, transport and store in a		

Lab ID	Sample ID: Location / Other ID	Depth From	Depth To	Date Sampled	Sample Type: S - soil W - water	Container Type: G - glass P - plastic	Analytes: Aggressivity Suite										
Pit 13	1	1		1/02/22	S	G	x										
Pit 15	2	2		31/01/22	S	G	x										
Pit 20	3	2		1/02/22	S	G	x										
Pit 23	4	3		4/02/22	S	P	x										
Pit 28	5	1		2/2/222	S	G	x										
Pit 30	6	1		4/02/22	S	G	x										
Pit 32	7	1		3/02/22	S	G	x										
Pit 33	8	1.5		2/02/22	S	G	x										
Pit 35	9	3		4/02/22	S	P	x										
Pit 44	10	0.5		2/02/22	S	G	x										

Metals to analyse:

Number of samples in container: _____

Transported to laboratory by:

LAB RECEIPT

Lab Ref. No:

ENVIROLAB

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 289179

Date Received: 18/2/22
Time Received: 1100
Received By: CH
Temp: Cool/Ambient
Cooling: Ice/Icepack 22 · C
Security: Intact/Broken/None

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 289179

Client Details

Client	Douglas Partners Canberra
Attention	Alexandra Radulovich
Address	Unit 2, 73 Sheppard St,, HUME, ACT, 2620

Sample Details

Your Reference	**206153.00**
Number of Samples	10 Soil
Date samples received	18/02/2022
Date completed instructions received	18/02/2022

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

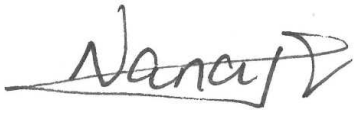
Date results requested by	25/02/2022
Date of Issue	24/02/2022

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Results Approved By
Priya Samarawickrama, Senior Chemist

Authorised By



Nancy Zhang, Laboratory Manager

Soil Aggressivity						
Our Reference		289179-1	289179-2	289179-3	289179-4	289179-5
Your Reference	UNITS	Pit 13	Pit 15	Pit 20	Pit 23	Pit 28
Depth		1	2	2	3	1
Date Sampled		1/02/2022	31/01/2022	1/02/2022	4/02/2022	2/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
pH 1:5 soil:water	pH Units	6.0	9.1	6.5	6.2	8.1
Electrical Conductivity 1:5 soil:water	µS/cm	60	79	27	82	36
Chloride, Cl 1:5 soil:water	mg/kg	27	<10	23	77	<10
Sulphate, SO4 1:5 soil:water	mg/kg	25	<10	<10	<10	<10

Soil Aggressivity						
Our Reference		289179-6	289179-7	289179-8	289179-9	289179-10
Your Reference	UNITS	Pit 30	Pit 32	Pit 33	Pit 35	Pit 44
Depth		1	1	1.5	3	0.5
Date Sampled		4/02/2022	3/02/2022	2/02/2022	4/02/2022	2/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
pH 1:5 soil:water	pH Units	7.5	9.0	8.1	8.2	7.1
Electrical Conductivity 1:5 soil:water	µS/cm	88	100	18	14	9
Chloride, Cl 1:5 soil:water	mg/kg	55	25	<10	<10	<10
Sulphate, SO4 1:5 soil:water	mg/kg	20	37	<10	<10	<10

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.

QUALITY CONTROL: Soil Aggressivity						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	1	6.0	6.1	2	100	[NT]
Electrical Conductivity 1:5 soil:water	µS/cm	1	Inorg-002	<1	1	60	51	16	100	[NT]
Chloride, Cl 1:5 soil:water	mg/kg	10	Inorg-081	<10	1	27	22	20	99	[NT]
Sulphate, SO4 1:5 soil:water	mg/kg	10	Inorg-081	<10	1	25	20	22	88	[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.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

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

pH/EC Samples were out of the recommended holding time for this analysis.

COC 18/2 11:04.

Douglas Partners
Geotechnics | Environment | Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No:	206153.00	**Suburb:**	Beryl	**To:**	*Envirolab Services*
Project Manager:	Alexandra Radulovich	**Order Number:**	CA155298	**Sampler:**	SDG	*12 Ashley St, Chatswood NSW 2067*
Email:	Alexandra.Radulovich@douglaspartners.com.au			**Attn:**	*Sample Receipt*
Turnaround time:	☑ Standard ☐ 72 hour ☐ 48 hour ☐ 24 hour ☐ Same day			**Contact:**	*(02) 9910 6200 samplereceipt@envirolab.com.au*
Prior Storage:	☑ Fridge ☐ Freezer ☐ Shelf	**Do samples contain 'potential' HBM?**	☑ No ☐ Yes (If YES, then handle, transport and store in accordance with FPM HAZID)		

Lab ID	Sample ID: Location / Other ID	Depth From	Depth To	Date Sampled	Sample Type: S - soil W - water	Container Type: G - glass P - plastic	Analytes: Combo. 8	Combo. 6	Clay Content	pH	CEC	Aggressivity Suite	Hold					Notes/ Preservation/ Additional Requirements
1	Pit 43	0.1	0.1	14/02/22	S	G							✓					**Report Aggresivity test in a separate report, thank you**
2	Pit 43	0.5	0.5	14/02/22	S	G	✓											
3	Pit 43	1	1	14/02/22	S	G							✓					
4	Pit 39	0.1	0.1	14/02/22	S	G							✓					
5	Pit 39	0.5	0.5	14/02/22	S	G		✓										
6	Pit 39	1	1	14/02/22	S	G							✓					
7	Pit 40	0.1	0.1	14/02/22	S	G	✓											
8	Pit 40	0.5	0.5	14/02/22	S	G							✓					
9	Pit 40	1	1	14/02/22	S	G							✓					
10	Pit 47	0.1	0.1	14/02/22	S	G							✓					
11	Pit 47	0.5	0.5	14/02/22	S	G							✓					
12	Pit 47	1	1	14/02/22	S	G		✓										
13	Pit 47	1.5	1.5	14/02/22	S	G						✓						
14	Pit 50	0.1	0.1	14/02/22	S	G		✓										

ENVIROLAB
~~Envirolab Services~~
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 289209
Date Received: 18/02/2022
Time Received: 11am
Received by: M
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Metals to analyse:	HM8 (As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)		
Number of samples in container:		**Transported to laboratory by:**	
Send results to:	Douglas Partners Pty Ltd		
Address:	Unit 2, 73 Sheppard Street, Hume ACT 2620	**Phone:**	(02) 6260 2788
Relinquished by:		**Date:**	18/02/2022
		Signed:	

LAB RECEIPT

Lab Ref. No:	289209
Received by:	Nancy Zhang
Date & Time:	18/02/2022 11am
Signed:	M.

Project Manager:	Alexandra Radulovich	**Order Number:**	CA155298	**Dispatch date:**	17/02/2022

12 Ashley St, Chatswood NSW 2067

Douglas Partners
Geotechnics | Environment | Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No: 206153.00 **Suburb:** Beryl **To:** Envirolab Services

Lab ID	Sample ID: Location / Other ID	Depth From	Depth To	Date Sampled	Sample Type: S - soil W - water	Container Type: G - glass P - plastic	Analytes: Combo. 8	Combo. 6	Clay Content	pH	CEC	Aggressivity Suite	Hold				Notes/ Preservation/ Additional Requirements
15	Pit 50	0.5	0.5	14/02/22	S	G							✓				**Report Aggresivity test in a separate report, thank you**
16	Pit 50	1	1	14/02/22	S	G	✓										
17	Pit 56	0.1	0.1	14/02/22	S	G							✓				
18	Pit 56	0.5	0.5	14/02/22	S	G		✓									
19	Pit 56	1	1	14/02/22	S	G						✓					
20	Pit 57	0.1	0.1	14/02/22	S	G	✓										
21	Pit 57	0.5	0.5	14/02/22	S	G							✓				
22	Pit 57	1	1	14/02/22	S	G							✓				
23	Pit 58	0.1	0.1	14/02/22	S	G	✓										
24	Pit 58	0.5	0.5	14/02/22	S	G							✓				
25	Pit 58	1	1	14/02/22	S	G		✓									
26	Pit 55	0.1	0.1	15/02/2022	S	G							✓				
27	Pit 55	0.5	0.5	15/02/2022	S	G							✓				
28	Pit 55	1	1	15/02/2022	S	G		✓									
29	Pit 54	0.1	0.1	15/02/2022	S	G							✓				
30	Pit 54	0.5	0.5	15/02/2022	S	G		✓									
31	Pit 54	1	1	15/02/2022	S	G							✓				
32	Pit 52	0.1	0.1	15/02/2022	S	G							✓				

ENVIROLAB GROUP

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 289209
Date Received: 18/02/2022
Time Received: AV 11am
Received by:
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Project Manager: Unit 2, 73 Sheppard Street, Hume ACT

Dispatch date:

Douglas Partners
Geotechnics | Environment | Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No:	206153.00	Suburb:	Beryl	To:	Envirolab Services

Lab ID	Sample ID: Location / Other ID	Depth From	Depth To	Date Sampled	Sample Type: S - soil W - water	Container Type: G - glass P - plastic	Analytes: Combo. 8	Combo. 6	Clay Content	pH	CEC	Aggressivity Suite	Hold					Notes/ Preservation/ Additional Requirements
33	Pit 52	0.5	0.5	15/02/2022	S	G							✓					**Report Aggresivity test in a separate report, thank you**
34	Pit 52	1	1	15/02/2022	S	G							✓					
35	Pit 48	0.1	0.1	15/02/2022	S	G		✓										
36	Pit 48	0.5	0.5	15/02/2022	S	G							✓					
37	Pit 48	1	1	15/02/2022	S	G						✓						
38	Pit 60	0.1	0.1	15/02/2022	S	G	✓											
39	Pit 60	0.5	0.5	15/02/2022	S	G		✓										
40	Pit 60	1	1	15/02/2022	S	G							✓					
41	Pit 59	0.1	0.1	15/02/2022	S	G	✓											
42	Pit 59	0.5	0.5	15/02/2022	S	G							✓					
43	Pit 3	0.1	0.1	15/02/2022	S	G	✓											
44	Pit 3	0.5	0.5	15/02/2022	S	G							✓					
45	Pit 3	1	1	15/02/2022	S	G			✓	✓	✓							
46	Pit 7	0.1	0.1	15/02/2022	S	G							✓					
47	Pit 7	0.5	0.5	15/02/2022	S	G		✓										
48	Pit 7	1	1	15/02/2022	S	G						✓						
49	Pit 8	0.1	0.1	15/02/2022	S	G							✓					
50	Pit 8	0.5	0.5	15/02/2022	S	G							✓					
51	Pit 8	1	1	15/02/2022	S	G	✓											

ENVIROLAB

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 28209
Date Received: 15/02/2022
Time Received: 11am
Received by:
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Project Manager:			Dispatch date:	P

Douglas Partners
Geotechnics | Environment | Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No: 206153.00 **Suburb:** Beryl **To:** *Envirolab Services*

Lab ID	Sample ID: Location / Other ID	Sample ID: Depth From	Sample ID: Depth To	Date Sampled	Sample Type: S - soil W - water	Container Type: G - glass P - plastic	Analytes: Combo. 8	Combo. 6	Clay Content	pH	CEC	Aggressivity Suite	Hold					Notes/ Preservation/ Additional Requirements
52	Pit 6	0.1	0.1	15/02/2022	S	G							✓					
53	Pit 6	0.5	0.5	15/02/2022	S	G		✓										
54	Pit 6	1	1	15/02/2022	S	G						✓						
55	R8	NA	NA	14/02/22	S	G							✓					
56	R9	NA	NA	14/02/22	S	G							✓					
57	R10	NA	NA	15/02/2022	S	G	✓											
58	R11	NA	NA	15/02/2022	S	G							✓					
59	pit 43	1.5																
60	pit 43	2.0																
61	pit 52	1.5																

Extra:

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 289209
Date Received: 18/02/2022
Time Received: 11am
Received by: M
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

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 289209

Client Details

Client	Douglas Partners Canberra
Attention	Alexandra Radulovich
Address	Unit 2, 73 Sheppard St,, HUME, ACT, 2620

Sample Details

Your Reference	**206153.00, Beryl**
Number of Samples	61 Soil
Date samples received	18/02/2022
Date completed instructions received	18/02/2022

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	25/02/2022
Date of Issue	25/02/2022

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Results Approved By
Diego Bigolin, Inorganics Supervisor
Dragana Tomas, Senior Chemist
Giovanni Agosti, Group Technical Manager
Hannah Nguyen, Metals Supervisor
Kyle Gavrily, Chemist
Priya Samarawickrama, Senior Chemist
Thomas Beenie, Lab Technician

Authorised By



Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		289209-2	289209-5	289209-7	289209-12	289209-14
Your Reference	UNITS	Pit 43	Pit 39	Pit 40	Pit 47	Pit 50
Depth		0.5-0.5	0.5-0.5	0.1-0.1	1-1	0.1-0.1
Date Sampled		14/02/2022	14/02/2022	14/02/2022	14/02/2022	14/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	104	91	105	104	99

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		289209-16	289209-18	289209-20	289209-23	289209-25
Your Reference	UNITS	Pit 50	Pit 56	Pit 57	Pit 58	Pit 58
Depth		1-1	0.5-0.5	0.1-0.1	0.1-0.1	1-1
Date Sampled		14/02/2022	14/02/2022	14/02/2022	14/02/2022	14/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	94	96	102	100	96

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		289209-28	289209-30	289209-35	289209-38	289209-39
Your Reference	UNITS	Pit 55	Pit 54	Pit 48	Pit 60	Pit 60
Depth		1-1	0.5-0.5	0.1-0.1	0.1-0.1	0.5-0.5
Date Sampled		15/02/2022	15/02/2022	15/02/2022	15/02/2022	15/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	99	96	101	91	99

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		289209-41	289209-43	289209-47	289209-51	289209-53
Your Reference	UNITS	Pit 59	Pit 3	Pit 7	Pit 8	Pit 6
Depth		0.1-0.1	0.1-0.1	0.5-0.5	1-1	0.5-0.5
Date Sampled		15/02/2022	15/02/2022	15/02/2022	15/02/2022	15/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	106	96	108	106	101

vTRH(C6-C10)/BTEXN in Soil		
Our Reference		289209-57
Your Reference	UNITS	R10
Depth		-
Date Sampled		14/02/2022
Type of sample		Soil
Date extracted	-	22/02/2022
Date analysed	-	22/02/2022
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	<1
Surrogate aaa-Trifluorotoluene	%	104

svTRH (C10-C40) in Soil						
Our Reference		289209-2	289209-5	289209-7	289209-12	289209-14
Your Reference	UNITS	Pit 43	Pit 39	Pit 40	Pit 47	Pit 50
Depth		0.5-0.5	0.5-0.5	0.1-0.1	1-1	0.1-0.1
Date Sampled		14/02/2022	14/02/2022	14/02/2022	14/02/2022	14/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	22/02/2022	22/02/2022	22/02/2022	23/02/2022	23/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	85	81	82	80	79

svTRH (C10-C40) in Soil						
Our Reference		289209-16	289209-18	289209-20	289209-23	289209-25
Your Reference	UNITS	Pit 50	Pit 56	Pit 57	Pit 58	Pit 58
Depth		1-1	0.5-0.5	0.1-0.1	0.1-0.1	1-1
Date Sampled		14/02/2022	14/02/2022	14/02/2022	14/02/2022	14/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	82	80	81	78	79

svTRH (C10-C40) in Soil						
Our Reference		289209-28	289209-30	289209-35	289209-38	289209-39
Your Reference	UNITS	Pit 55	Pit 54	Pit 48	Pit 60	Pit 60
Depth		1-1	0.5-0.5	0.1-0.1	0.1-0.1	0.5-0.5
Date Sampled		15/02/2022	15/02/2022	15/02/2022	15/02/2022	15/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	78	78	79	77	75

svTRH (C10-C40) in Soil						
Our Reference		289209-41	289209-43	289209-47	289209-51	289209-53
Your Reference	UNITS	Pit 59	Pit 3	Pit 7	Pit 8	Pit 6
Depth		0.1-0.1	0.1-0.1	0.5-0.5	1-1	0.5-0.5
Date Sampled		15/02/2022	15/02/2022	15/02/2022	15/02/2022	15/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	23/02/2022	23/02/2022	23/02/2022	22/02/2022	23/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	73	76	75	78	78

svTRH (C10-C40) in Soil		
Our Reference		289209-57
Your Reference	UNITS	R10
Depth		-
Date Sampled		14/02/2022
Type of sample		Soil
Date extracted	-	22/02/2022
Date analysed	-	23/02/2022
TRH C_{10} - C_{14}	mg/kg	<50
TRH C_{15} - C_{28}	mg/kg	<100
TRH C_{29} - C_{36}	mg/kg	<100
Total +ve TRH (C10-C36)	mg/kg	<50
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	%	75

PAHs in Soil						
Our Reference		289209-2	289209-5	289209-7	289209-12	289209-14
Your Reference	UNITS	Pit 43	Pit 39	Pit 40	Pit 47	Pit 50
Depth		0.5-0.5	0.5-0.5	0.1-0.1	1-1	0.1-0.1
Date Sampled		14/02/2022	14/02/2022	14/02/2022	14/02/2022	14/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<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
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	106	100	102	98	97

PAHs in Soil						
Our Reference		289209-16	289209-18	289209-20	289209-23	289209-25
Your Reference	UNITS	Pit 50	Pit 56	Pit 57	Pit 58	Pit 58
Depth		1-1	0.5-0.5	0.1-0.1	0.1-0.1	1-1
Date Sampled		14/02/2022	14/02/2022	14/02/2022	14/02/2022	14/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<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
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	101	104	99	101	95

PAHs in Soil						
Our Reference		289209-28	289209-30	289209-35	289209-38	289209-39
Your Reference	UNITS	Pit 55	Pit 54	Pit 48	Pit 60	Pit 60
Depth		1-1	0.5-0.5	0.1-0.1	0.1-0.1	0.5-0.5
Date Sampled		15/02/2022	15/02/2022	15/02/2022	15/02/2022	15/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<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
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	97	107	94	101	97

PAHs in Soil						
Our Reference		289209-41	289209-43	289209-47	289209-51	289209-53
Your Reference	UNITS	Pit 59	Pit 3	Pit 7	Pit 8	Pit 6
Depth		0.1-0.1	0.1-0.1	0.5-0.5	1-1	0.5-0.5
Date Sampled		15/02/2022	15/02/2022	15/02/2022	15/02/2022	15/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<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
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	97	100	95	97	94

PAHs in Soil		
Our Reference		289209-57
Your Reference	UNITS	R10
Depth		-
Date Sampled		14/02/2022
Type of sample		Soil
Date extracted	-	22/02/2022
Date analysed	-	22/02/2022
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	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
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	<0.05
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 p-Terphenyl-d14	%	96

Organochlorine Pesticides in soil						
Our Reference		289209-2	289209-5	289209-7	289209-12	289209-14
Your Reference	UNITS	Pit 43	Pit 39	Pit 40	Pit 47	Pit 50
Depth		0.5-0.5	0.5-0.5	0.1-0.1	1-1	0.1-0.1
Date Sampled		14/02/2022	14/02/2022	14/02/2022	14/02/2022	14/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	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
gamma-BHC	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
delta-BHC	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
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	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
pp-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
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	97	92	92	90	88

Organochlorine Pesticides in soil						
Our Reference		289209-16	289209-18	289209-20	289209-23	289209-25
Your Reference	UNITS	Pit 50	Pit 56	Pit 57	Pit 58	Pit 58
Depth		1-1	0.5-0.5	0.1-0.1	0.1-0.1	1-1
Date Sampled		14/02/2022	14/02/2022	14/02/2022	14/02/2022	14/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	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
gamma-BHC	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
delta-BHC	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
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	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
pp-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
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	92	95	91	92	87

Organochlorine Pesticides in soil						
Our Reference		289209-28	289209-30	289209-35	289209-38	289209-39
Your Reference	UNITS	Pit 55	Pit 54	Pit 48	Pit 60	Pit 60
Depth		1-1	0.5-0.5	0.1-0.1	0.1-0.1	0.5-0.5
Date Sampled		15/02/2022	15/02/2022	15/02/2022	15/02/2022	15/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	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
gamma-BHC	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
delta-BHC	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
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	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
pp-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
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	88	98	87	89	90

Organochlorine Pesticides in soil						
Our Reference		289209-41	289209-43	289209-47	289209-51	289209-53
Your Reference	UNITS	Pit 59	Pit 3	Pit 7	Pit 8	Pit 6
Depth		0.1-0.1	0.1-0.1	0.5-0.5	1-1	0.5-0.5
Date Sampled		15/02/2022	15/02/2022	15/02/2022	15/02/2022	15/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	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
gamma-BHC	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
delta-BHC	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
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	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
pp-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
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	87	91	88	90	87

Organochlorine Pesticides in soil		
Our Reference		289209-57
Your Reference	UNITS	R10
Depth		-
Date Sampled		14/02/2022
Type of sample		Soil
Date extracted	-	22/02/2022
Date analysed	-	22/02/2022
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	%	86

Organophosphorus Pesticides in Soil						
Our Reference		289209-2	289209-5	289209-7	289209-12	289209-14
Your Reference	UNITS	Pit 43	Pit 39	Pit 40	Pit 47	Pit 50
Depth		0.5-0.5	0.5-0.5	0.1-0.1	1-1	0.1-0.1
Date Sampled		14/02/2022	14/02/2022	14/02/2022	14/02/2022	14/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	97	92	92	90	88

Organophosphorus Pesticides in Soil						
Our Reference		289209-16	289209-18	289209-20	289209-23	289209-25
Your Reference	UNITS	Pit 50	Pit 56	Pit 57	Pit 58	Pit 58
Depth		1-1	0.5-0.5	0.1-0.1	0.1-0.1	1-1
Date Sampled		14/02/2022	14/02/2022	14/02/2022	14/02/2022	14/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	92	95	91	92	87

Organophosphorus Pesticides in Soil						
Our Reference		289209-28	289209-30	289209-35	289209-38	289209-39
Your Reference	UNITS	Pit 55	Pit 54	Pit 48	Pit 60	Pit 60
Depth		1-1	0.5-0.5	0.1-0.1	0.1-0.1	0.5-0.5
Date Sampled		15/02/2022	15/02/2022	15/02/2022	15/02/2022	15/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	88	98	87	89	90

Organophosphorus Pesticides in Soil						
Our Reference		289209-41	289209-43	289209-47	289209-51	289209-53
Your Reference	UNITS	Pit 59	Pit 3	Pit 7	Pit 8	Pit 6
Depth		0.1-0.1	0.1-0.1	0.5-0.5	1-1	0.5-0.5
Date Sampled		15/02/2022	15/02/2022	15/02/2022	15/02/2022	15/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	87	91	88	90	87

Organophosphorus Pesticides in Soil		
Our Reference		289209-57
Your Reference	UNITS	R10
Depth		-
Date Sampled		14/02/2022
Type of sample		Soil
Date extracted	-	22/02/2022
Date analysed	-	22/02/2022
Dichlorvos	mg/kg	<0.1
Dimethoate	mg/kg	<0.1
Diazinon	mg/kg	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1
Ronnel	mg/kg	<0.1
Fenitrothion	mg/kg	<0.1
Malathion	mg/kg	<0.1
Chlorpyriphos	mg/kg	<0.1
Parathion	mg/kg	<0.1
Bromophos-ethyl	mg/kg	<0.1
Ethion	mg/kg	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1
Surrogate TCMX	%	86

PCBs in Soil						
Our Reference		289209-2	289209-5	289209-7	289209-12	289209-14
Your Reference	UNITS	Pit 43	Pit 39	Pit 40	Pit 47	Pit 50
Depth		0.5-0.5	0.5-0.5	0.1-0.1	1-1	0.1-0.1
Date Sampled		14/02/2022	14/02/2022	14/02/2022	14/02/2022	14/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	97	92	92	90	88

PCBs in Soil						
Our Reference		289209-16	289209-18	289209-20	289209-23	289209-25
Your Reference	UNITS	Pit 50	Pit 56	Pit 57	Pit 58	Pit 58
Depth		1-1	0.5-0.5	0.1-0.1	0.1-0.1	1-1
Date Sampled		14/02/2022	14/02/2022	14/02/2022	14/02/2022	14/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	92	95	91	92	87

PCBs in Soil						
Our Reference		289209-28	289209-30	289209-35	289209-38	289209-39
Your Reference	UNITS	Pit 55	Pit 54	Pit 48	Pit 60	Pit 60
Depth		1-1	0.5-0.5	0.1-0.1	0.1-0.1	0.5-0.5
Date Sampled		15/02/2022	15/02/2022	15/02/2022	15/02/2022	15/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	88	98	87	89	90

PCBs in Soil						
Our Reference		289209-41	289209-43	289209-47	289209-51	289209-53
Your Reference	UNITS	Pit 59	Pit 3	Pit 7	Pit 8	Pit 6
Depth		0.1-0.1	0.1-0.1	0.5-0.5	1-1	0.5-0.5
Date Sampled		15/02/2022	15/02/2022	15/02/2022	15/02/2022	15/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	87	91	88	90	87

PCBs in Soil		
Our Reference		289209-57
Your Reference	UNITS	R10
Depth		-
Date Sampled		14/02/2022
Type of sample		Soil
Date extracted	-	22/02/2022
Date analysed	-	22/02/2022
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	%	86

Acid Extractable metals in soil						
Our Reference		289209-2	289209-5	289209-7	289209-12	289209-14
Your Reference	UNITS	Pit 43	Pit 39	Pit 40	Pit 47	Pit 50
Depth		0.5-0.5	0.5-0.5	0.1-0.1	1-1	0.1-0.1
Date Sampled		14/02/2022	14/02/2022	14/02/2022	14/02/2022	14/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	9	10	9	7	10
Copper	mg/kg	<1	2	<1	<1	3
Lead	mg/kg	8	8	4	8	8
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	5	3	<1	<1	3
Zinc	mg/kg	4	6	3	2	10

Acid Extractable metals in soil						
Our Reference		289209-16	289209-18	289209-20	289209-23	289209-25
Your Reference	UNITS	Pit 50	Pit 56	Pit 57	Pit 58	Pit 58
Depth		1-1	0.5-0.5	0.1-0.1	0.1-0.1	1-1
Date Sampled		14/02/2022	14/02/2022	14/02/2022	14/02/2022	14/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	7	4	5	14	3
Copper	mg/kg	8	<1	<1	<1	<1
Lead	mg/kg	13	3	3	7	3
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	3	2	<1	2	<1
Zinc	mg/kg	14	2	4	3	1

Acid Extractable metals in soil						
Our Reference		289209-28	289209-30	289209-35	289209-38	289209-39
Your Reference	UNITS	Pit 55	Pit 54	Pit 48	Pit 60	Pit 60
Depth		1-1	0.5-0.5	0.1-0.1	0.1-0.1	0.5-0.5
Date Sampled		15/02/2022	15/02/2022	15/02/2022	15/02/2022	15/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Arsenic	mg/kg	<4	<4	<4	4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	9	8	7	8	8
Copper	mg/kg	5	2	1	6	2
Lead	mg/kg	13	5	9	19	8
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	5	2	1	3	2
Zinc	mg/kg	7	3	2	16	3

Acid Extractable metals in soil						
Our Reference		289209-41	289209-43	289209-47	289209-51	289209-53
Your Reference	UNITS	Pit 59	Pit 3	Pit 7	Pit 8	Pit 6
Depth		0.1-0.1	0.1-0.1	0.5-0.5	1-1	0.5-0.5
Date Sampled		15/02/2022	15/02/2022	15/02/2022	15/02/2022	15/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	2	10	10	18	10
Copper	mg/kg	<1	5	5	10	4
Lead	mg/kg	2	7	4	11	6
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	<1	4	4	8	4
Zinc	mg/kg	2	10	30	18	14

Acid Extractable metals in soil			
Our Reference		289209-57	289209-62
Your Reference	UNITS	R10	Pit 43 - [TRIPLICATE]
Depth		-	0.5-0.5
Date Sampled		14/02/2022	14/02/2022
Type of sample		Soil	Soil
Date prepared	-	23/02/2022	23/02/2022
Date analysed	-	23/02/2022	23/02/2022
Arsenic	mg/kg	6	<4
Cadmium	mg/kg	<0.4	<0.4
Chromium	mg/kg	9	13
Copper	mg/kg	5	1
Lead	mg/kg	19	11
Mercury	mg/kg	<0.1	<0.1
Nickel	mg/kg	2	7
Zinc	mg/kg	16	5

Moisture						
Our Reference		289209-2	289209-5	289209-7	289209-12	289209-14
Your Reference	UNITS	Pit 43	Pit 39	Pit 40	Pit 47	Pit 50
Depth		0.5-0.5	0.5-0.5	0.1-0.1	1-1	0.1-0.1
Date Sampled		14/02/2022	14/02/2022	14/02/2022	14/02/2022	14/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Moisture	%	14	22	11	22	29

Moisture						
Our Reference		289209-16	289209-18	289209-20	289209-23	289209-25
Your Reference	UNITS	Pit 50	Pit 56	Pit 57	Pit 58	Pit 58
Depth		1-1	0.5-0.5	0.1-0.1	0.1-0.1	1-1
Date Sampled		14/02/2022	14/02/2022	14/02/2022	14/02/2022	14/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Moisture	%	21	11	6.3	8.0	7.4

Moisture						
Our Reference		289209-28	289209-30	289209-35	289209-38	289209-39
Your Reference	UNITS	Pit 55	Pit 54	Pit 48	Pit 60	Pit 60
Depth		1-1	0.5-0.5	0.1-0.1	0.1-0.1	0.5-0.5
Date Sampled		15/02/2022	15/02/2022	15/02/2022	15/02/2022	15/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Moisture	%	19	17	17	19	16

Moisture						
Our Reference		289209-41	289209-43	289209-47	289209-51	289209-53
Your Reference	UNITS	Pit 59	Pit 3	Pit 7	Pit 8	Pit 6
Depth		0.1-0.1	0.1-0.1	0.5-0.5	1-1	0.5-0.5
Date Sampled		15/02/2022	15/02/2022	15/02/2022	15/02/2022	15/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Moisture	%	19	19	7.8	17	21

Moisture		
Our Reference		289209-57
Your Reference	UNITS	R10
Depth		-
Date Sampled		14/02/2022
Type of sample		Soil
Date prepared	-	22/02/2022
Date analysed	-	23/02/2022
Moisture	%	14

Misc Soil - Inorg						
Our Reference		289209-2	289209-7	289209-16	289209-20	289209-23
Your Reference	UNITS	Pit 43	Pit 40	Pit 50	Pit 57	Pit 58
Depth		0.5-0.5	0.1-0.1	1-1	0.1-0.1	0.1-0.1
Date Sampled		14/02/2022	14/02/2022	14/02/2022	14/02/2022	14/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg						
Our Reference		289209-38	289209-41	289209-43	289209-51	289209-57
Your Reference	UNITS	Pit 60	Pit 59	Pit 3	Pit 8	R10
Depth		0.1-0.1	0.1-0.1	0.1-0.1	1-1	-
Date Sampled		15/02/2022	15/02/2022	15/02/2022	15/02/2022	14/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Date analysed	-	22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Inorg - Soil		
Our Reference		289209-45
Your Reference	UNITS	Pit 3
Depth		1-1
Date Sampled		15/02/2022
Type of sample		Soil
Date prepared	-	23/02/2022
Date analysed	-	23/02/2022
pH 1:5 soil:water	pH Units	7.6

Clay 50-120g		
Our Reference		289209-45
Your Reference	UNITS	Pit 3
Depth		1-1
Date Sampled		15/02/2022
Type of sample		Soil
Date prepared	-	23/02/2022
Date analysed	-	24/02/2022
Clay in soils <2µm	% (w/w)	22

CEC		
Our Reference		289209-45
Your Reference	UNITS	Pit 3
Depth		1-1
Date Sampled		15/02/2022
Type of sample		Soil
Date prepared	-	25/02/2022
Date analysed	-	25/02/2022
Exchangeable Ca	meq/100g	3.6
Exchangeable K	meq/100g	0.4
Exchangeable Mg	meq/100g	4.1
Exchangeable Na	meq/100g	0.5
Cation Exchange Capacity	meq/100g	8.6

Method ID	Methodology Summary
AS1289.3.6.3	Determination Particle Size Analysis using AS1289.3.6.3 and AS1289.3.6.1 and in house method INORG-107. Clay fraction at <2µm reported.
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Metals-020	Determination of various metals by ICP-AES.
Metals-020	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-OES analytical finish.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	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-020	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-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-021	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-022	Determination of VOCs sampled onto coconut shell charcoal sorbent tubes, that can be desorbed using carbon disulphide, and analysed by GC-MS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-MS/GC-MSMS. 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.
Org-022/025	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. For soil results:- 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. 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.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	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-023	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. 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.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	289209-7
Date extracted	-			22/02/2022	2	22/02/2022	22/02/2022		22/02/2022	22/02/2022
Date analysed	-			22/02/2022	2	22/02/2022	22/02/2022		22/02/2022	22/02/2022
TRH C_6 - C_9	mg/kg	25	Org-023	<25	2	<25	<25	0	99	94
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	2	<25	<25	0	99	94
Benzene	mg/kg	0.2	Org-023	<0.2	2	<0.2	<0.2	0	107	100
Toluene	mg/kg	0.5	Org-023	<0.5	2	<0.5	<0.5	0	106	99
Ethylbenzene	mg/kg	1	Org-023	<1	2	<1	<1	0	92	88
m+p-xylene	mg/kg	2	Org-023	<2	2	<2	<2	0	96	92
o-Xylene	mg/kg	1	Org-023	<1	2	<1	<1	0	107	102
Naphthalene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	97	2	104	106	2	112	103

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	289209-53
Date extracted	-			[NT]	25	22/02/2022	22/02/2022		22/02/2022	22/02/2022
Date analysed	-			[NT]	25	22/02/2022	22/02/2022		22/02/2022	22/02/2022
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	25	<25	<25	0	96	90
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	25	<25	<25	0	96	90
Benzene	mg/kg	0.2	Org-023	[NT]	25	<0.2	<0.2	0	103	96
Toluene	mg/kg	0.5	Org-023	[NT]	25	<0.5	<0.5	0	90	95
Ethylbenzene	mg/kg	1	Org-023	[NT]	25	<1	<1	0	94	84
m+p-xylene	mg/kg	2	Org-023	[NT]	25	<2	<2	0	94	88
o-Xylene	mg/kg	1	Org-023	[NT]	25	<1	<1	0	105	97
Naphthalene	mg/kg	1	Org-023	[NT]	25	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	25	96	101	5	108	99

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	51	22/02/2022	22/02/2022		[NT]	[NT]
Date analysed	-			[NT]	51	22/02/2022	22/02/2022		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	51	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	51	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	51	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	51	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	51	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	51	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	51	<1	<1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	51	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	51	106	101	5	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	289209-7
Date extracted	-			22/02/2022	2	22/02/2022	22/02/2022		22/02/2022	22/02/2022
Date analysed	-			22/02/2022	2	22/02/2022	22/02/2022		22/02/2022	23/02/2022
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	2	<50	<50	0	87	86
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	2	<100	<100	0	90	89
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	2	<100	<100	0	109	127
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	2	<50	<50	0	87	86
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	2	<100	<100	0	90	89
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	2	<100	<100	0	109	127
Surrogate o-Terphenyl	%		Org-020	81	2	85	85	0	81	82

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	289209-53
Date extracted	-			[NT]	25	22/02/2022	22/02/2022		22/02/2022	22/02/2022
Date analysed	-			[NT]	25	23/02/2022	23/02/2022		22/02/2022	22/02/2022
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	25	<50	<50	0	87	95
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	25	<100	<100	0	92	87
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	25	<100	<100	0	91	93
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	25	<50	<50	0	87	95
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	25	<100	<100	0	92	87
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	25	<100	<100	0	91	93
Surrogate o-Terphenyl	%		Org-020	[NT]	25	79	76	4	75	75

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	51	22/02/2022	22/02/2022		[NT]	[NT]
Date analysed	-			[NT]	51	22/02/2022	22/02/2022		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	51	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	51	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	51	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	51	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	51	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	51	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	51	78	78	0	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	289209-7
Date extracted	-			22/02/2022	2	22/02/2022	22/02/2022		22/02/2022	22/02/2022
Date analysed	-			22/02/2022	2	22/02/2022	22/02/2022		22/02/2022	22/02/2022
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	113	103
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	113	103
Fluorene	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	114	105
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	124	114
Anthracene	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	118	108
Pyrene	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	119	109
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	77	75
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	2	<0.05	<0.05	0	108	110
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	102	2	106	105	1	99	93

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	289209-53
Date extracted	-			[NT]	25	22/02/2022	22/02/2022		22/02/2022	22/02/2022
Date analysed	-			[NT]	25	22/02/2022	22/02/2022		22/02/2022	22/02/2022
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	109	103
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	111	105
Fluorene	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	113	105
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	122	114
Anthracene	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	116	108
Pyrene	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	117	107
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	77	73
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	25	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	25	<0.05	<0.05	0	102	94
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	25	95	110	15	98	91

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	51	22/02/2022	22/02/2022		[NT]	[NT]
Date analysed	-			[NT]	51	22/02/2022	22/02/2022		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	51	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	51	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	51	97	102	5	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	289209-7
Date extracted	-			22/02/2022	2	22/02/2022	22/02/2022		22/02/2022	22/02/2022
Date analysed	-			22/02/2022	2	22/02/2022	22/02/2022		22/02/2022	22/02/2022
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	110	100
HCB	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	110	93
gamma-BHC	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	109	101
delta-BHC	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	122	111
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	118	108
gamma-Chlordane	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	113	107
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	126	114
Endrin	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	111	104
Endosulfan II	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	108	100
Endrin Aldehyde	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	112	104
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	93	2	97	97	0	90	86

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	289209-53
Date extracted	-			[NT]	25	22/02/2022	22/02/2022		22/02/2022	22/02/2022
Date analysed	-			[NT]	25	22/02/2022	22/02/2022		22/02/2022	22/02/2022
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	108	102
HCB	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	110	99
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	107	101
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	122	113
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	116	110
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	113	105
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	124	116
Endrin	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	111	102
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	104	98
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	106	94
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	25	87	100	14	90	85

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	51	22/02/2022	22/02/2022		[NT]	[NT]
Date analysed	-			[NT]	51	22/02/2022	22/02/2022		[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
HCB	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	51	90	92	2	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	289209-7
Date extracted	-			22/02/2022	2	22/02/2022	22/02/2022		22/02/2022	22/02/2022
Date analysed	-			22/02/2022	2	22/02/2022	22/02/2022		22/02/2022	22/02/2022
Dichlorvos	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	106	123
Dimethoate	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	116	106
Fenitrothion	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	77	71
Malathion	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	116	110
Chlorpyriphos	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	120	112
Parathion	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	86	82
Bromophos-ethyl	mg/kg	0.1	Org-022	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	88	82
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	93	2	97	97	0	90	86

QUALITY CONTROL: Organophosphorus Pesticides in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	289209-53
Date extracted	-			[NT]	25	22/02/2022	22/02/2022		22/02/2022	22/02/2022
Date analysed	-			[NT]	25	22/02/2022	22/02/2022		22/02/2022	22/02/2022
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	125	123
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	114	104
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	71	63
Malathion	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	114	99
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	118	110
Parathion	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	89	76
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	84	76
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	25	87	100	14	90	85

QUALITY CONTROL: Organophosphorus Pesticides in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	51	22/02/2022	22/02/2022		[NT]	[NT]
Date analysed	-			[NT]	51	22/02/2022	22/02/2022		[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	51	90	92	2	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	289209-7
Date extracted	-			22/02/2022	2	22/02/2022	22/02/2022		22/02/2022	22/02/2022
Date analysed	-			22/02/2022	2	22/02/2022	22/02/2022		22/02/2022	22/02/2022
Aroclor 1016	mg/kg	0.1	Org-021	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	<0.1	2	<0.1	<0.1	0	120	100
Aroclor 1260	mg/kg	0.1	Org-021	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	93	2	97	97	0	90	86

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	289209-53
Date extracted	-			[NT]	25	22/02/2022	22/02/2022		22/02/2022	22/02/2022
Date analysed	-			[NT]	25	22/02/2022	22/02/2022		22/02/2022	22/02/2022
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	25	<0.1	<0.1	0	119	100
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	25	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	25	87	100	14	90	85

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	51	22/02/2022	22/02/2022		[NT]	[NT]
Date analysed	-			[NT]	51	22/02/2022	22/02/2022		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	51	90	92	2	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	289209-7
Date prepared	-			23/02/2022	2	23/02/2022	23/02/2022		23/02/2022	23/02/2022
Date analysed	-			23/02/2022	2	23/02/2022	23/02/2022		23/02/2022	23/02/2022
Arsenic	mg/kg	4	Metals-020	<4	2	<4	<4	0	96	87
Cadmium	mg/kg	0.4	Metals-020	<0.4	2	<0.4	<0.4	0	92	85
Chromium	mg/kg	1	Metals-020	<1	2	9	14	43	92	84
Copper	mg/kg	1	Metals-020	<1	2	<1	2	67	93	91
Lead	mg/kg	1	Metals-020	<1	2	8	13	48	92	86
Mercury	mg/kg	0.1	Metals-021	<0.1	2	<0.1	<0.1	0	107	92
Nickel	mg/kg	1	Metals-020	<1	2	5	10	67	91	85
Zinc	mg/kg	1	Metals-020	<1	2	4	8	67	90	87

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	289209-53
Date prepared	-			[NT]	25	23/02/2022	23/02/2022		23/02/2022	23/02/2022
Date analysed	-			[NT]	25	23/02/2022	23/02/2022		23/02/2022	23/02/2022
Arsenic	mg/kg	4	Metals-020	[NT]	25	<4	<4	0	98	##
Cadmium	mg/kg	0.4	Metals-020	[NT]	25	<0.4	<0.4	0	96	75
Chromium	mg/kg	1	Metals-020	[NT]	25	3	2	40	96	72
Copper	mg/kg	1	Metals-020	[NT]	25	<1	<1	0	96	78
Lead	mg/kg	1	Metals-020	[NT]	25	3	3	0	95	70
Mercury	mg/kg	0.1	Metals-021	[NT]	25	<0.1	<0.1	0	107	107
Nickel	mg/kg	1	Metals-020	[NT]	25	<1	<1	0	94	#
Zinc	mg/kg	1	Metals-020	[NT]	25	1	<1	0	94	71

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	51	23/02/2022	23/02/2022		[NT]	[NT]
Date analysed	-			[NT]	51	23/02/2022	23/02/2022		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	51	<4	<4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	51	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	51	18	16	12	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	51	10	10	0	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	51	11	8	32	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	51	8	7	13	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	51	18	17	6	[NT]	[NT]

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	289209-7
Date prepared	-			22/02/2022	2	22/02/2022	22/02/2022		22/02/2022	22/02/2022
Date analysed	-			22/02/2022	2	22/02/2022	22/02/2022		22/02/2022	22/02/2022
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	2	<5	<5	0	100	112

QUALITY CONTROL: Misc Inorg - Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			23/02/2022	[NT]	[NT]	[NT]	[NT]	23/02/2022	[NT]
Date analysed	-			23/02/2022	[NT]	[NT]	[NT]	[NT]	23/02/2022	[NT]
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	[NT]	[NT]	[NT]	[NT]	101	[NT]

QUALITY CONTROL: CEC						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			25/02/2022	[NT]	[NT]	[NT]	[NT]	25/02/2022	[NT]
Date analysed	-			25/02/2022	[NT]	[NT]	[NT]	[NT]	25/02/2022	[NT]
Exchangeable Ca	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Exchangeable K	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	106	[NT]
Exchangeable Mg	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Exchangeable Na	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	124	[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.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

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

Acid Extractable Metals in Soil:
- The laboratory RPD acceptance criteria has been exceeded for 289209-2 for Cr, Pb, Ni & Zn. Therefore a triplicate result has been issued as laboratory sample number 289209-62.
- # Percent recovery is not possible to report due to the inhomogeneous nature of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.
- ## Low spike recovery was obtained for this sample. Sample matrix interference is suspected. However, an acceptable recovery was obtained for the LCS

Douglas Partners
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CHAIN OF CUSTODY DESPATCH SHEET

Project No:	206153.00	**Suburb:**	Beryl	**To:**	*Envirolab Services*
Project Manager:	Alexandra Radulovich	**Order Number:**	CA155298	**Sampler:**	SDG		*12 Ashley St, Chatswood NSW 2067*
Email:	Alexandra.Radulovich@douglaspartners.com.au				**Attn:**	*Sample Receipt*
Turnaround time:	☑ Standard ☐ 72 hour ☐ 48 hour ☐ 24 hour ☐ Same day				**Contact:**	*(02) 9910 6200 samplereceipt@envirolab.com.au*
Prior Storage:	☑ Fridge ☐ Freezer ☐ Shelf	**Do samples contain 'potential' HBM?**	☑ No ☐ Yes (If YES, then handle, transport and store in accordance with FPM HAZID)			

Lab ID	Sample ID: Location / Other ID	Depth From	Depth To	Date Sampled	Sample Type: S - soil W - water	Container Type: G - glass P - plastic	Analytes: Combo. 8	Combo. 6	Clay Content	pH	CEC	Aggressivity Suite	Hold				Notes/ Preservation/ Additional Requirements
1	Pit 43	0.1	0.1	14/02/22	S	G							✓				**Report Aggresivity test in a separate report, thank you**
2	Pit 43	0.5	0.5	14/02/22	S	G	✓										
3	Pit 43	1	1	14/02/22	S	G							✓				
4	Pit 39	0.1	0.1	14/02/22	S	G							✓				
5	Pit 39	0.5	0.5	14/02/22	S	G		✓									
6	Pit 39	1	1	14/02/22	S	G							✓				
7	Pit 40	0.1	0.1	14/02/22	S	G	✓										
8	Pit 40	0.5	0.5	14/02/22	S	G							✓				
9	Pit 40	1	1	14/02/22	S	G							✓				
10	Pit 47	0.1	0.1	14/02/22	S	G							✓				
11	Pit 47	0.5	0.5	14/02/22	S	G							✓				
12	Pit 47	1	1	14/02/22	S	G		✓									
13	Pit 47	1.5	1.5	14/02/22	S	G						✓					
14	Pit 50	0.1	0.1	14/02/22	S	G		✓									

ENVIROLAB *Envirolab Services 12 Ashley St Chatswood NSW 2067 Ph: (02) 9910 6200*

Job No: 289209-A

Date Received: 18/02/2022

Time Received: 11am

Received by: VN

Temp: Cool/Ambient

Cooling: Ice/Icepack

Security: Intact/Broken/None

Metals to analyse: HM8 (As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)

Number of samples in container:

Transported to laboratory by:

Send results to: Douglas Partners Pty Ltd

Address: Unit 2, 73 Sheppard Street, Hume ACT 2620

Phone: (02) 6260 2788

Relinquished by:

Date: 18/02/2022

Signed:

Project Manager: Alexandra Radulovich

Order Number: CA155298

Dispatch date: 17/02/2022

LAB RECEIPT

Lab Ref. No: 289209-A

Received by: Nancy Zhang

Date & Time: 18/02/2022 11am

Signed: VN

12 Ashley St, Chatswood NSW 2067

Douglas Partners
Geotechnics | Environment | Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No:	206153.00			Suburb:	Beryl											To:	Envirolab Services
Lab ID	Sample ID			Date Sampled	Sample Type	Container Type	Analytes											Notes/ Preservation/ Additional Requirements
	Location / Other ID	Depth From	Depth To		S - soil W - water	G - glass P - plastic	Combo. 8	Combo. 6	Clay Content	pH	CEC	Aggressivity Suite	Hold					
15	Pit 50	0.5	0.5	14/02/22	S	G							✓					Report Aggresivity test in a separate report, thank you
16	Pit 50	1	1	14/02/22	S	G	✓											
17	Pit 56	0.1	0.1	14/02/22	S	G							✓					
18	Pit 56	0.5	0.5	14/02/22	S	G		✓										
19	Pit 56	1	1	14/02/22	S	G						✓7						
20	Pit 57	0.1	0.1	14/02/22	S	G	✓											
21	Pit 57	0.5	0.5	14/02/22	S	G							✓					
22	Pit 57	1	1	14/02/22	S	G							✓					
23	Pit 58	0.1	0.1	14/02/22	S	G	✓											
24	Pit 58	0.5	0.5	14/02/22	S	G							✓					
25	Pit 58	1	1	14/02/22	S	G		✓										
26	Pit 55	0.1	0.1	15/02/2022	S	G							✓					
27	Pit 55	0.5	0.5	15/02/2022	S	G							✓					
28	Pit 55	1	1	15/02/2022	S	G		✓										
29	Pit 54	0.1	0.1	15/02/2022	S	G							✓					
30	Pit 54	0.5	0.5	15/02/2022	S	G		✓										
31	Pit 54	1	1	15/02/2022	S	G							✓					
32	Pit 52	0.1	0.1	15/02/2022	S	G							✓					

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 289209-A
Date Received: 18/02/2022
Time Received: AM 11am
Received by:
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Project Manager: Unit 2, 73 Sheppard Street, Hume ACT

Dispatch date:

Douglas Partners
Geotechnics | Environment | Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No:	206153.00	Suburb:	Beryl	To:	Envirolab Services

Lab ID	Sample ID: Location / Other ID	Sample ID: Depth From	Sample ID: Depth To	Date Sampled	Sample Type: S - soil W - water	Container Type: G - glass P - plastic	Analytes: Combo. 8	Combo. 6	Clay Content	pH	CEC	Aggressivity Suite	Hold					Notes/ Preservation/ Additional Requirements
33	Pit 52	0.5	0.5	15/02/2022	S	G							✓					Report Aggresivity test in a separate report, thank you
34	Pit 52	1	1	15/02/2022	S	G							✓					
35	Pit 48	0.1	0.1	15/02/2022	S	G		✓										
36	Pit 48	0.5	0.5	15/02/2022	S	G							✓					
37	Pit 48	1	1	15/02/2022	S	G						✓						
38	Pit 60	0.1	0.1	15/02/2022	S	G	✓											
39	Pit 60	0.5	0.5	15/02/2022	S	G		✓										
40	Pit 60	1	1	15/02/2022	S	G							✓					
41	Pit 59	0.1	0.1	15/02/2022	S	G	✓											
42	Pit 59	0.5	0.5	15/02/2022	S	G							✓					
43	Pit 3	0.1	0.1	15/02/2022	S	G	✓											
44	Pit 3	0.5	0.5	15/02/2022	S	G							✓					
45	Pit 3	1	1	15/02/2022	S	G			✓	✓	✓							
46	Pit 7	0.1	0.1	15/02/2022	S	G							✓					
47	Pit 7	0.5	0.5	15/02/2022	S	G		✓										
48	Pit 7	1	1	15/02/2022	S	G						✓						
49	Pit 8	0.1	0.1	15/02/2022	S	G							✓					
50	Pit 8	0.5	0.5	15/02/2022	S	G							✓					
51	Pit 8	1	1	15/02/2022	S	G	✓											

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 38209-A
Date Received: 18/02/2022
Time Received: 11am
Received by:
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Project Manager:			Dispatch date:	P

Douglas Partners
Geotechnics | Environment | Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No: 206153.00 **Suburb:** Beryl **To:** Envirolab Services

Lab ID	Sample ID: Location / Other ID	Sample ID: Depth From	Sample ID: Depth To	Date Sampled	Sample Type: S - soil W - water	Container Type: G - glass P - plastic	Analytes: Combo. 8	Combo. 6	Clay Content	pH	CEC	Aggressivity Suite	Hold					Notes/ Preservation/ Additional Requirements
52	Pit 6	0.1	0.1	15/02/2022	S	G							✓					
53	Pit 6	0.5	0.5	15/02/2022	S	G		✓										
54	Pit 6	1	1	15/02/2022	S	G						☑						
55	R8	NA	NA	14/02/22	S	G							✓					
56	R9	NA	NA	14/02/22	S	G							✓					
57	R10	NA	NA	15/02/2022	S	G	✓											
58	R11	NA	NA	15/02/2022	S	G							✓					
59	pit 43	1.5																
60	pit 43	2.0																
61	pit 52	1.5																

Extras:

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 289209A
Date Received: 18/02/2022
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Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

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 289209-A

Client Details

Client	Douglas Partners Canberra
Attention	Alexandra Radulovich
Address	Unit 2, 73 Sheppard St,, HUME, ACT, 2620

Sample Details

Your Reference	**206153.00, Beryl**
Number of Samples	61 Soil
Date samples received	18/02/2022
Date completed instructions received	18/02/2022

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

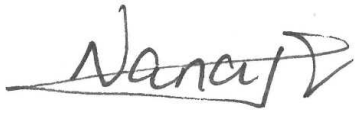
Date results requested by	25/02/2022
Date of Issue	24/02/2022

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Results Approved By
Priya Samarawickrama, Senior Chemist

Authorised By



Nancy Zhang, Laboratory Manager

Soil Aggressivity						
Our Reference		289209-A-13	289209-A-19	289209-A-37	289209-A-48	289209-A-54
Your Reference	UNITS	Pit 47	Pit 56	Pit 48	Pit 7	Pit 6
Depth		1.5-1.5	1-1	1-1	1-1	1-1
Date Sampled		14/02/2022	14/02/2022	15/02/2022	15/02/2022	15/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
pH 1:5 soil:water	pH Units	9.1	8.8	7.7	7.6	7.7
Electrical Conductivity 1:5 soil:water	µS/cm	190	33	200	10	30
Chloride, Cl 1:5 soil:water	mg/kg	82	10	180	<10	<10
Sulphate, SO4 1:5 soil:water	mg/kg	48	<10	94	<10	<10

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.

QUALITY CONTROL: Soil Aggressivity						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	289209-A-19
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	13	9.1	9.2	1	101	[NT]
Electrical Conductivity 1:5 soil:water	µS/cm	1	Inorg-002	<1	13	190	190	0	101	[NT]
Chloride, Cl 1:5 soil:water	mg/kg	10	Inorg-081	<10	13	82	82	0	100	95
Sulphate, SO4 1:5 soil:water	mg/kg	10	Inorg-081	<10	13	48	48	0	89	85

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.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

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

pH/EC
Samples were out of the recommended holding time for this analysis.

Appendix L

Data Quality Assurance and Quality Control

1. Field and laboratory data quality assurance and quality control

The field and laboratory data quality assurance and quality control (QA/QC) procedures and results are summarised in the following Table 1. Reference should be made to the field work methodology and the laboratory results / certificates of analysis for further details. The relative percentage difference (RPD) results, along with the other field QC samples are included at the end of this appendix.

Table 1: Field and laboratory quality control

Item	Evaluation / acceptance criteria	Compliance
Analytical laboratories used	NATA accreditation	C
Holding times	Various based on type of analysis	C
Intra-laboratory replicates	10% of primary samples; <30% RPD	PC
Laboratory / reagent blanks	1 per batch; <PQL	C
Laboratory duplicate	1 per lab batch; as laboratory certificate	C
Matrix spikes	1 per lab batch; 70-130% recovery (inorganics); 60-140% recovery (organics)	C
Surrogate spikes	All organics analysis; 70-130% recovery (inorganics); 60-140% recovery (organics)	C
Control samples	1 per lab batch; 70-130% recovery (inorganics); 60-140% recovery (organics)	C
Standard operating procedures (SOP)	Adopting SOP for all aspects of the sampling field work	C

Notes:
C = compliance; PC = partial compliance; NC = non-compliance

The RPD results were all within the acceptable range, with the exception of those indicated in Table QA1. The exceedances are not, however, considered to be of concern given that:

- The typically low actual differences in the concentrations of the replicate pairs where some RPD exceedances occurred;
- The number of replicate pairs being collected from fill soils which by its nature is heterogeneous;
- Replicates, rather than homogenised duplicates, were used to minimise risk of volatile loss, hence greater variability can be expected;
- Most of the recorded concentrations being relatively close to the PQL;
- The majority of RPDs within a replicate pair being within the acceptable limits;and

- All other QA/QC parameters met the DQIs.

In summary, the QC data is determined to be of sufficient quality to be considered acceptable for the assessment.

2. Data quality indicators

The reliability of field procedures and analytical results was assessed against the following data quality indicators (DQI) as outlined in NEPC *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]* (NEPC, 2013):

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

The results of the assessment are summarised in Table 2.

Table 2: Data quality indicators

Data quality indicator	Method(s) of achievement
Completeness	Systematic and selected target locations sampled.
	Preparation of test pit logs, sample location plan and chain of custody records.
	Preparation of field groundwater sampling sheets.
	Laboratory sample receipt information received confirming receipt of samples intact and appropriateness of the chain of custody.
	Samples analysed for contaminants of potential concern (CoPC) identified in the conceptual site model (CSM).
	Completion of chain of custody documentation.
	NATA accredited laboratory results certificates provided by the laboratory.
	Satisfactory frequency and results for field and laboratory quality control (QC) samples as discussed in Section 1.
Comparability	Using appropriate techniques for sample recovery, storage and transportation, which were the same for the duration of the project.
	Experienced sampler(s) used.

Data quality indicator	Method(s) of achievement
	Use of NATA registered laboratories, with test methods the same or similar between laboratories.
	Satisfactory results for field and laboratory QC samples.
Representativeness	Target media sampled.
	Sample numbers recovered and analysed are considered to be representative of the target media and complying with DQO.
	Samples were extracted and analysed within holding times.
	Samples were analysed in accordance with the chain of custody.
Precision	Field staff followed standard operating procedures.
	Acceptable RPD between original samples and replicates.
	Satisfactory results for all other field and laboratory QC samples.
Accuracy	Field staff followed standard operating procedures.
	Satisfactory results for all field and laboratory QC samples.

Based on the above, it is considered that the DQI have generally been complied with.

3. Conclusion

Based on the results of the field QA and field and laboratory QC, and evaluation against the DQI it is concluded that the field and laboratory test data obtained are reliable and useable for this assessment.

4. References

NEPC. (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM].* Australian Government Publishing Services Canberra: National Environment Protection Council.

Douglas PARTNERS

Table QA1: Relative Percentage Difference Results – Soil Sampling

Lab Report No	Sample ID	Depth	Sample Date	Sample Type	Units	Priority metals								Priority PAH			
						Total Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	Naphthalene b	Benzo(a)pyrene (B(a)P)	Benzo(a)pyrene TEQ (B(a)P TEQ)	Total PAH
289209	Pit 6	0.5 m	15/02/22	Soil	mg/kg	<4	<0.4	10	4	6	<0.1	4	14	<1	<0.05	<0.5	<0.05
289209	R11	0 m	15/02/22	Soil	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
			Difference		mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
			RPD		%	-	-	-	-	-	-	-	-	-	-	-	-
288386	Pit 17	0.1 m	01/02/22	Soil	mg/kg	<4	<0.4	2	2	3	<0.1	<1	6	<1	<0.05	<0.5	<0.05
288386	R1	0 m	02/02/22	Soil	mg/kg	<4	<0.4	2	2	3	<0.1	<1	5	<1	<0.05	<0.5	<0.05
			Difference		mg/kg	0	0	0	0	0	0	0	1	0	0	0	0
			RPD		%	0%	0%	0%	0%	0%	0%	0%	18%	0%	0%	0%	0%
288386	Pit 22	0.5 m	01/02/22	Soil	mg/kg	<4	<0.4	7	<1	3	<0.1	1	8	<1	<0.05	<0.5	<0.05
288386	R2	0 m	02/02/22	Soil	mg/kg	<4	<0.4	6	<1	4	<0.1	1	7	<1	<0.05	<0.5	<0.05
			Difference		mg/kg	0	0	1	0	1	0	0	1	0	0	0	0
			RPD		%	0%	0%	15%	0%	29%	0%	0%	13%	0%	0%	0%	0%
288386	Pit 51	0.1 m	03/02/22	Soil	mg/kg	<4	<0.4	9	9	12	<0.1	6	19	<1	<0.05	<0.5	<0.05
288386	R4	0 m	03/02/22	Soil	mg/kg	<4	<0.4	8	9	10	<0.1	4	16	<1	<0.05	<0.5	<0.05
			Difference		mg/kg	0	0	1	0	2	0	2	3	0	0	0	0
			RPD		%	0%	0%	12%	0%	18%	0%	**40%**	17%	0%	0%	0%	0%
289209	Pit 56	0.1 m	14/02/22	Soil	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
289209	R8	0 m	15/02/22	Soil	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
			Difference		mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
			RPD		%	-	-	-	-	-	-	-	-	-	-	-	-
289209	Pit 58	0.1 m	14/02/22	Soil	mg/kg	<4	<0.4	14	<1	7	<0.1	2	3	<1	<0.05	<0.5	<0.05
289209	R9	0 m	14/02/22	Soil	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
			Difference		mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
			RPD		%	-	-	-	-	-	-	-	-	-	-	-	-
289209	Pit 60	0.1 m	15/02/22	Soil	mg/kg	4	<0.4	8	6	19	<0.1	3	16	<1	<0.05	<0.5	<0.05
289209	R10	0 m	14/02/22	Soil	mg/kg	6	<0.4	9	5	19	<0.1	2	16	<1	<0.05	<0.5	<0.05
			Difference		mg/kg	2	0	1	1	0	0	1	0	0	0	0	0
			RPD		%	**40%**	0%	12%	18%	0%	0%	**40%**	0%	0%	0%	0%	0%
288386	Pit 62	0.1 m	03/02/22	Soil	mg/kg	<4	<0.4	8	4	7	<0.1	2	6	<1	<0.05	<0.5	<0.05
288386	R5	0 m	03/02/22	Soil	mg/kg	<4	<0.4	7	3	6	<0.1	2	6	<1	<0.05	<0.5	<0.05
			Difference		mg/kg	0	0	1	1	1	0	0	0	0	0	0	0
			RPD		%	0%	0%	13%	29%	15%	0%	0%	0%	0%	0%	0%	0%

Sample ID	Sample Date	PAH											
		Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(g,h,i)perylene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene
Pit 6	15/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
R11	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-
	Difference	-	-	-	-	-	-	-	-	-	-	-	-
	RPD	-	-	-	-	-	-	-	-	-	-	-	-
Pit 17	01/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
R1	02/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Difference	0	0	0	0	0	0	0	0	0	0	0	0
	RPD	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Pit 22	01/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
R2	02/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Difference	0	0	0	0	0	0	0	0	0	0	0	0
	RPD	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Pit 51	03/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
R4	03/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Difference	0	0	0	0	0	0	0	0	0	0	0	0
	RPD	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Pit 56	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-
R8	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-
	Difference	-	-	-	-	-	-	-	-	-	-	-	-
	RPD	-	-	-	-	-	-	-	-	-	-	-	-
Pit 58	14/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
R9	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-
	Difference	-	-	-	-	-	-	-	-	-	-	-	-
	RPD	-	-	-	-	-	-	-	-	-	-	-	-
Pit 60	15/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
R10	14/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Difference	0	0	0	0	0	0	0	0	0	0	0	0
	RPD	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Pit 62	03/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
R5	03/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Difference	0	0	0	0	0	0	0	0	0	0	0	0
	RPD	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Sample ID	Sample Date	Priority TRH						TRH		BTEX				Priority phenols
		TRH C6 - C10	TRH >C10-C16	F1 ((C6-C10)-BTEX)	F2 (>C10-C16 less Naphthalene)	F3 (>C16-C34)	F4 (>C34-C40)	TRH C6 - C9	TRH C10-C36	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total Phenolics
Pit 6	15/02/22	<25	<50	<25	<50	<100	<100	<25	<50	<0.2	<0.5	<1	<1	-
R11	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-
	Difference	-	-	-	-	-	-	-	-	-	-	-	-	-
	RPD	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 17	01/02/22	<25	<50	<25	<50	<100	<100	<25	<50	<0.2	<0.5	<1	<3	<5
R1	02/02/22	<25	<50	<25	<50	<100	<100	<25	<50	<0.2	<0.5	<1	<3	<5
	Difference	0	0	0	0	0	0	0	0	0	0	0	0	0
	RPD	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Pit 22	01/02/22	<25	<50	<25	<50	<100	<100	<25	<50	<0.2	<0.5	<1	<3	<5
R2	02/02/22	<25	<50	<25	<50	<100	<100	<25	<50	<0.2	<0.5	<1	<3	<5
	Difference	0	0	0	0	0	0	0	0	0	0	0	0	0
	RPD	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Pit 51	03/02/22	<25	<50	<25	<50	<100	<100	<25	<50	<0.2	<0.5	<1	<3	<5
R4	03/02/22	<25	<50	<25	<50	<100	<100	<25	<50	<0.2	<0.5	<1	<3	<5
	Difference	0	0	0	0	0	0	0	0	0	0	0	0	0
	RPD	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Pit 56	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-
R8	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-
	Difference	-	-	-	-	-	-	-	-	-	-	-	-	-
	RPD	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 58	14/02/22	<25	<50	<25	<50	<100	<100	<25	<50	<0.2	<0.5	<1	<1	<5
R9	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-
	Difference	-	-	-	-	-	-	-	-	-	-	-	-	-
	RPD	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 60	15/02/22	<25	<50	<25	<50	<100	<100	<25	<50	<0.2	<0.5	<1	<1	<5
R10	14/02/22	<25	<50	<25	<50	<100	<100	<25	<50	<0.2	<0.5	<1	<1	<5
	Difference	0	0	0	0	0	0	0	0	0	0	0	0	0
	RPD	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Pit 62	03/02/22	<25	<50	<25	<50	<100	<100	<25	<50	<0.2	<0.5	<1	<3	<5
R5	03/02/22	<25	<50	<25	<50	<100	<100	<25	<50	<0.2	<0.5	<1	<3	<5
	Difference	0	0	0	0	0	0	0	0	0	0	0	0	0
	RPD	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Sample ID	Sample Date	Priority OCP								OCP						Priority OPP
		DDT+DDE+DDD c	Aldrin + Dieldrin	Total Chlordane	Total Endosulfan	Endrin	Heptachlor	Hexachlorobenzene	Methoxychlor	Heptachlor Epoxide	Endrin Aldehyde	alpha-BHC	beta-BHC	delta-BHC	Lindane	Chlorpyriphos
Pit 6	15/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
R11	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Difference	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	RPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 17	01/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
R1	02/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Difference	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RPD	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Pit 22	01/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
R2	02/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Difference	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RPD	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Pit 51	03/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
R4	03/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Difference	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RPD	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Pit 56	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R8	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Difference	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	RPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 58	14/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
R9	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Difference	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	RPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 60	15/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
R10	14/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Difference	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RPD	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Pit 62	03/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
R5	03/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Difference	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RPD	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Sample ID	Sample Date	OPP											PCB	Additional PhysChem
		Azinphos methyl (Guthion)	Bromophos-ethyl	Chlorpyriphos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Ronnel (fenchlorphos)	Fenitrothion	Malathion	Parathion	Total PCB	Moisture
Pit 6	15/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	210,000
R11	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-
	Difference	-	-	-	-	-	-	-	-	-	-	-	-	-
	RPD	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 17	01/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	86,000
R1	02/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	62,000
	Difference	0	0	0	0	0	0	0	0	0	0	0	0	24,000
	RPD	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**32%**
Pit 22	01/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	180,000
R2	02/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	130,000
	Difference	0	0	0	0	0	0	0	0	0	0	0	0	50,000
	RPD	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**32%**
Pit 51	03/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	140,000
R4	03/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	220,000
	Difference	0	0	0	0	0	0	0	0	0	0	0	0	80,000
	RPD	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**44%**
Pit 56	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-
R8	15/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-
	Difference	-	-	-	-	-	-	-	-	-	-	-	-	-
	RPD	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 58	14/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	80,000
R9	14/02/22	-	-	-	-	-	-	-	-	-	-	-	-	-
	Difference	-	-	-	-	-	-	-	-	-	-	-	-	-
	RPD	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 60	15/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	190,000
R10	14/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	140,000
	Difference	0	0	0	0	0	0	0	0	0	0	0	0	50,000
	RPD	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**30%**
Pit 62	03/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	11,000
R5	03/02/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	73,000
	Difference	0	0	0	0	0	0	0	0	0	0	0	0	62,000
	RPD	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**148%**

Douglas PARTNERS

GROUNDED EXPERTISE

Report on Unexpected Finds Protocol

Proposed Solar Farm

Castlereagh Highway, Beryl NSW

Prepared for Potentia Energy Pty Ltd

Project 206153.01

6 March 2025

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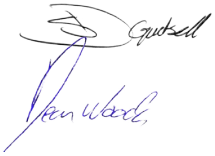
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The undersigned, on behalf of Douglas Partners Pty Ltd, confirm that this document and all attached drawings, logs and test results have been checked and reviewed for errors, omissions and inaccuracies.

Signature		Date
Author		6 March 2025
Reviewer		6 March 2025

Douglas Partners acknowledges Australia's First Peoples as the Traditional Owners of the Land and Sea on which we operate. We pay our respects to Elders past and present and to all Aboriginal and Torres Strait Islander peoples across the many communities in which we live, visit and work. We recognise and respect their ongoing cultural and spiritual connection to Country.

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Appendix A: Drawing

Appendix B: About this report

Appendix C: Personnel induction register and unexpected find protocol flow chart

Appendix D: Photographic examples of potential unexpected finds

Report on Unexpected Finds Protocol
Proposed Solar Farm
Castlereagh Highway, Beryl NSW

1. Introduction

This report prepared by Douglas Partners Pty Ltd (Douglas) presents the results of a unexpected finds protocol(UFP) undertaken for a proposed solar farm at Castlereagh Highway, Beryl NSW (the site). The investigation was commissioned by email instructing to proceed dated 29 January 2025 from Andrew Douglas of RES Australia Pty Limited, on behalf of Potentia Energy Pty Ltd (Potentia) and was undertaken in general accordance with Douglas' proposal 206153.01.P.001.Rev0 dated 24 January 2025 as recommended in the Douglas Addendum to PSI (report reference 206153.01.R.001.Rev0 (Douglas, 2025)).

It is understood that the proposed development of the site includes:

- Temporary workers accommodation (TWA)
- Solar arrays;
- Inverters;
- Access tracks;
- Drainage;
- Substation and site compound;
- Crane hardstands;
- Underground cables; and
- Overhead transmission lines.

Further design details were not available at the time of this investigation, however, it has been assumed that minor earthworks would be required over parts of the site to prepare level platforms, a pad for the substation, and minor excavations for service trenches. Most excavations are expected to be less than about 1.5 m deep. The site is shown on Drawing 1, Appendix A.

This UFP must be provided to contractors undertaking the intrusive works (e.g. services, civil, construction) and must form part of their works method statement and CEMP.

The following scope of work was undertaken in the preparation of the UFP:

- Review of previous environmental reports made available to Douglas;
- A review of existing topographical, geological and hydrogeological maps for the area to provide an indication of the likely local soils, geology and topography for the site;
- A review of Acid Sulfate Soils risk mapping data; and
- Preparation of this Unexpected Finds Protocol.

.

This report must be read in conjunction with all appendices including the notes provided in Appendix B.

2. Site description

2.1 Site identification details

Table 1 presents site identification details.

Table 1: Site identification

Item	Details
Allotment Identification	Lots 74, 96, 101, 105 and 120 DP 1079036 Lots 68, 78, 89, 90, 97, 98, 112 – 114, 147, 148, 150 and 152 DP 750762
Street Address	Castlereagh Highway, Beryl NSW
Locality	Beryl, NSW
Approximate Site Area	1300 ha
Local Government Area	Mid-Western Regional Council (MWRC)
Zoning	Zone RU1: Primary Production
Planning Instrument(s)	MWRC DCP (2015); LEP (2013)
Current Land Use	Agriculture
Surrounding uses	North – Agriculture East – Agriculture South – Agriculture West – Agriculture

2.2 Site description

The site is located off Castlereagh Highway, approximately 1 km north-east of the intersection of Castlereagh Highway and Laheys Creek Road and ~7 km north-west of the Gulgong Township. It includes five lots (74, 96, 101, 105 and 120) of DP 1079036 and 13 lots (68, 78, 89, 90, 97, 98, 112 – 114, 147, 148, 150 and 152) of DP 750762. The lots are separated into a series of paddocks with five separate landowners. The overall site is near-rectangular in shape and excludes a number of protected zones, including areas of relatively dense trees and Aboriginal heritage significance and farm residences. The site boundary is shown on Drawing 1, Appendix A and Figure 1 below



Figure 1: Site location (approximate site boundary highlighted red).

3. Relevant legislation / guidance documents

This UFP has been prepared with reference to the following legislation/guidance documents:

- National Environment Protection Council (NEPC) (1999), '*National Environment Protection (Assessment of Site Contamination) Measure*', (1999, as amended May 2013);
- NSW EPA (2014) '*Waste Classification Guidelines Part 1: Classifying Waste*' (November 2014);
- NSW EPA (2014) '*Resource Recovery Order under Part 9, Clause 93 of the Protection of the Environment Operations (Waste) Regulation 2014 - The excavated natural material order 2014* (November 2014)
- NSW EPA, *Sampling Design part 1 - application*, (August 2022)
- NSW EPA, *Sampling Design part 2 – interpretation*, (August 2022)
- NSW Office of Environment & Heritage (OEH) (2020) '*Consultants Reporting on Contaminated Land, Contaminated Land Guidelines*' (April 2020) and
- Western Australian Department of Health *"Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites in Western Australia"* (July 2021).

4. Background information (Douglas, 2025)

Douglas was engaged by RES Australia Pty Ltd to complete a preliminary site investigation (PSI) for contamination for the proposed solar farm within the site report reference: 206153.00.R.002.Rev0, dated 9 May 2022 (Douglas, 2022a)). The investigation was conducted concurrently with Douglas' geotechnical investigation (report reference 206153.00.R.001.Rev0, dated 27 July 2022 (Douglas, 2022b)). It is also noted Douglas were engaged by Potentia to revise the PSI report (Douglas, 2025), to include the TWA area and to include the derivation of new site assessment criteria (SAC) based on the proposed new land use and reassessment of existing data against the new SAC (TWA area). The objectives of the PSI were to:

- Identify potential sources of contamination (if any) and determine the potential contaminants of concern, identify areas of potential contamination, identify human and ecological receptors associated with the proposed development and identify potentially affected media (soil, groundwater, ground gas etc.).

The following scope of work was undertaken for the PSI to meet the project objectives:

- Preparation of a list of Potential Areas of Environmental Concern (PAEC) through investigation of the site using readily available desk top information;
- Reviewing site information, including published information on geological, topographical hydrogeological, soil salinity and acid sulfate soil (ASS) conditions;
- Completion of a site walkover and observing situations that indicate a potential for contamination and identify environmental receptors;
- Positioning of 61 test pits (Pits 3, 7, 8, and 11 to 56) across the site. Pits 3, 7, 8, and 11 to 56 were excavated to the target depths as per the geotechnical investigation (Douglas, 2022b) and Pits 57 to 67 were excavated to a depth of 1.0 m or a depth of 0.5 m into natural ground. It was noted that Pits 1, 2, 4, 5, 9 and 10 were excluded from the scope of works due to site access constraints. It was also noted that due to the preliminary nature of this assessment, the sampling density undertaken did not meet the minimum sampling density recommended by the Sampling Design Guidelines (NSW EPA, 1995) (relevant guidelines at the time of the investigation);
- Soil sampling from multiple depths during the field work;
- Laboratory testing on 63 soil samples for a combination of:
    - TRH (total recoverable hydrocarbons);
    - Benzene, toluene, ethylbenzene and total xylenes (BTEX);
    - Polycyclic aromatic hydrocarbons (PAH);
    - PCBs (polychlorinated biphenyls);
    - Organochlorine and Organophosphate pesticides (OCPs, OPPs);
    - Phenols;
    - Heavy metals / metalloids (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc); and
    - Asbestos.

- Two samples were also tested for pH, cation exchange capacity (CEC) and clay content in order to produce site specific investigation levels. Additional duplicate samples were tested for quality control purposes; and
- Preparation of a PSI report presenting the results of the assessment (i.e.: nature, extent and degree of contamination within the site), recommendations as to the necessity for further investigations to be carried out on the site and the suitability of the site to be used for its intended and permitted purposes.

Potential sources and areas of contamination were identified on the basis of the available site information and site inspection walkover (2022 and 2025). The following potential sources of contamination and associated contaminants of potential concern (CoPC) have been identified.

- S1: Fill: Associated with past clay mining practices within the site and possible in-filled drainage lines or gullies that were not observed by DP at the time of the walkover.
  - COPC include metals / metalloids, TRH, BTEX, PAH, OCP/OPP and asbestos.
- S2: Past pesticide usage.
  - COPC include metals (arsenic and lead), OPP and OCP.
- S3: Animal burial pits.
  - COPC include *Escherichia coli* (*E. coli*), faecal coliforms, pathogens, salmonella and nutrients.
- S4: Current site structures.
  - COPC include asbestos, synthetic mineral fibres (SMF), lead (in paint) and PCB.
- S5: Potential zinc leaching from galvanized corrugated roof sheeting on site sheds.
  - COPC include zinc
- S6: Burnt out site machinery (TWA area).
  - COPC include metals / metalloids, TRH, BTEX, PAH

Soil sampling at the site focused on the identified areas of concern with the exceptions of potential animal burial pits and hazardous building material associated with current site structures. Access to residential buildings where hazardous building materials may have been present was outside the scope of the assessment and no animal burial pits were encountered, however, their presence cannot be discounted. The analytical results of soil samples were below the adopted health-based for the TWA (i.e. HIL-A/HSL-A & B), ecological (i.e. EIL-A/ESL-A) criteria, and management limits for low-density residential land use and the solar farm (remaining area of the site, outside of the TWA area), (i.e. HIL-D/HSL-D), ecological (i.e. EIL-C/ESL-C) criteria, and management limits for commercial/industrial land use.

Based on the results of the PSI, it was considered that the site was suitable for the proposed development subject to implementation of the recommendations below:

- A Construction Environment Management Plan (CEMP) should be prepared including an 'unexpected finds protocol' and implemented during the works (i.e., fill, hydrocarbon staining and/odours, and general staining);
- An asbestos finds protocol should be prepared and implemented during construction work (to be included in the CEMP);

- The burnt out tractor should be removed, disposed off-site appropriately to a licensed waste facility and the footprint should be validated by a suitably qualified environmental consultant prior to the construction of the TWA;
- Should unexpected finds occur during construction work, further environmental assessment should be undertaken.
- Should suspected asbestos be encountered at the site, the affected area should be fenced off and assessed by an NSW licensed asbestos assessor; and
- Should any fill material be required to be disposed off-site, the material must be assessed in accordance with NSW EPA Waste Classification Guidelines Part 1 Classifying Waste (2014) and assigned a waste classification prior to off-site disposal.

5. Potential sources of contamination

Based on the previous investigation (Douglas, 2025), the potential sources of contamination were considered to be as follows

- Fill: Associated with past clay mining practices within the site and possible in-filled drainage lines or gullies;
- Past pesticide use;
- Animal burial pits;
- On-site structures;
- Zinc leaching from galvanised corrugated roof sheeting on site sheds; and
- Burnt-out machinery.

6. Environmental setting

6.1 Topography

The regional topography comprises low undulating hills and low rises from 380 – 560 m above sea level. Slopes are gently inclined between 3 – 15% with slopes from 1000 – 5000 m long and local relief varies from 30 – 80 m. Drainage lines are typically between 300 – 1200 m apart.

The site comprises a number of small hill tops, particularly through the central and north-western parts of the site with a number of relatively flat areas in between. Overall surface levels fall to the north-east over the northern half of the site and to the south-west over the southern part of the site.

6.2 Soil Landscapes

Reference to the NSW Department of Planning, Industry and Environment eSPADE website (www.environment.nsw.gov.au/eSpade2Webapp, accessed 1 March 2022) indicates that the site is underlain by two soil landscape groups. The site is underlain by the Home Rule soil group (mapped across the majority of the site – central, northern, north-western, eastern and southern and south-eastern portions of the site) and the Tucklan soil group (mapped across a small section of the south-western portion of the site).

The Home Rule soil group landscape is characterised by undulating low hills with local relief between 30 – 60 m and slopes between 4 – 8%. Sediments are derived from the surrounding Gulgong and Rouse Granites. Siliceous sands and earthy sands are generally observed within the upper and mid-slopes. Bleached sands, yellow Podzolic Soils and yellow Solodic Soils are generally observed within the lower slopes and flats. Layered siliceous sands can also be observed within some of the larger drainage lines. Limitations associated with the Home Rule soil group include very low fertility, low available water holding capacity, acidic surface soils, seasonal waterlogging, sodic subsoils in lower slopes, high permeability on mid to upper slopes and moderate to high erosion hazards under cultivation.

The Tucklan soil group landscape is characterised by undulating low hills with local relief between 40 – 80 m and slopes between 3 – 15%. Soils generally comprise of Euchrozems, rises of Red Podzolic Soils and non-calcic Brown Soils. Limitations associated with the Tucklan soil group include moderate to high erosion hazards under cultivation, moderate fertility, moderate to high water holding capacity, moderate to high shrink-swell potential.

6.3 **Site Geology**

The NSW Mineral Resources (NSWMR, 2000) indicates that the site is underlain by a number of geological units as shown in Figure 2 and detailed below:

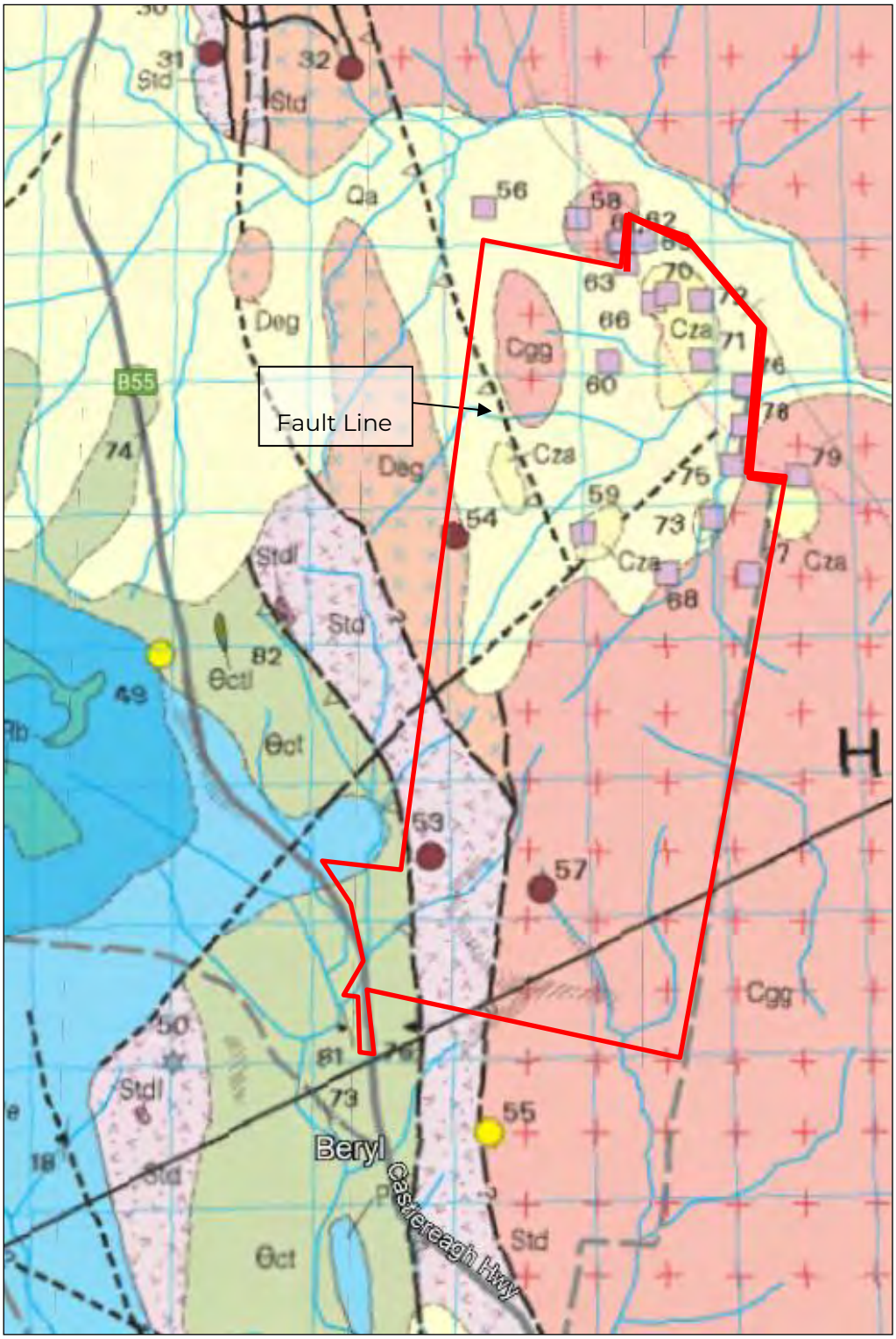


Figure 2: Geology map showing overall site boundary (red outline).

- **Deg:** Tallawang Granite;
- **Cgg:** Gulgong Granite;
- **Std:** Dungeree Volcanics typically comprising rhyolite and dacite;
- **Qa:** Quaternary alluvial deposits comprising silt, clay and sand; and
- **Cza:** Cainozoic undifferentiated deposits comprising gravel, sand, silt and clay.

The mapping also indicates that the site is underlain by a number of fault lines shown with dashed black lines in Figure 2.

6.4 Acid Sulfate Soils

Reference to the CSIRO's Atlas of Australian Acid Sulfate Soils online mapping portal, (A S R I S - Atlas of Australian Acid Sulfate Soils (csiro.au)) indicates that the site has an extremely low probability of acid sulfate soils to be present.

6.5 Surface Water and Groundwater

Tributaries to Tallawang Creek (located to the north-east of the site) and Wialdra Creek (located to the south of the site), several ephemeral drainage lines and several farm dams are present across the site. The Tallawang Creek tributaries and drainage lines within the northern half of the site flow towards Tallawang Creek approximately 570 m north-east of the site (at the site's closest point). The Wialdra Creek tributaries and drainage lines within the southern half of the site flow towards Wialdra Creek approximately 2.2 km south of the site (at the site's closest point). Review of the topographic map and the site inspection indicates that the likely direction of surface water drainage would generally be towards the north-east/east within the northern half of the site and south for the southern half of the site.

A search of the publicly available registered groundwater bore database (see Appendix C provided in the PSI (Douglas 2025)) that there are six registered groundwater bores within 1 km of the site. The six groundwater bores from within 1 km of the site are summarised in Table 2.

Table 2: Summary of Available Information from Nearby Registered Groundwater Bores

Bore ID Authorised Purpose Completion Year Status	Location Relative to Site	Final Depth (m)	Standing Water Level (m bgl)
GW805247 Stock / Domestic 2013	Within the site (south-west corner)	42	12
GW053198 Stock / Domestic / Irrigation	130 m south-west	27.6	Unknown
GW053197 Stock / Domestic / Irrigation	145 m south-west	28.9	Unknown

GW048979 Stock / Domestic / General use	250 m south-west	36.6	Unknown
GW802000 Stock / Domestic 2003	355 m south-west	14	3
GW026819 Stock 1967	870 m south-west	30.4	Unknown

Information from the registered groundwater bore logs in the vicinity of the site are recorded as being between 3 m and 12 m bgl.

Based on the regional topography and the inferred flow direction of nearby water courses, the anticipated flow direction of groundwater beneath the site is to the north-east, towards Tallawang Creek or south towards Wialdra Creek, the likely receiving surface water bodies for the groundwater flow path. Given the local geology (i.e. alluvial, colluvial and Tallawang Granite), the groundwater in the porous and unconsolidated soils and possible fractured rock beneath the site is anticipated to be relatively fresh. Accordingly, potential beneficial uses could include irrigation or drinking water, although the future use of the groundwater for drinking water is considered unlikely given that the site is proposed to be developed into a solar farm (commercial/industrial land use).

7. Purpose and objectives

The objective of the UFP is to set out the environmental management practices and procedures required to minimise environmental impacts during the site preparation and earthworks, should potentially contaminated soils / fill be identified. This may be because of staining, odours, colour or inclusions of potential contaminating material encountered (ash, waste oil, fibre cement sheeting, batteries etc.) or inclusions of significant building rubble (bricks and concrete). Any potentially affected soils or site areas visually found to contain unsuitable material with potential contamination issues will need to be further assessed to determine the suitability of the affected area/depth in terms of the proposed land use.

The UFP is a working document, and should be updated (if necessary) during the course of the site works, particularly in light of any unexpected finds or contingency measures which require implementation. It is recommend that the UFP should form part of the project's Construction Environmental Management Plan (CEMP).

The UFP therefore aims to provide a strategy for the site preparation and earthworks which:

- Is consistent with the environmental statutory requirements and sound practices;
- Meets the requirements of the NSW Environment Protection Authority (EPA), Mid-Western Regional Council and NSW SafeWork;
- Minimises adverse impacts on the environment and on public health and safety during development works;

- Renders the site safe for the proposed land use and minimises the potential exposure pathways to contaminants after their identification and implementation of an UFP; and
- Minimises impacts on human health and / or the environment following completion of the works at the site.

8. Personnel induction

The general workforce for the activities on the site should be appropriately skilled, have appropriate experience and be trained in occupational health and safety. Responsibility for site induction lies with the Project Manager. The induction should inform personnel on their responsibilities to recognise and report odours, discoloured soil, fibre cement sheeting and fill containing anthropogenic (building) materials.

The induction will include procedures for identifying and reporting the occurrence of potentially contaminated material to the Project Manager, so that they can be dealt with in accordance with the process detailed in the following sections. All staff inducted with respect to potential contamination issues must sign the on-site induction register included in Appendix C of this UFP. The register must be made available to MWRC / relative authorities on request. If a CEMP is produced, the UFP should be read in conjunction with the CEMP.

A UFP flow chart in Appendix C summarises the UFP and should be provided to all staff for easy reference to practices and procedures.

9. Unexpected finds protocol

9.1 Key roles and responsibilities

9.1.1 Principal

The site owner (Owner) retains the overall responsibility for ensuring that this UFP is appropriately implemented. The Owner may nominate a representative (the Principal's Representative - PR), who is responsible for overseeing the implementation of this UFP. The actual implementation of the UFP may be conducted by the Principal Contractor on behalf of the owner.

Should an unexpected find (UF) be uncovered, the Principal is to notify any of the authorities which they are legally required to notify (e.g. EPA, Council, SafeWork).

9.1.2 Principal contractor

The Principal Contractor ("Contractor") is foreseen to be the party responsible for the day-to-day implementation of this UFP and shall fulfil the responsibilities of the Contractor as defined by SafeWork.

9.1.3 Environmental consultant

A suitably qualified Environmental Consultant (EC) should undertake site inspections, sampling and validation reporting during earthworks, if required and will be responsible for:

- excavation / handling of fill;
- review contractor's procedures and compliance to the CEMP;
- concur appropriate procedure for visual screening of fill with contractors;
- induction of the contractor's personnel for potential contamination issues;
- sampling and analysis for waste classification and/or off-site reuse for contaminated materials to be removed from the site (if required); and
- review contractor site records and providing a final validation report on the compliance of the contractor with the CEMP.

9.1.4 Site workers

All site personnel undertaking planned ground intrusive works should be inducted into their responsibilities under this UFP (see Section 8), which should be included in the work method statement or construction management plan. A copy of the UFP should be readily available to all personnel.

9.2 Unexpected finds

Unexpected finds (UFs) are likely to comprise buried material which is not typical soil material (i.e. soil and rock) that may be present at the site. There may be many kinds of unexpected materials that may be encountered during any excavation works that are required as part of the project. Examples of unexpected finds that have the potential to cause contamination include (but not limited to):

- Buried Wastes – e.g. buried demolition wastes including concrete, tiles, brick, asphalt, timbers and metal; buried industrial wastes – e.g. chemical containers, tar, or ash and slag; and domestic wastes;
- Buried containers / drums – e.g. metal and/or plastic drums or barrels where chemicals may still be present, a strong chemical odour may be present;
- Discoloured and odorous soils - e.g. black, grey or green discolouration, hydrocarbon odours or sweet solvent odours and rainbow sheen on water surfaces);
- Underground storage tanks (UST);
- Asbestos or asbestos containing materials (ACM);
- Former sheep dips – e.g. may be present as a thin long rectangular in-ground structure; and
- Buried animal carcasses.

Photographs demonstrating examples of unexpected finds are presented in Appendix D.

In the event of the discovery of an unexpected find, the following actions will take place as soon as practical:

- Stop works in the area of the find;
- Secure the area such that other workers will not come into contact;
- Notify the site manager or Principal Contractor's superintendent;

- Notify the Principal or Principal's representative. The Principal will notify any of the authorities which the Principal is legally required to notify (e.g. EPA, Council, SafeWork); and
- In conjunction with the Principal, notify an experienced environmental consultant.

9.3 Implementation of the UFP

This UFP should be implemented during the following activities:

- Bulk excavation works; and
- Any other intrusive works such as maintenance or laying of services, new footings etc.

The Principal's Representative should be present to supervise the works above and to assist in the identification of potential UF. If an UF is identified during works, then the procedure outlined in Sections 9.4 – 9.6 should be implemented.

9.4 Contingency plan – general

Following the immediate response in the UFP, the below contingency plan will be implemented. The environmental consultant should be contacted by the Principal or their representative and request that the consultant perform the following:

- Inspect the issue of concern and determine the nature of the issue, whether it comprises an area of environmental concern (AEC), and the appropriate approach to assessing or (if appropriate) managing the issue;
- Inform the Principal of the recommended course of action and seek approval to undertake the action;
- Undertake an assessment considered necessary to determine the management strategy for the AEC;
- If the assessment does not identify any contamination requiring remediation or management, the environmental consultant will produce a report advising the outcomes of the assessment and a recommendation that works may continue in the area;
- If contamination is found and remediation action is considered necessary, a remediation action plan (RAP) for the AEC may be prepared by the environmental consultant;
- Advise the contractor should any potentially unacceptable risks to construction workers from contamination be identified during any stage of the UFP assessment;
- Undertake the remediation and / or management actions recommended by the environmental consultant; and
- The environmental consultant will prepare a report at the completion of any remediation or management action taken, detailing their assessment including the extent and methods of remediation or management undertaken, and validation as required.

9.5 Contingency plan – asbestos containing materials (ACM)

In the event that the UF relates to the identification of ACM, the following protocol will also apply in addition to the process outlined in Section 9.4:

- Upon discovery of suspected ACM, the affected area is to be closed off by the use of barrier tape and warning signs. Warning signs shall be specific to Asbestos Hazards and shall comply with the Australian Standard 1319-1994 *Safety Signs for the Occupational Environment;*
- The environmental consultant (or occupational hygienist) will inspect the area and confirm the presence of asbestos (through visual and analytical means) and determine the extent of remediation or management works to be undertaken. An assessment report detailing this information will be compiled by the environmental consultant or occupational hygienist and provided to the Principal;
- The agreed management / remedial strategy shall be implemented;
- In the event of impacted soils requiring removal from the site, the impacted soil will be stockpiled for waste classification (including sampling and chemical analysis) prior to off-site disposal.
- All work associated with asbestos in soil will be undertaken by an appropriately licenced contractor;
- Monitoring for airborne asbestos fibres may need to be carried out during soil excavation and remediation (if undertaken), as instructed by the environmental consultant or occupational hygienist;
- Documentary evidence (weighbridge dockets) of correct disposal is to be provided to the environmental consultant or occupational hygienist if ACM impacted soils are disposed off-site to landfill;
- At the completion of any excavation involving ACM impacted soils, a clearance inspection is to be carried out and written confirmation is to be provided by the environmental consultant or occupational hygienist that the area is safe to be accessed and worked; and
- Details of the incident are to be recorded in the site record system and reported as per Section 9.8.

9.6 Stockpiling of potentially contaminated material

The following procedure is recommended for stockpiling of potentially contaminated soils should it be deemed necessary to do so by the Contractor and / or EC:

- Potentially contaminated materials must be stockpiled within a 'designated area';
- Stockpiles of potentially contaminated material must be placed on hardstand areas or on a suitable impermeable material. If potentially contaminated material stockpiles are placed on soil, the footprints of these stockpiles must be validated following removal of the stockpiles unless the UF, in terms of the potential impact to human health and the environment, is found not to significantly impact on the proposed land use;
- Stockpile areas must be demarcated to prevent access, and clearly delineated;
- The stockpiles may be required to remain in place for at least one to two weeks if sampling and laboratory testing is required to confirm classification and / or disposal / re-use options;
- Stockpiles must be kept moist and / or covered to minimise dust blow particularly if asbestos is known or suspected;
- Measures must be taken to prevent the migration of stockpile materials (i.e. perimeter bunds, hay bales, silt fences, etc.);

- Stockpiles must be bunded to prevent rainwater runoff from moving onto the site or off-site; and
- A record of stockpile locations, dimensions, descriptions, environmental controls, etc. must be maintained by the Contractor.

9.7 Off-site disposal of unexpected finds

An EC would need to provide the Contractor with assessment reports. No material is to be removed off-site for re-use or disposal without EPA / Council approval. Following receipt of EPA / Council approval to dispose of material off-site, material tracking records (including volume of soil, source and disposal locations) must be kept and maintained for all material movements from site. These records must be provided to the relevant authorities, should the relevant authorities request/require those records.

As UF material is excavated, visual screening and field observations should dictate whether the excavated material requires segregation or not. Fill material with significant anthropogenic material present will need to be stockpiled separately to fill material with minimal or no anthropogenic material present. Fill material would also need to be visually screened for possible asbestos containing material.

All stockpiles of UF will also be subjected to soil sampling and laboratory analysis, sampling will need to follow NSW EPA *Waste Classification Guidelines, Part 1: Classifying Waste* (2014) guidelines and potentially the Excavated Natural Material (ENM) assessment for NSW re-use of fill material in reference to *Resource Recovery Order under Part 9, Clause 93 of the Protection of the Environment Operations (Waste) Regulation 2014 - The excavated natural material order 2014* (the "ENM Order") guidelines. The results of analysis should be utilised to confirm options for off-site disposal use (and possibly on-site use) as follows:

- If an UF satisfies adopted land use suitability criteria (low-density residential land use (HIL-A, HSL-A / B and EIL-A) and significant anthropogenic material is not present:
  - Potential for re-use on-site, subject to geotechnical suitability.
- Exceeds adopted land use suitability criteria and / or not geotechnically suitable:
  - Dispose off-site to a licensed landfill; and
  - Material may be suitable as ENM, otherwise will need to be disposed off-site to a licensed landfill.
- Material contains asbestos:
  - Dispose off-site to a landfill licensed to accept asbestos contaminated materials. Consideration should also be given to the waste classification with regard to chemical contaminants to determine the appropriate landfill in accordance with NSW EPA *Waste Classification Guidelines, Part 1: Classifying Waste* (2014); and
  - Exceeds adopted land use suitability criteria and landfill disposal guidelines (i.e. Hazardous Waste):
    - Stabilise / treat material to enable disposal at a licensed landfill (remedial contractor required). This may involve land farming of impacted soils.

The following local landfills may be utilised for off-site disposal of material should an UF be discovered:

- Mudgee Waste Facility;
- Gulgong Waste Facility; and
- Kandos Waste Facility.

Confirmation with the waste facilities should be undertaken prior to construction to confirm if the waste can be accepted by the waste facilities. It should also be noted that due to the nature of UFs, the volume of potential soil / material that would need to be disposed off-site is not known. It is recommended that a surveyor should be engaged to measure the volume of potential UF stockpiles in order for the EC to collect the appropriate number of samples in reference to NSW EPA, *Sampling Design part 1 – application* (2022) guidelines.

9.8 **Reporting of unexpected finds**

A record of the unexpected find and remediation / management conducted must be maintained by the contractor and must include, but not be limited to the following details:

- Date;
- Location;
- Assessment and confirmation of the contamination status of soils (including results of testing);
- Assessment of remediation / management options;
- Record of remediation / management undertaken to address the identified contamination; and
- Final report upon completion of validation presenting the results of the assessment and remediation / management conducted.

10. **Work health and safety**

All site work must be undertaken in a controlled and safe manner with due regard to potential hazards, training and safe work practices. The practices outlined should generally comply with the Work Health & Safety (WHS) policies specified by the relevant Authorities. All works conducted by Douglas would be in accordance with our Safe Work Method Statements and Fieldwork Safety and Environmental Plans for the relevant tasks conducted.

11. **Remediation acceptance criteria**

Any validation assessments undertaken at the site are to be compared to the Remediation Action Criteria (RAC), which are based on investigation and screening levels provided in Schedule B1 of NEPC (2013).

Given the proposed TWA development at the site, the relevant land use criteria are considered to be:

- Health investigation level (HIL) A – Residential with garden / accessible soil;

- Health screening level (HSL) A & B – Low to high density residential – vapour intrusion;
- HSL A – low to high density residential – direct contact;
- Ecological investigation level (EIL) / ecological screening level (ESL) – Urban residential and Public Open Space;
- Management Limits - Residential, Parkland and Public Open Space; and
- HSL A - Residential with garden / accessible soil – asbestos in soil.

12. References

Douglas. (2025). Report on Addendum to Preliminary Site Investigation with Limited Sampling (Contamination), Proposed Solar Farm, Castlereagh Highway, Beryl. Project 206153.00.R.002.Rev0: Douglas Partners Pty Ltd.

NEPC. (2013). National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]. Australian Government Publishing Services Canberra: National Environment Protection Council.

NSW EPA. (2014). Resource Recovery Order under Part 9, Clause 93 of the Protection of the Environment Operations (Waste) Regulation 2014 - The excavated natural material order 2014. NSW Environment Protection Authority

NSW EPA. (2022) Sampling Design part 1 – application. NSW Environment Protection Authority

NSW EPA. (2022) Sampling Design part 2 – interpretation. NSW Environment Protection Authority

NSW EPA. (2014). Waste Classification Guidelines, Part 1: Classifying Waste. NSW Environment Protection Authority.

13. Limitations

Douglas Partners Pty Ltd (Douglas) has prepared this report for this project at Castlereagh Highway, Beryl NSW in line with Douglas' proposal dated 24 January 2025 and acceptance received from Andrew Douglas of Res Australia Pty Limited on behalf of Potentia Energy Pty Ltd dated 29 January 2025. The work was carried out under Potentia Energy's Services Framework Agreement and Purchase Order number 4500000062, dated 25 February 2025. This report is provided for the exclusive use of Potentia Energy Pty Ltd for this project only and for the purposes as described in the report. It should not be used by or relied upon for other projects or purposes on the same or other site or by a third party. Any party so relying upon this report beyond its exclusive use and purpose as stated above, and without the express written consent of Douglas, does so entirely at its own risk and without recourse to Douglas for any loss or damage. In preparing this report Douglas has necessarily relied upon information provided by the client and/or their agents.

The results provided in the report are indicative of the sub-surface conditions on the site only at the specific sampling and/or testing locations, and then only to the depths investigated and at the time the work was carried out. Sub-surface conditions can change abruptly due to variable

geological processes and also as a result of human influences. Such changes may occur after Douglas' field testing has been completed.

Douglas' advice is based upon the conditions encountered during this investigation. The accuracy of the advice provided by Douglas in this report may be affected by undetected variations in ground conditions across the site between and beyond the sampling and/or testing locations. The advice may also be limited by budget constraints imposed by others or by site accessibility.

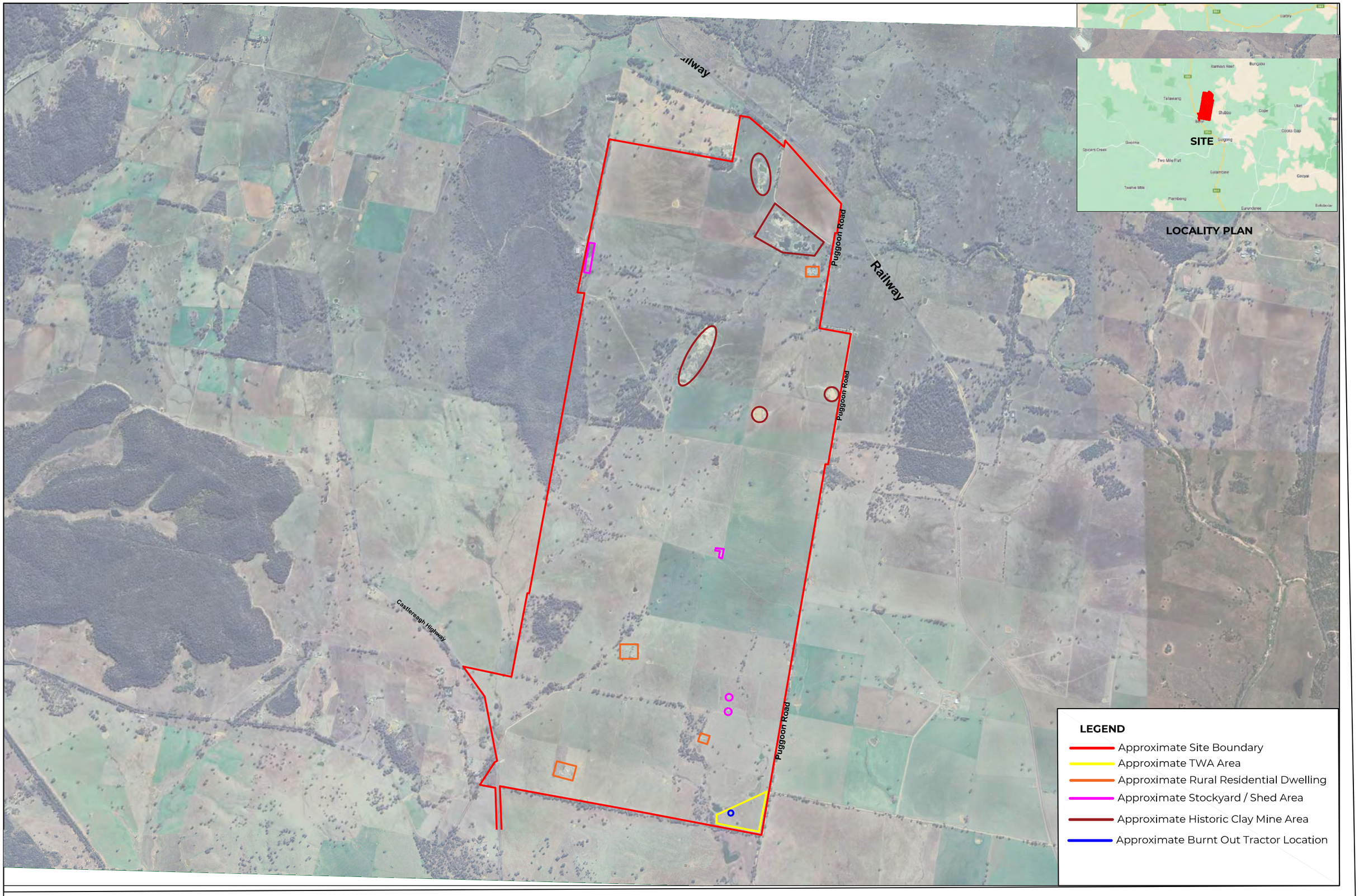
The assessment of atypical safety hazards arising from this advice is restricted to the environmental components set out in this report and based on known project conditions and stated design advice and assumptions. While some recommendations for safe controls may be provided, detailed 'safety in design' assessment is outside the current scope of this report and requires additional project data and assessment.

This report must be read in conjunction with all of the attached and should be kept in its entirety without separation of individual pages or sections. Douglas cannot be held responsible for interpretations or conclusions made by others unless they are supported by an expressed statement, interpretation, outcome or conclusion stated in this report.

This report, or sections from this report, should not be used as part of a specification for a project, without review and agreement by Douglas. This is because this report has been written as advice and opinion rather than instructions for construction.

Appendix A

Drawing 1



REV	DESCRIPTION/COMMENT	DATE	DRAWN BY
0	Site Location Plan	03.03.2025	SDG

COORDINATE REFERENCE SYSTEM: GDA20 MGA55

Douglas PARTNERS
OFFICE: CANBERRA
2/73 Sheppard Street, Hume ACT 2620
(02) 6260 2788

CLIENT: Potentia Energy Pty Ltd

NOTE:
1: Base image from Google Earth (Dated August 2023)

SCALE: 0 300 600 900 1200 1500
1:30000 @ A3

PROJECT NAME: **Proposed Solar Farm**

PROJECT ADDRESS: **Castlereagh Highway, Beryl NSW**

DRAWING TITLE: **Site Features Plan**

PROJECT No: **206153.01**

DRAWING No: **1**

REVISION: **0**

Appendix B

About this Report

About this Report

October 2024

Introduction

These notes have been provided to amplify Douglas' report in regard to classification methods, field procedures and the comments section. Not all are necessarily relevant to all reports.

Douglas' reports are based on information gained from limited subsurface excavations and sampling, supplemented by knowledge of local geology and experience. For this reason, they must be regarded as interpretive rather than factual documents, limited to some extent by the scope of information on which they rely.

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Borehole and Test Pit Logs

The borehole and test pit logs presented in this report are an engineering and/or geological interpretation of the subsurface conditions, and their reliability will depend to some extent on frequency of sampling and the method of drilling or excavation. Ideally, continuous undisturbed sampling or core drilling will provide the most reliable assessment, but this is not always practicable or possible to justify on economic grounds. In any case the boreholes and test pits represent only a very small sample of the total subsurface profile.

Interpretation of the information and its application to design and construction should therefore take into account the spacing of boreholes or pits, the frequency of sampling, and the possibility of other than 'straight line' variations between the test locations.

Groundwater

Where groundwater levels are measured in boreholes there are several potential problems, namely:

- In low permeability soils groundwater may enter the hole very slowly or perhaps not at all during the time the hole is left open;
- A localised, perched water table may lead to an erroneous indication of the true water table;
- Water table levels will vary from time to time with seasons or recent weather changes. They may not be the same at the time of construction as are indicated in the report; and
- The use of water or mud as a drilling fluid will mask any groundwater inflow. Water has to be blown out of the hole and drilling mud must first be washed out of the hole if water measurements are to be made.

More reliable measurements can be made by installing standpipes which are read at intervals over several days, or perhaps weeks for low permeability soils. Piezometers, sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from a perched water table.

Reports

The report has been prepared by qualified personnel, is based on the information obtained from field and laboratory testing, and has been undertaken to current engineering standards of interpretation and analysis. Where the report has been prepared for a specific design proposal, the information and interpretation may not be relevant if the design proposal is changed. If this happens, Douglas will be pleased to review the report and the sufficiency of the investigation work.

Every care is taken with the report as it relates to interpretation of subsurface conditions, discussion of geotechnical and environmental aspects, and recommendations or suggestions for design and construction. However, Douglas cannot always anticipate or assume responsibility for:

- Unexpected variations in ground conditions. The potential for this will depend partly on borehole or pit spacing and sampling frequency;
- Changes in policy or interpretations of policy by statutory authorities; or
- The actions of contractors responding to commercial pressures.

If these occur, Douglas will be pleased to assist with investigations or advice to resolve the matter.

About this Report

Site Anomalies

In the event that conditions encountered on site during construction appear to vary from those which were expected from the information contained in the report, Douglas requests that it be immediately notified. Most problems are much more readily resolved when conditions are exposed rather than at some later stage, well after the event.

Information for Contractual Purposes

Where information obtained from this report is provided for tendering purposes, it is recommended that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate to prepare a specially edited document. Douglas would be pleased to assist in this regard and/or to make additional report copies available for contract purposes at a nominal charge.

Site Inspection

The company will always be pleased to provide engineering inspection services for geotechnical and environmental aspects of work to which this report is related. This could range from a site visit to confirm that conditions exposed are as expected, to full time engineering presence on site.

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Appendix C

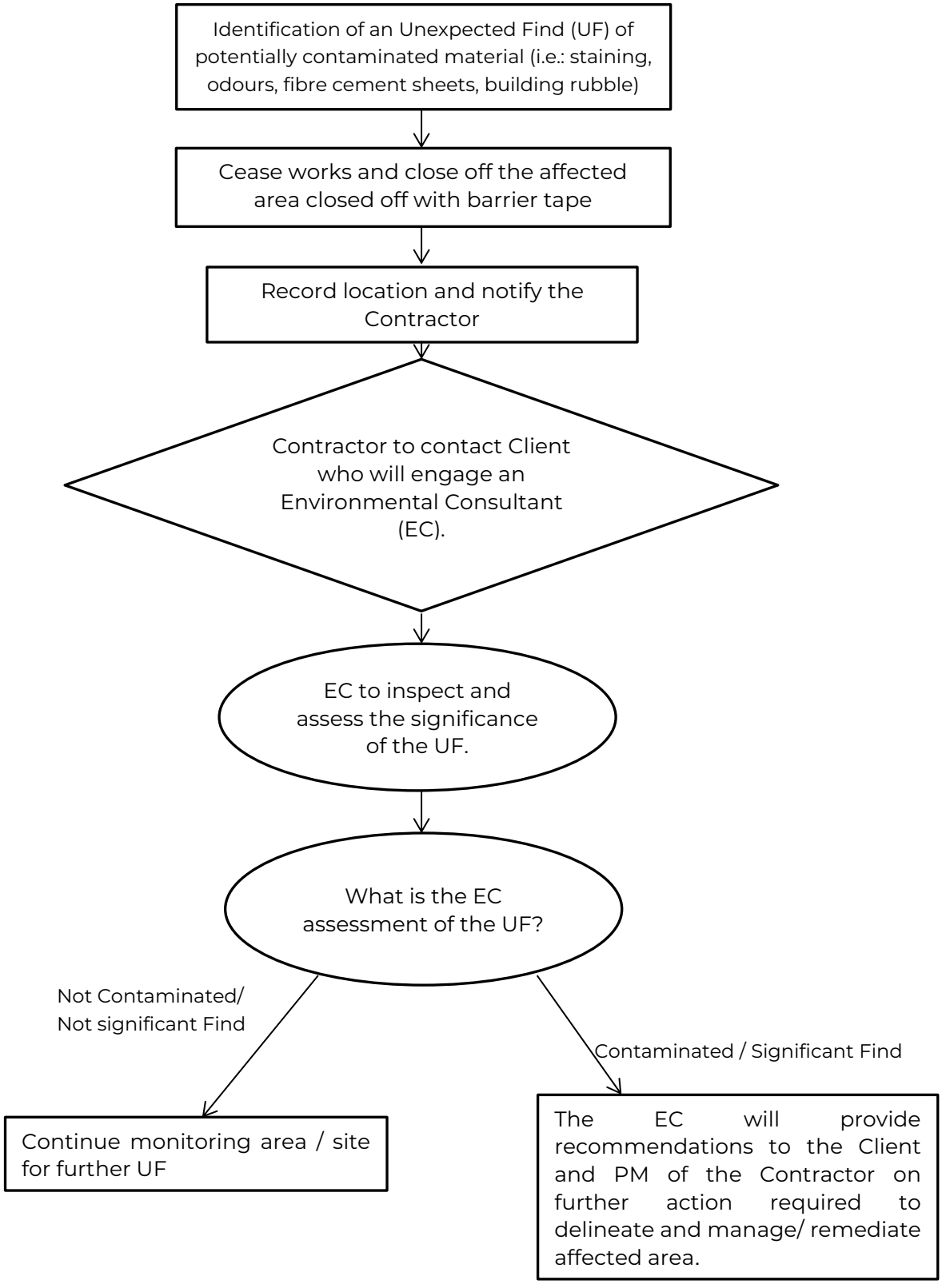
UFP Personnel Induction Register

UFP Flow Chart

Potential Contamination Issues
Personnel Induction Register
Proposed Solar Farm, Castlereagh Highway, Beryl NSW

Name	Company Name	Signature	Date

Unexpected Finds Protocol Flow Chart
Proposed Solar Farm, Castlereagh Highway, Beryl NSW



Appendix D

Examples of UFPs



Photo 1: Example of buried asbestos containing material waste



Photo 2: Example of an in-ground sheep dip

Douglas PARTNERS GROUNDED EXPERTISE	**Examples of Possible UF**	PROJECT:	206153.01
	Castlereagh Highway	Plate	1
	Beryl NSW	REV:	A
	Client: Potentia Energy Pty Ltd	DATE:	4-Mar-25



Photo 3: Example of buried waste material



Photo 4: Example of an uncovered Underground Storage Tank

Douglas PARTNERS GROUNDED EXPERTISE	**Examples of Possible UF**	PROJECT:	206153.01
	Castlereagh Highway	Plate	2
	Beryl NSW	REV:	A
	Client: Potentia Energy Pty Ltd	DATE:	4-Mar-25



Photo 5: Example of buried demolition waste and stained soil

Douglas PARTNERS GROUNDED EXPERTISE	**Examples of Possible UF**	PROJECT:	206153.01
	Castlereagh Highway	Plate	3
	Beryl NSW	REV:	A
	Client: Potentia Energy Pty Ltd	DATE:	4-Mar-25