Douglas Partners
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Integrated Practical Solutions

Report on
Detailed Site (Contamination) Investigation

Proposed School Development
Northbourne Dr, Marsden Park

Prepared for
SINSW

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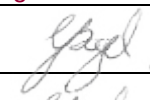
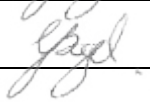
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Executive Summary

This detailed site (contamination) investigation report has been prepared by Douglas Partners Pty Ltd on behalf Schools Infrastructure NSW (SINSW) (the Applicant). It accompanies an Environmental Impact Statement (EIS) in support of State Significant Development Application (SSD-9809) for the Marsden Park New Primary School at the corner of Northbourne Drive (to the east) and a proposed future road (to the north) within the Elara Estate, Marsden Park (the "site").

The investigation included a review of previous investigations carried out on the site, a desktop review of the site history, the drilling of twenty three boreholes, excavation of ten test pits, the installation of three groundwater monitoring wells, laboratory testing and reporting.

The site history review identified that the site has an agricultural history and has been progressively filled since 2015. Previous reports have indicated that the fill imported to site was Virgin Excavated Natural Material.

Based on the site history and previous information a preliminary conceptual site model was prepared which identified potential contamination sources such as imported fill and agricultural related activities.

The intrusive investigation indicated that the site is underlain by filling to depths of 3.5 m, then natural clay soils with shale bedrock at depths of 5.5 m to 7.0 m. Groundwater was recorded at depths of 2.2 m to 5.6 m depth.

The results of chemical testing of soil and groundwater generally indicated levels the measured levels were below the site acceptance criteria with the exception of some heavy metals that exceeded groundwater levels.

This DSI report comprised a review of available current and historical site information and an intrusive soil investigation to provide recommendations and data on potential contamination at the site for construction of a proposed public school. Based on the results of the DSI, DP considers that the site is suitable for the proposed use as a school.

Notwithstanding the above, the potential remains for isolated pockets of contamination to be present in untested areas of the site. To appropriately manage unexpected potential contamination issues encountered during development works, DP recommends the implementation of an unexpected finds protocol during the development at this site. Additionally, any materials requiring off-site disposal must be classified, managed and disposed in accordance with the Protection of the Environment Operations Act 1997.

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Report on Detailed Site (Contamination) Investigation
Proposed School Development
Northbourne Drive, Marsden Park

1. Introduction

This detailed site (contamination) investigation report has been prepared by Douglas Partners Pty Ltd on behalf Schools Infrastructure NSW (SINSW) (the Applicant). It accompanies an Environmental Impact Statement (EIS) in support of State Significant Development Application (SSD-9809) for the Marsden Park New Primary School at the corner of Northbourne Drive (to the east) and a proposed future road (to the north) within the Elara Estate, Marsden Park (the "site"). The site is legally described as Lot 2889 in Deposited Plan 1230906. The development footprint does not include a portion of the site to the west as this is reserved for a future alternative use.

The Marsden Park New Primary School will cater for 1,000 primary school students at completion. The proposal seeks consent for:

- Construction Stage 1 (Temporary School): a temporary school facility constructed within the western portion of the development site located on the future sports grounds. This temporary school facility is to accommodate a maximum of 500 students at any given time. Should the permanent school progress as per the program, the temporary school will not be required.
- Construction Stage 2 (Construction of Permanent School Facility): a permanent consolidated two storey courtyard building with capacity to accommodate a maximum of 1,000 students. This new school building is to comprise:
  - 40 teaching spaces;
  - A canteen;
  - Library;
  - Multipurpose hall;
  - Office and administration space;
  - Staff and student amenities; and
  - Out of school hours care accommodation.
- Multi-purpose sporting facilities and outdoor play spaces;
- Associated site landscaping and public domain improvements;
- An on-site car park for 48 parking spaces and a drop-off and pick-up area; and
- Construction of ancillary infrastructure and utilities as required.

This detailed site (contamination) investigation report is interim until other applicable reports are available for review.

This investigation was carried out concurrently with a geotechnical investigation. The results of this investigation are presented in a separate report.

2. Response to SEARs

The geotechnical report is required by the Secretary's Environmental Assessment Requirements (SEARs) for SSD-9809. This table identifies the SEARs and relevant reference within this report.

Table 1 – SEARs and Relevant Reference

Sears No. and Item	Description
14. Contamination	• Assess and quantify any soil and groundwater contamination and demonstrate that the site is suitable for the proposed use in accordance with SEPP 55. • Undertake a hazardous materials survey of any existing structures and infrastructure prior to any demolition or site preparation works. a) Relevant Policies and Guidelines – Managing Land Contamination: planning Guidelines – SEPP 55 Remediation of Land (DUAP) – NSW EPA Sampling Design Guidelines 1995 – Guidelines for the NSW Site Auditor Scheme (3rd Edition) 2017 (EPA) – Guidelines for Consultants Reporting on Contaminates Sites 2011 (EPA) – National Environment Protection (Assessment of Site Contamination) Measures 2013
17. Water and Soils	Acid Sulfate Management Plan (if required)

The investigation included the drilling of twenty three boreholes and laboratory testing of selected samples. The details of the field and laboratory work are presented in this report, together with comments and recommendations on the issues listed above.

3. Scope of Works

The scope of works comprised:

- Review of available previous Contamination and Geotechnical Reports carried out on-site.
- Review of available historical aerial photographs to identify previous and current land uses;
- Search of the NSW EPA Register for notices issued under the CLM Act 1997 and the Protection of the Environment Operations Act 1997;
- Search of the NSW Department of Primary Industries groundwater database for registered groundwater bores in the vicinity of the site;
- Review of published geological, soil landscape and acid sulphate soil maps;
- Review previous investigation reports for the site and surrounding area (if available);
- Liaison with client and site owners for access approval;

- Preparation of a safe work method statement (SWMS) for a site walkover;
- A site walkover by an environmental scientist/engineer and set out of borehole and test pit locations;
- Drilling of twenty three (23) boreholes (BH201 to BH222 and 204A) using a geotechnical drilling rig. Boreholes were positioned to accommodate testing for both geotechnical and environmental purposes;
- Installation of three groundwater monitoring wells.
- Excavation of ten test pits (TP223 to 232) using an excavator;
- Log and collect soil samples at regular intervals and upon signs of contamination (i.e. odours, staining);
- Log and collect soil samples from all test pits at regular intervals and upon signs of contamination (i.e. odours, staining);
- Develop and sample groundwater wells.
- Dispatch 20 selected soil samples (plus quality assurance and quality control (QA/QC) samples) to a NATA-accredited laboratory for analysis of a combination of the following common contaminants and properties:
  - Heavy metals;
  - Benzene, toluene, ethylbenzene and xylene (BTEX);
  - Total recoverable hydrocarbons (TRH);
  - Polycyclic aromatic hydrocarbons (PAH);
  - Organochlorine pesticides (OCP)
  - Organophosphorus pesticides (OPP);
  - Polychlorinated biphenyls (PCB);
  - Phenols;
  - Asbestos;
  - pH;
  - Total organic carbon (TOC); and
  - Cation exchange capacity (CEC).
- Dispatch 3 groundwater samples to a NATA-accredited laboratory for analysis of a combination of the following common contaminants and properties:
  - Heavy metals;
  - Benzene, toluene, ethylbenzene and xylene (BTEX);
  - Total recoverable hydrocarbons (TRH);
  - Polycyclic aromatic hydrocarbons (PAH);
  - Organochlorine pesticides (OCP)
  - Organophosphorus pesticides (OPP);

- Polychlorinated biphenyls (PCB);
- Phenols;
- Asbestos;
- pH;
- Hardens; and
- Volatile Organic Compounds (VOC).

- Preparation of this report which describes the methodology and results of the investigation. The report also comments on the suitability of the site for the proposed development and/or the need for further investigation.

4. Site Identification and Description

4.1 Site Identification

The site is located at the northern end of Northbourne Drive, Marsden Park within the Blacktown City Council local government area and covers an approximate area of 3 ha. It is also identified as being located within Lot 111 in Deposited Plan 1190510.

The site location and approximate boundary is shown in Drawing 1, Appendix B.

4.2 Site Description

The site is located at the northern end of Northbourne Drive, Marsden Park within Elara Stage 28, Precinct 3 development. It is an irregular shaped area of 3 ha. The site topography generally slopes down to the north-west at gradients estimated to be up to about 2° with the maximum elevation at about RL 25 (m AHD) in the south of the site and the lowest elevation at about RL 19 (m AHD) in the north-western corner.

At the time of the field work the site was vacant having recently completed bulk earthworks. Observations made of the materials in the banks of the swale confirm the likely placement of filling.

The site is bounded by a proposed residential subdivision currently being formed with bulk earthworks to the north, a stormwater outlet drain on the north-east of the site, and by newly constructed roads and undeveloped land to the south, east and west.

A location plan showing the site location and approximate site boundary is shown in Drawing No 1 in Appendix B.

4.3 Proposed Development

It is understood that the proposed development involves the construction of three main school buildings including recreational grounds and two parking areas. It is understood that some areas of the proposed buildings will be partially below grade and would hence require some bulk excavation.

The proposed development is expected to cover the extent of the 3 ha proposed school site. Site plans for the proposed development are shown in Drawing 2, Appendix B.

5. Background

5.1 Overview

It is understood that the site, part of Precinct 3 of the Elara Estate at Marsden Park was previous agricultural land including an old dam. Development of the site has seen the site filled in three operations to attain current site levels. Filling of the site was first carried out in 2015 which included the dewatering and backfilling of the old dam on-site. The southern two thirds of the site were filled to current levels in 2018 with the final stage of filling on northern third of the site carried out in May 2019.

Several site investigations have carried out on-site and are described in the following sections.

5.2 Previous Investigations

DP previously carried out geotechnical and contamination investigations for the site in 2018. The work was carried out for Mode Design as part of a package of works for the NSW Department of Education. The results of these investigations are summarised in the following reports.

- Report on Geotechnical Investigation dated 26 February 2019 (Project Reference 94522.00.R.001.Rev0).
- Report on Detailed Site (Contamination) Investigation dated 17 December 2018 (Project Reference 94522.00.R.002.Rev0).

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Following these investigations additional fill has been placed and compacted on the northern side of the site and the site boundary has been extended west.

This investigation includes and summarises the previous geotechnical investigation results and supersedes DP's previous report.

5.3 Previous Site Works

It is understood that the site has filled in two separate earthworks operations as is known as Stage 28 of the Elara Estate, Marsden Park. The first section of works was carried out in 2018 involved the filling of the southern two-thirds of the site, including the dewatering and backfilling of an old dam. A man-made drainage swale on the northern boundary was not backfilled originally, however, was backfilled subsequently in May 2019.

The following reports have been present for review by DP:

- "Elara 3 Collector Road, Marsden Park – Certification of Site Testing and Site Validation" dated 6 June 2019 by Geotech Testing Pty Ltd (Reference 8967/1-AAR). This report outlines that 150 density tests were carried out on the northern side of the site between 2 May to 22 May 2019. Geotech testing "certify that at all locations tested, the compacted fill attained the density ratio shown on the test result sheets".
- "AS2870 Classification: Proposed Residential Subdivision – Stage 28, Precinct 3, Elara Marsden Park, Future Park, School, Childcare and Aged Care" dated 12 November 2018 by Construction Sciences (Ref: G09/2767-M:SZ vds). This report indicates that the following:
  - Earthworks carried out on-site included fill up to 2.0 m depth carried out under Level 1 testing requirements in accordance with AS3798 "Guidelines on Earthworks for Commercial and Residential Structures" (2007) between 12 June to 5 September 2018 (refer separate report by CSG09/2767-J). DP notes that this report has not been presented for review.
  - An H1 site classification was assigned to the site in accordance with AS2870 "Residential Slabs and Footings" (2011).
- "Site Validation Report: Proposed Residential Subdivision – Marsden Park, Precinct 3, Stages 27 – 32, 30A and 34A" dated 17 April 2019 by Construction Sciences. This report "confirms the site is suitable for the residential land use, from a contamination perspective". This report references previous environmental and validation reports by JBS & G and confirms all imported material was Virgin Excavated Natural Material (VENM). An imported fill protocol plan was referenced in this report, however, was not present for review.
- "Waste Classification Report: ACE Civil Pty Ltd - 7 Deanne Street, Burwood" dated 13 February 2019 by ERM (Project 0475405). This report outlines that natural clay and shale obtained from this source site is VENM. It is understood that this fill material was used in the second fill operation of the northern side of the site.
- "Waste Classification Report: ACE Civil Pty Ltd – 17 – 21 Mary Street, Auburn" dated 7 December 2019 by ERM (Project 0475405). This report outlines that natural sandy clay was obtained from this source site is VENM. It is understood that this fill material was used in the second fill operation of the northern side of the site.
- "Environmental Site Assessment: Marsden Park Land Release, Marsden Park" dated September 2014 by JBS Environmental (Report Reference 42286-51945), The results of these investigation identified ACM fragments, elevated concentrations of manganese in soils, some chicken burial pits and concluded that "based on the current investigation, the site can be made suitable for the proposed standard residential use subject to the removal of the ACM on the ground surface and in shallow soils at areas described above. Reference is made to a further groundwater assessment within this report.
- Stockland Precincts 2 and 3, Marsden Park - Blacktown City Council Precinct 2 DA Determination No. JRPP-15-01997 - Results of Environmental Site Assessment.

It is understood that Construction Sciences have bulk fill reports dated July and December 2016. These reports, together with the groundwater report carried out by JBS Environmental (now JBS & G) have not been made available for review.

It is further understood that neighbouring site was previously a golf course where contamination was identified. The neighbouring site was subject to an environmental site audit by an EPA accredited auditor but is understood to have been remediated.

6. Regional Topography, Geology and Hydrogeology

6.1 Geology

Reference to the Penrith 1:100 000 scale Geological Series Sheet indicates that the site is underlain by Londonderry Clays of Tertiary age. The underlying bedrock is mapped to be Bringelly Shale of the Wianamatta Group also of Triassic age which is underlain by Minchinbury Sandstone and Ashfield Shale.

Descriptions of the various units are provided below:

- Londonderry Clay – typically mottled red-grey highly plastic clay with sand pockets and iron cemented sand-clay aggregates occurring throughout with abundant ironstone pisolites
- Ashfield Shale – typically comprises dark grey to black shale, siltstone and laminite which weathers to a residual clay profile of medium to high plasticity.
- Bringelly Shale – typically comprises interlayered units of dark and light grey claystone/siltstone with occasional fine grained sandstone bands.
- Minchinbury Sandstone - typically a fine-grained sandstone forming a transitional unit, usually less than 3 m thick, between the Ashfield and Bringelly Shale units.

6.2 Soil Landscape

Reference to the Penrith 1: 100 000 scale Soil Landscape Series Sheet indicates that the site is located within the Berkshire Park soil landscape group. The Berkshire Park Group typically consists of weakly pedal heavy clays and clayey sands, commonly with ironstone nodules and silcrete boulders in a sand/clay matrix. These soils are characterised by erosion and frequent flooding.

6.3 Acid Sulphate Soils

Reference to the Acid Sulphate Soil (ASS) mapping for the area indicates that the site is located in an area of no known ASS occurrence.

The NSW Acid Sulphate Soils Manual 1998 published by the Acid Sulphate Soils Advisory Committee (ASSMAC) indicates that ASS (and Potential Acid Sulphate Soils – PASS) normally occur in alluvial or estuarine floodplains typically below RL 5 m AHD but occasionally up to RL 12 m AHD. Other indicators of ASS include waterlogged areas, coastal wetlands or areas where mangroves and reeds are the dominant vegetation. Considering the ASS mapping and the above indicators, it is considered unlikely that ASS is present on-site.

6.4 Hydrogeology

A search of Water NSW website for groundwater bores was undertaken. Seventeen bores were identified within 2 km of Lot 111 DP 1190510. Six monitoring bores (GW101478 to GW101483) in close proximity are located approximately 400 m to the north west of the site, one bore (GW100002) 2.8 km to the west and ten bores are located 1.5 to 2.2 km to the south east of the site.

Table 2: Registered Groundwater Boreholes

Well identifier	Use	Water bearing zone	Depth (m)
GW101482	Monitoring	N/A	2.5
GW101480	Monitoring	N/A	3.9
GW101481	Monitoring	N/A	3
GW101478	Monitoring	N/A	2.4
GW101483	Monitoring	N/A	5.5
GW101479	Monitoring	N/A	5
GW113307	Monitoring	N/A	9.5
GW104309	Monitoring	N/A	14
GW113306	Monitoring	N/A	9.3
GW113308	Monitoring	N/A	10.5
GW113305	Monitoring	N/A	14.9
GW104313	Monitoring	N/A	14
GW104314	Monitoring	N/A	15
GW104312	Monitoring	N/A	18
GW104308	Monitoring	N/A	14
GW104310	Monitoring	N/A	9
GW100002	Domestic, Stock	N/A (salinity 3610 µs/cm)	244

7. Site History

7.1.1 Aerial Photographs

Historical aerial photographs were provided by LotSearch for the years 1955 to 2016 and with more recent photographs by NearMap imagery. Due to the long, linear nature of the site area, some of the photographs do not capture the whole site area and thus some photographs have been provided in sections. Table 3 below indicates the year and section of the photograph as well as a site description and surrounding land uses.

Table 3: Historical Aerial Photography Summary

Year of Photograph	Site area description	Surrounding areas
1955 (a)	Wooded area	Farmland/grazing land
1955 (b)	Wooded area	Farmland/grazing land
1956	Wooded area	Farmland/grazing land
1961 (a)	Wooded area	Farmland/grazing land
1961 (b)	Wooded area	Farmland/grazing land
1965	Wooded area with partial removal of trees	Farmland/grazing land
1970	Wooded area with partial removal of trees	Farmland/grazing land
1982	Cleared grassland	Farmland/grazing land. Horse trotting tracks to the south east
1991	Cleared grassland	Farmland/grazing land. Horse trotting tracks to the south east
2005	Cleared grassland	Farmland/grazing land. Horse trotting tracks to the south east. Golf course to south east.
2009	Cleared grassland	Farmland/grazing land. Horse trotting tracks to the south east. Golf course to south east.
2015	Earthworks commenced on the southern side of the site in the aerial photograph on 15 October 2015	Farmland/grazing land. Golf course to south east.
2015	Earthworks have progressed and the dam appears to have been backfilled between 6 May and 18 July 2016	Farmland/grazing land. Golf course to south east.
2016	Cleared grassland. Dam of approximately 400 m^2 filled in, constructed swale in the northern third of the site.	Farmland/grazing land. Horse trotting tracks to the south east. Golf course to south east has earthworks commenced.
2017	Vacant lot. Movement of stockpiles.	Farmland/grazing land to the north. Residential development to the south
2018	Vacant lot	Farmland/grazing land to the north. Residential development to the south

The historical aerial photography shows that the site has generally been of rural or agricultural land-use since 1955. Changes in site use have generally been the clearing of land since 1982 and more contemporary earthworks in preparation for residential developments.

7.1.2 Historical Title Deeds

A historic title deed search was conducted for the site by Lotsearch Pty Ltd and was used to obtain ownership and occupancy information including company names and the occupations of individuals. The title information can assist in the identification of previous land uses by the company names or the site owners and can therefore assist in establishing whether there were potentially contaminating activities occurring at the site. Notwithstanding, it should be noted that whilst titles can assist they are not conclusive of land use and need to be used in conjunction with other site information (e.g. aerial photographs) to gain a better understanding of the likely land use.

A complete summary of the title deeds including historical subdivisions of the current lot is presented in Appendix C. A brief summary is provided below in Table 4 below including possible land uses (with reference to other information presented in this report).

Table 4: Historical Tile Summary

Date of Acquisition and Term Held	Registered Proprietor(s) & Occupations	Possible Land Use
2000-to date	# Woorong Park Pty Limited	Development
1979-2001	Rellim (Holdings) Pty. Limited	Unknown
1977-1979	A.S.R. Developments Limited	Unknown
1972-1977	Stilgar Pty. Limited.	Unknown
1942-1972	Lanham's Laundry Pty Limited	Unknown
1943 – 1949	Joseph Bernard Crawley, grazier	Agriculture
1941 – 1943	Allen Alfred Frederick Andrews, farmer	Agriculture
1938 – 1941	John George, farmer	Agriculture
(1938 – 1941)	*(lease to the Springfield Pty. Limited)*	Unknown
1934 – 1938	Allen Alfred Frederick Andrews, farmer	Agriculture
1932 – 1934	Esther Dudley Buckland, widow Arthur Roy Buckland, gentleman Honorable John Musgrave Harvey, judge of the supreme court	Unknown
1919 – 1932	John Arthur Buckland, grazier	Agriculture
1917 – 1919	Alfred Sharp, dairyman	Agriculture
1908 – 1917	George Henry Cooper, coach proprietor	Unknown
1904-1919	George Grierson Kiss, gentleman	Unknown

# Denotes Current Registered Proprietor

From review of the historical titles for the historic subdivisions making up the current lot, it is shown that the majority of the lots were used for rural purposes or agricultural land use.

7.1.3 Council Section 149 Planning Certificates and Council Records

Section 149 (2&5) Planning Certificates were obtained on 26 October 2018 and reviewed for relevant information and summarised below.

The site is not subject to the Blacktown Local Environment Plan 2015, and that the land is affected by the *State Environmental Planning Policy (Sydney Region Growth Centres) 2006.* Draft amendments to this plan are to implement actions from the North West Priority Growth Area Land Use and Infrastructure Implementation Plan which apply to the land. The lot has been zoned as R2 Low Density Residential, RE1 Public Recreation and SP2 Infrastructure (local drainage and classified road).

Under the Contaminated Land Management Act 1997 and Contaminated Land Management Amendment Act 2008, it is noted that the lot investigated is subject to the below:

(a) The land to which the certificate relates is not subject to approved voluntary management order at the date when the certificate was issued

(b) The land to which this certificate relates is not subject to a management order at the date when the certificate was issued

(c) The land to which this certificate relates is not the subject of an approved voluntary management proposal at the date when the certificate was issued

(d) The land to which this certificate relates is not subject to an ongoing maintenance order as at the date when the certificate was issued

(e) The land to which this certificate relates in not the subject of a site audit statement provided to the Council.

A copy of the Section 149 Planning Certificate is provided in Appendix C.

7.1.4 Regulatory Notice Search

The EPA publishes records of contaminated sites under Section 58 of the CLM Act on a public database, accessible via the internet. The notices relate to investigation and/or remediation of significant contaminated as defined under the CLM Act. More specifically the notices relate to the following:

- Actions taken by the EPA under Sections 15, 17, 19, 21, 23, 26 or 28 of the CLM Act;
- Actions taken by the EPA under Sections 35 or 36 of the Environmentally Hazardous Chemicals Act 1985; and
- Site audit statements provided to the EPA under section 52 of the CLM Act on sites subject to an in-force remediation order.

On a search undertaken on the 23 July 2019 no records under the CLM Act were listed for the suburb of Marsden Park.

The NSW EPA also issues environmental protection licenses under Section 308 of the POEO Act. The register contains:

- Environmental protection licenses;
- Applications for new licenses and to transfer or vary or extend licenses;
- Environment protection and noise control licenses;
- Convictions and prosecutions under the POEO Act;
- The result of civil proceedings;
- License review information;
- Exemptions and provisions of the POEO Act or Regulations;
- Approvals granted under Clause 9 of the POEO (Control of Burning) Regulation; and
- Approvals granted under Clause 7a of the POEO (Clean Air) Regulation.

A search of the public database on 30 November 2018 indicated that:

- There are no properties within 500 m of the site that have been notified to the NSW EPA under the duty to report contamination;
- There are no Records of Notice for properties within 500 m of the site;
- There are no records of former gasworks within 500 m of the site;
- There are no properties on the national waste management site database within 500 m of the site;
- There are no properties currently subject to the EPA PFAS (perfluorooctanesulfonic acid) within 500 m of the site;
- There are no properties identified as former James Hardie asbestos manufacturing sites within 500 m of the site;

A search of the record did however note activities which were licenced under the POEO act under the suburb name of Marsden Park summarised in Table 5 below.

Table 5: POEO Search Summary Findings

Name	Location	Type	Activity
Blacktown Waste Services Pty Ltd	Richmond Road, Marsden Park	Licence/variation(s)	Waste storage/disposal
Linfox Australia	Harris Avenue, Marsden Park	Licence	General chemical storage
Costco Wholesale Australia Pty Ltd	Langford drive, Marsden Park	Licence	Petroleum products and fuel production
EDL FLG (NSW) Pty Ltd	Grange Avenue (west), Marsden Park	Licence/variation(s)	Generation of electrical power from gas
Peter Simpson	851 Richmond Road, Marsden Park	Clean up notice	Stockpile removal (completed)

None of the above listed notices are considered likely to impact on the proposed development. A copy of the records is included in Appendix C.

8. 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 of in the future i.e. it enables an assessment of the potential source – pathway – receptor linkages (complete pathways).

8.1 Potential Contamination Sources and Contaminants of Concern

Based on the current investigation, the following potential sources of contamination and associated contaminants of concern have been identified (Table 6).

Table 6: Potential Contamination Sources and Contaminants of Concern

Potential Source	Description of Potential Contaminating Activity	Contaminants of Concern
S1- Imported fill	Use of uncontrolled fill to level the site or the creation of dam walls	Asbestos, heavy metals, TRH, BTEX, PAH, OCP, OPP, PCB and phenols
S2 – Fly-tipping	Illegal dumping of potentially contaminating materials	Asbestos, heavy metals, TRH, BTEX, PAH, OCP, OPP, PCB and phenols
S3 – Agriculture	Use of pesticides or herbicides, asbestos cement buildings such as sheds	Asbestos, metals, and/or other hazardous building materials (PCBs, SMF), various pesticides

Notes : TRH - total petroleum hydrocarbon
BTEX - benzene, toluene, ethylbenzene, xylene
PAH - polycyclic aromatic hydrocarbons
PCB - polychlorinated biphenyls
OCP - organochlorine pesticides
OPP - organophosphorus pesticides

The potential contamination sources on the site are therefore as follows:

S1 Imported fill;

S2 Fly-tipping

S3 Agriculture

8.2 Potential Receptors

6.2.1 Human Health Receptors

R1 Construction and maintenance workers;

R2 End users (residential);

R3 Adjacent site users (rural/residential);

6.2.2 Environmental Receptors

R4 Groundwater;

R5 Surface water; and

R6 Soils.

6.2.3 Potential Pathways

Potential pathways for the identified contamination to impact on the receptors include the following:

P1 Ingestion and dermal contact;

P2 Inhalation of dust and / or vapour;

P3 Leaching of contaminants and vertical migration into groundwater;

P4 Lateral migration of groundwater; and

P5 Lateral migration to surface water from run-off.

8.3 Summary of Preliminary CSM

A 'source – pathway – receptor' approach has been used to assess the potential risks of harm being caused to human, water or environmental receptors from contamination sources on or in the vicinity of the site, via exposure pathways. The possible pathways between the above sources (S1 to S3) and receptors (R1 to R6) are provided in Table 7 below.

Table 7: Summary of Potential Complete Pathways

Potential Source and Contaminants of Concern	Pathway	Receptor	Risk Management Action Recommended
S1 - Imported fill (metals, TRH, BTEX, PAH, PCB, OCP, OPP, phenols and asbestos)	P1 – Ingestion and dermal contact	R1 - Construction and maintenance workers R2 - End users	Targeted assessment including chemical analysis of *in situ* fill materials or stockpiles
	P2 – Inhalation of dust and/or vapours	R1 - Construction and maintenance workers	

Potential Source and Contaminants of Concern	Pathway	Receptor	Risk Management Action Recommended
		R2 - End users R3 – Adjacent site users	
	P3 – Leaching and vertical migration into groundwater P4- Lateral Migration of Groundwater P5 – Lateral migration to surface water from run off	R4 –Groundwater R5 – Surface Water R6 - Soil	
S2 Fly-tipping (Asbestos, heavy metals, TRH, BTEX, PAH, OCP, OPP, PCB and phenols)	P1 – Ingestion and dermal contact	R1 - Construction and maintenance workers	Targeted assessment including chemical analysis and delineation of any subsurface impacts
	P2 – Inhalation of dust and/or vapours	R1 - Construction and maintenance workers R2 - End users R3 – Adjacent site users	
	P3 – Leaching and vertical migration into groundwater P4- Lateral Migration of Groundwater P5 – Lateral migration to surface water from run off	R4 –Groundwater R5 – Surface Water R6 - Soil	
S3 Agriculture	P1 – Ingestion and dermal contact	R1 - Construction and maintenance workers R2 - End users	Further targeted assessment where works located within the site footprint
	P2 – Inhalation of dust and/or vapours	R1 - Construction and maintenance workers R2 - End users R3 – Adjacent site users	
	P3 – Leaching and vertical migration into groundwater P4- Lateral Migration of Groundwater P5 – Lateral migration to surface water from run off	R4 –Groundwater R5 – Surface Water R6 - Soil	

9. Sampling Methodology, Rationale and Fieldwork

9.1 Data Quality Objectives and Project Quality Procedures

The investigation has been devised broadly in accordance with the seven step data quality objective (DQO) process which is provided in Appendix B, Schedule B2 of the *National Environment Protection (Assessment of Site Contamination) Measure* 1999, as amended 2013 (NEPC, 2013). The DQO process is outlined as follows:

- Stating the Problem;
- Identifying the Decision;
- Identifying Inputs to the Decision;
- Defining the Boundary of the Assessment;
- Developing a Decision Rule;
- Specifying Acceptable Limits on Decision Errors; and
- Optimising the Design for Obtaining Data.

An evaluation of the DQO is presented in Appendix H.

9.2 Data Quality Indicators

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

Precision: A quantitative measure of the variability (or reproducibility) of data;

Accuracy: A quantitative measure of the closeness of reported data to the "true" value;

Representativeness: The confidence (expressed qualitatively) that data are representative of each media present on the site;

Completeness: A measure of the amount of useable data from a data collection activity;

Comparability: The confidence (expressed qualitatively) that data can be considered equivalent for each sampling and analytical event.

An evaluation of the DQI is presented in Appendix H.

9.3 Soil and Groundwater Sample Locations and Rationale

Table A of the NSW EPA (1995) *Sampling Design Guidelines* recommends a minimum of forty (40) sampling points for a 3 ha site characterisation based on the detection of circular hot spots using a systemic grid sampling pattern. A total of twenty three (23) boreholes, ten (10) test pits and three groundwater wells were positioned across the site in this investigation. Previous investigation in December 2018 carried out twenty five (25) boreholes positioned across the site. The two investigations have achieved the minimum 40 locations.

As this investigation was being undertaken concurrently with a geotechnical investigation by DP, placement of boreholes was adjusted such that geotechnical and environmental sampling requirements could be met.

9.4 Sampling Methodology

The field work was carried out during June and July 2019 by engineers from DP and comprised:

- Set out and survey of all twenty three (23) borehole locations and ten (10) test pit locations;
- The drilling of twenty-three boreholes (BH201 to BH222 and 204A) using either a mini-excavator mounted with an auger attachment or a truck-mounted Explora drilling rig. Boreholes were drilled using solid flight augers to depths ranging between 1.6 m and 7.4 m depth.
- Excavation of ten test pits (TP224 to 232) using an excavator to depths of 2.4 m to 3.2 m across the site.
- Groundwater monitoring wells were installed in Boreholes 218 to 220 at the completion of drilling. The wells involved inserting Class 18 uPVC screen and casing to depths of 6.0 m to 6.9 m below existing ground levels, backfilling the screened length with clean sand, plugging the top of the sand with bentonite pellets and backfilling the casing with drilling spoil. The top of the well was sticking up approximately 1 m above site levels. The groundwater well in Borehole 218 was developed (purge of water) on 5 July 2019.

Soil samples were collected for each observed soil type, and at regular depth intervals. Observations were made and recorded on the borehole logs for staining, odours and anthropogenic materials.

All sampling data was recorded on DP's test pit logs and borehole logs, provided in Appendix D. The general sampling procedure adopted for the collection of soil samples for chemical analysis was:

- Collect soil samples from the excavated face of the test pit, auger returns and SPT splits using disposable sampling equipment;
- Transfer samples into 40 g zip lock bags, 500 ml zip lock bags and laboratory-prepared glass jars, completely filled to ensure the headspace within the sample jar is minimised, and capping immediately to minimise loss of volatiles;
- Label sample containers with individual and unique identification, including project number, sample location and sample depth; and
- Place the glass jars, with Teflon lined lid, into a cooled, insulated and sealed container for transport to the laboratory.

Test pit and borehole locations and levels were determined using a high-precision differential global positioning system (dGPS) receiver. The locations of the tests are shown on Drawing 1 in Appendix B.

9.5 Groundwater Wells

The three groundwater monitoring wells were constructed of 50 mm diameter acid washed Class 18 PVC casing and machine slotted well screen. Joints were screw threaded, thereby avoiding the use of glues and solvents which may contaminate samples.

The wells were completed with a gravel pack extending to a minimum 0.5 m above the well screen, and then a minimum 0.5 m thick bentonite plug, and backfilled to the surface. All bores were finished with a Gatic cover. Well construction details of the individual monitoring wells are included in the corresponding bore logs (attached) which should be read in conjunction with the attached explanatory notes that define classification methods and terms used to describe the soils and rocks.

9.6 Groundwater Sampling

Subsequent to installation, the groundwater monitoring wells at BH218 to 220 were developed by continuous pumping until three well volumes were removed or the well was dry as determined by the environmental scientist on site. The purpose of well development was to remove as far as practicable sediment introduced via drilling and to facilitate the connection of the well to the local groundwater regime.

All re-used equipment was decontaminated between samples using a 3% solution of Decon 90 and rinsing with deionised water. Physical parameters were taken at all monitoring bores using a TPS water quality meter. The recorded readings for temperature, pH, dissolved oxygen, redox, conductivity and turbidity are recorded in the field sheets attached in Appendix F. The wells were micro-purged using a low flow pump (Geopump) until field parameters (pH, temperature, dissolved oxygen (DO), conductivity, total dissolved solids (TDS) and redox) had stabilised. Once field parameters had stabilised groundwater samples were collected using a low flow pump with adjustable flow rate, with disposable polyethylene tubing using the low flow pump. Samples were placed with a minimum of aeration into appropriately preserved bottles. Groundwater samples obtained for metal analysis were filtered in the field using an in-line disposable 0.45 µm filter that was changed between samples.

Sample handling and transport to Envirolab for analysis was conducted as described for soil sampling. The analytical scheme for soil and groundwater samples was designed to obtain an indication of the potential presence and possible distribution of identified contaminants of potential concern identified by the CSM, being metals, TRH, BTEX, PAH, OCP, OPP, PCB, phenols, VOC and asbestos. The results of the analytical testing were compared with the adopted site assessment criteria (SAC) discussed in Section 10.

In terms of soil samples, the surface, near surface and fill samples were selected for analysis, being the most likely samples to contain contaminants at the sampled locations.

9.7 Quality Assurance and Quality Control

The field QA/QC procedures for sampling were undertaken with reference to Douglas Partners' *Field Procedures Manual*. Field sampling comprised blind replicate sampling at a rate of approximately one replicate sample for every 10 samples. The comparative QA/QC results are summarised in Appendix H.

The analytical laboratory used is National Association of Testing Authorities (NATA) accredited and is required to conduct in-house QA/QC procedures. These are normally incorporated into every analytical run and include reagent blanks, spike recovery, surrogate recovery and duplicate samples. These results are included in the laboratory certificates in Appendix G and are evaluated in Appendix H.

10. Site Assessment Criteria

10.1 Soils

The analytical results for soil from the laboratory testing have been assessed (as a Tier 1 assessment) against the investigation and screening levels in Schedule B1 of the National Environment Protection Council (NEPC) *National Environment Protection (Assessment of Site Contamination) Measure 1999* (amended 2013) (NEPC, 2013). This guideline has been endorsed by the NSW EPA under the CLM Act. Schedule B1 provides investigation and screening levels for commonly encountered contaminants which are applicable to generic land uses and include consideration of, where relevant, the soil type and the depth of contamination.

Petroleum based health screening levels for direct contact have been adopted from the *Cooperative Research Centre for Contamination Assessment and Remediation of the Environment (CRC CARE) Technical Report no.10 Health screening levels for petroleum hydrocarbons in soil and groundwater* (2011) as referenced by NEPC (2013).

The investigation and screening levels are not intended to be used as clean up levels. They establish concentrations above which further appropriate investigation (e.g. Tier 2 assessment) should be undertaken. They are intentionally conservative and are based on a reasonable worst-case scenario for four generic land use scenarios.

Selected guidelines were based on the proposed low density residential development with minimal soil access (residential A) land use. The site specific SAC are attached in Appendix E.

10.2 Groundwater

The potential receptors of impacted groundwater from the site include:

- Localised groundwater (freshwater); and
- Open water bodies (Nepean River).

Given no registered domestic groundwater bores on site, ingestion via drinking water is excluded as a pathway to human receptors.

10.2.1 Groundwater Investigation Levels

The Groundwater Investigation Levels (GIL) adopted in NEPC (2013) are based on:

- *Australian Drinking Water Guidelines* 2011 (ADWG);
- *Guidelines for Managing Risk in Recreational Waters* 2008 (GMRRW); and
- *National water quality management strategy. Australian and New Zealand guidelines for fresh and marine water quality* 2000 (ANZECC & ARMCANZ).

The adopted GIL for the analytes included in the assessment, and the corresponding source documents, are shown in Table 9.

Table 8: Groundwater Investigation Levels (in µg/L except metals)

Analyte		NEPC (2013) Fresh Waters [a]	Comments
Metals (mg/L)	Arsenic (V)	0.013	
	Cadmium	0.0002	
	Chromium (VI)	0.001	
	Copper	0.0014	
	Lead	0.0034	
	Manganese	1.9	
	Mercury (total)	0.00006	
	Nickel	0.011	
	Zinc	0.008	
PAH	Naphthalene	16	
	Benzo(a)pyrene	-	
BTEX	Benzene	950	
	Toluene	-	
	Ethylbenzene	-	
	Xylene (o)	350	
	Xylene (p)	200	
	Xylenes (Total)	-	
OCP	Chlordane	0.03	
	DDT	0.006	
	Endosulfan	0.03	
	Endrin	0.01	
	Heptachlor	0.01	
	Aldrin + Dieldrin	-	
	Lindane	0.2	
	Heptachlor Expoxide	-	
PCB	Aroclor 1242	0.3	
	Aroclor 1254	0.01	

Analyte		NEPC (2013) Fresh Waters [a]	Comments
Phenols	Pentachorophenol (used as an initial screen)	3.6	
VOC	Chloroform	370 [b]	Given the exhaustive list of VOC contaminants, only those VOC concentrations detected above the laboratory reporting limits and with GILs have been included in this table

Notes:

a Investigation levels apply to typically slightly-moderately disturbed systems

b In cases where no high reliability trigger values are provided, the low reliability trigger values provided in ANZECC &ARMCANZ (2000) were used as screening levels

Hardness of 3100 mgCaCo3/L registered for groundwater samples from this site.

10.2.2 Health Screening Levels – Petroleum Hydrocarbons

The generic HSL are considered to be appropriate for the assessment of contamination at the site. Given the proposed land use the adopted HSL are:

- **HSL- AB** – Low – high density residential.

In addition, the HSL adopted is predicated on the following inputs prescribed in Table 9.

Table 9: Inputs to the Derivation of HSLs

Variable	Input	Rationale
Potential exposure pathway	Groundwater vapour intrusion (inhalation)	Exposure pathway via groundwater vapour intrusion affects the adopted HSL.
Soil Type	Sand	Site soils include sand in filling and is the most conservative medium for soil HSLs.
Depth to contamination	2 - <4 m	Recorded depths to groundwater are in the order of 2 – 5 m (Section1). Given the depth of the excavation for the development is currently unknown depth to groundwater after basement construction has been assumed to be 2-4m.

The adopted groundwater HSL for vapour intrusion, from Table 1A(4), Schedule B1 of NEPC (2013) are shown in the following Table 10.

Table 10: Groundwater Health Screening Levels (HSL) for Vapour Intrusion (µg/L)

Analyte		HSL- AB
TRH	$C_6 – C_{10}$ (less BTEX) [F1]	1000
	$>C_{10}-C_{16}$ (less Naphthalene) [F2]	1000
BTEX	Benzene	800
	Toluene	NL
	Ethylbenzene	NL
	Xylene	NL
PAH	Naphthalene	NL

Note: NL -The solubility limit is defined as the groundwater concentration at which the water cannot dissolve any more of an individual chemical based on a petroleum mixture. The soil vapour which is in equilibrium with the groundwater will be at its maximum. If the derived groundwater HSL exceeds the water solubility limit, a soil-vapour source concentration for a petroleum mixture could not exceed a level that would result in the maximum allowable vapour risk for a given scenario. For these scenarios no HSL is presented for these chemicals. These are denoted as not limiting 'NL'.

11. Fieldwork and Laboratory Results

11.1 Site Inspection

The site is has recently had bulk earthworks completed. A site inspection on 18 June 2018 by DP's senior geotechnical engineer indicated that the surface was generally covered by gravelly clay. On the most recent fill works numerous pieces of rubbish (mostly plastic products with occasional pieces of timber and sandstone cobbles), were observed at the ground surface. Typical photos of these pieces of rubbish are presented in Photos 1 to 4 on the following page.



Photo 1



Photo 2



Photo 3



Photo 4

11.2 Field Testing Results

The detailed borehole and pit logs are provided in Appendix E. Notes defining classification methods and terms used to describe the soils and rocks are provided in Appendix A. The below results include previous investigations carried out by DP. The subsurface conditions encountered over the site can be generally described as:

11.3 Laboratory Results

A summary of the soil and groundwater testing results compared to the SACs adopted are provided in Tables G2 to G3, Appendix G. The laboratory certificates of analysis, chain of custody documentation and sample receipt advice are provided in Appendix F and Data Quality Assurance and Quality Control is included in Appendix H.

Fill: - Typically brown silty and gravelly clay fill with inclusions of shale and sandstone gravel, cobbles and boulders (up to 400 mm diameter), building rubble (brick, concrete and tile fragments), plastic and PVC pipe fragments, organic fibres in all boreholes and pits to depths ranging between 0.8 m and 3.5 m; overlying,

Natural Clay: - Typically stiff or very stiff, red brown and grey silty clay with traces of gravel at depths of 0.8 m to 2.9 m in Boreholes 211, 214, 215, 218 to 221; overlying,

Shale: - Very low strength, grey shale was encountered at depths ranging between 5.5 m and 7.0 m in Boreholes 218 to 221.

Free groundwater was not observed during augering and the use of drilling fluid prevented groundwater observations during rotary drilling and coring. Backfilling of the boreholes at the completion of testing precluded long-term monitoring of groundwater levels.

The groundwater wells were measured for groundwater on completion of installation on 5 July 2019 and subsequently on 9 July 2019, 11 July 2019 and 29 July 2019. The results are summarised in Table 11.

Table 11: Results of Groundwater Monitoring

Borehole	Surface Level (m AHD)	5 July 2019		9 July 2019		11 July 2019		29 July 2019	
		Depth (m)	RL (m AHD)	Depth (m)	RL (m AHD)	Depth (m)	RL (m AHD)	Depth (m)	RL (m AHD)
218	22.0	2.2	19.8	5.4	16.6	5.5	16.5	2.3*	19.7
219	24.6	Dry	<18.7	5.7	18.9	5.7	18.9	4.7	19.9
220	22.6	5.6	17.0	5.3	17.3	3.9	18.7	3.8	18.8

Note: Possible Disturbance of Well Cap.

Groundwater levels indicate that they are transient and subject to fluctuations with climatic variations and possibly may subject to more significant variation across the site due to prior earthworks on-site.

12. Discussion of Results

12.1 Contaminants in Soil

All primary sample results for TRH, BTEX, OCPs, OPPs, PCBs and phenols were below laboratory PQLs and SACs. Detected concentrations of PAHs above PQL were observed in BH120/0-0.2m and BH122/0-0.2m but were found to be within SACs. Detected concentrations of metals were observed in the majority of samples including detection of Arsenic, Chromium, Copper, Lead, Nickel and Zinc above PQL, but all detections were found to be within SACs. No asbestos was observed in any samples above the laboratory limit of detection.

Anthropogenic material consisting of plastic, concrete, tile and brick fragments (that are indicative of building demolition waste) were observed in the test pits. Notwithstanding the results obtained from chemical testing, the inclusion of various foreign objects in the fill indicates some of the fill is inconsistent with the Virgin Excavated Natural Material (VENM) classification.

12.2 Contaminants in Groundwater

Reported concentrations of metals, BTEX, TRH, OCP, OPP, PCB, PAH, As, Cr, Cu, Pb, and Hg in the groundwater samples were below the LOR and therefore the SAC (Table G3, Appendix G). A significant exceedance of the chemical level levels for Manganese and minor exceedances of Nickel, Cadmium, Nickel and Zinc was encountered.

The exceeded of Manganese was in the range of 12 to 16 mg/L. These elevated levels are considered to be natural occurring background levels typical in Western Sydney. The source of the

elevated Manganese is not expected to be localised to site and is more likely to typical of the regional groundwater in the area. The health effects of exposure to Manganese are generally associated with long-term exposure and direct contact. Review of the Water Research Australia "Fact Sheet: Manganese in drinking water" (November 2013) indicates that heavy consumption (i.e. drinking) of water with elevated Manganese levels may be problematic. On this site, given that the groundwater levels have been recorded at depths of 2 m to 6 m across the site and there is no direct pathway between the users and the groundwater, it is not expected to pose a risk to the site users (personnel at the school).

Other metals concentrations are considered to be naturally occurring background concentrations and do not constrain the site from the proposed use.

12.3 Preliminary Waste Classification

12.3.1 Filling

EPA (2014) contains a six step procedure for determining the type of waste and the waste classification. Part of the procedure, for materials not classified as special waste or pre-classified waste, is a comparison of analytical data initially against contaminant threshold (CT) values specific to a waste category. Alternatively, the data can be assessed against specific contaminant concentration (SCC) thresholds when used in conjunction with toxicity characteristic leaching procedure (TCLP) thresholds.

The CT, SCC, and TCLP values relevant to this waste classification are shown in the Table G1 (Appendix G).

The following Table 12 presents the results of the six step procedure outlined in EPA (2014) for determining the type of waste and the waste classification. This process applies to the fill at the site.

Table 12: Six Step Classification

Step	Comments	Rationale
1. Is it special waste?	No	No asbestos-containing materials (ACM), or coal tar, clinical or related waste, or waste tyres were observed in the remaining test pits or boreholes;
2. Is it liquid waste?	No	Materials composed of a soil matrix
3. Is the waste "pre-classified"?	No	Filling and natural material did not fall into one of the pre-classified categories
4. Does the Waste have hazardous waste characteristics	No	Waste not observed to/ or considered at risk to contain explosives, gases, flammable solids, oxidising agents, organic peroxides, toxic substances or corrosive substances, substances liable to spontaneous combustion
5. Chemical Assessment	Conducted	Refer to Table G1 in Appendix G

Step	Comments	Rationale
6. Is the Waste Putrescible?	No	All observed components of filling composed of materials pre-classified as non-putrescible (i.e. soil)

As shown in Table G1 (Appendix G) all contaminant concentrations for the analysed fill samples were within the contaminant thresholds (CT1s) for General Solid Waste (GSW).

On the basis of the field observations and analytical data, the filling is preliminary classified *in situ* as general solid waste (non-putrescible).

12.3.2 Natural

The POEO Act defines (VENM) as:

natural material (such as clay, gravel, sand, soil or rock fines):

(a) that has been excavated or quarried from areas that are not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities and

(b) that does not contain any sulfidic ores or soils or any other waste.

The following publication with background concentration ranges for Australian soils has been referenced in assessing the concentrations of analytes:

- Australian and New Zealand Environment and Conservation Council/National Health and Medical Research Council (ANZECC/NHMRC): *Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites* (1992), Environmental Soil Quality Guidelines Column A Background (ANZECC A) (ANZECC 1992); and

The following Table 13 presents the results of the assessment of natural soils at the site with reference to the VENM definition and EPA advice outlined above.

Table 13: VENM Classification Procedure

Item	Comments	Rationale
1. Is the material natural?	Yes	Soils are of natural origin (with reference to the test pit and borehole logs)
2. Are there current or previous land uses that have (or may have) contaminated the materials?	Yes	Potential contamination from previous land use (Refer to section 6).
3. Are manufactured chemicals or process residues present?	Testing undertaken	Testing was undertaken to assess for the presence of chemicals.
4. Are sulfidic ores or soils present?	No	Site located in an area of no known occurrence of acid sulfate soils (see

Item	Comments	Rationale
		Section 3).
5. Are naturally occurring asbestos soils present?	No	Based on the geology, naturally occurring asbestos is not considered to be an issue of concern for the subject materials.
6. Is there any other waste present?	No	Apart from filling in the soil strata above containing some anthropogenic materials, there were no other wastes observed to be present.

As shown in Table G, Appendix G, all analytical results for the analysed natural samples were within the background ranges. Based on the available contamination testing results, natural materials are preliminarily classified as VENM, although further assessment by visual and analytical means is required for a final waste classification.

13. Conclusion and Recommendations

This DSI report comprised a review of available current and historical site information and an intrusive soil investigation to provide recommendations and data on potential contamination at the site for construction of a proposed public school. Based on the results of the DSI, DP considers that the site is suitable for the proposed use as a school.

Notwithstanding the above, the potential remains for isolated pockets of contamination to be present in untested areas of the site. To appropriately manage unexpected potential contamination issues encountered during development works, DP recommends the implementation of an unexpected finds protocol during the development at this site. Additionally, any materials requiring off-site disposal must be classified, managed and disposed in accordance with the Protection of the Environment Operations Act 1997.

14. Limitations

Douglas Partners (DP) has prepared this report for this project at Northbourne Drive, Marsden Park in accordance with DP's proposal NWS190092 dated 4 June 2019 and acceptance received from Mr Mathew Wood of Infrastructure NSW dated 12 June 2019. The work was carried out under DP's Conditions of Engagement. This report is provided for the exclusive use of Infrastructure NSW 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 DP, does so entirely at its own risk and without recourse to DP for any loss or damage. In preparing this report DP 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 DP's field testing has been completed.

DP's advice is based upon the conditions encountered during this investigation. The accuracy of the advice provided by DP 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.

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. DP 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 DP. This is because this report has been written as advice and opinion rather than instructions for construction.

The contents of this report do not constitute formal design components such as are required, by the Health and Safety Legislation and Regulations, to be included in a Safety Report specifying the hazards likely to be encountered during construction and the controls required to mitigate risk. This design process requires risk assessment to be undertaken, with such assessment being dependent upon factors relating to likelihood of occurrence and consequences of damage to property and to life. This, in turn, requires project data and analysis presently beyond the knowledge and project role respectively of DP. DP may be able, however, to assist the client in carrying out a risk assessment of potential hazards contained in the Comments section of this report, as an extension to the current scope of works, if so requested, and provided that suitable additional information is made available to DP. Any such risk assessment would, however, be necessarily restricted to the environmental components set out in this report and to their application by the project designers to project design, construction, maintenance and demolition.

Douglas Partners Pty Ltd

Appendix A

About This Report

About this Report

Douglas Partners

Introduction

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

DP's 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, DP 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, DP 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, DP 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, DP 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. DP 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.

DATA FOR DESCRIPTION AND CLASSIFICATION OF SOILS – Page 1

Major Divisions				Description		Field Identification			
				Group Symbol*	Typical Name	Grading		Nature of Fines	Dry Strength
COARSE-GRAINED SOILS	More than 65% by dry mass, (excluding that larger than 63 mm) is greater than 0.075 mm	GRAVEL	More than 50% of coarse grains are greater than 2.36 mm	GW	Well graded gravels and gravel-sand mixtures, little or no fines.	Good	Wide range in grain size	'Clean' materials (not enough fines to bind grains)	None
				GP	Poorly graded gravels and gravel-sand mixtures, little or no fines.	Poor	Predominantly one size or gap graded		
		GRAVELLY SOILS		GM	Silty gravels, gravel-sand-silt mixtures.	Good to Fair	'Dirty' materials with excess of fines	Fines are non-plastic	None to medium
				GC	Clay gravels, gravel-sand-clay mixtures.			Fines are plastic	Medium to high
		SAND	More than 50% of coarse grains are less than 2.36 mm	SW	Well graded sands and gravelly sands, little or no fines.	Good	Wide range in grain size	'Clean' materials (not enough fines to bind grains)	None
				SP	Poorly graded sands and gravelly sands, little or no fines.	Poor	Predominantly one size or gap graded		
		SANDY SOILS		SM	Silty sand, sand-silt mixtures.	Good to Fair	'Dirty' materials with excess of fines	Fines are non-plastic	None to medium
				SC	Clayey sands, sand-clay mixtures.			Fines are plastic	Medium to high
* For coarse grained soils where the fines content is between 5% and 12%, the soil shall be given a dual classification eg GP-GM.						Dry Strength		Dilatancy	Toughness
FINE-GRAINED SOILS	More than 35% by dry mass, (excluding that larger than 63 mm) is less than 0.075 mm	Liquid Limit less than 35%		ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands.	None to low		Slow to rapid	Low
				CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.	Medium to high		None to slow	Medium
				OL	Organic silts and organic silty clays of low plasticity	Low to medium		Slow	Low
		35% <LL< 50%		CI	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.	Medium to high		None to slow	Medium
		Liquid Limit greater than 50%		MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts.	Low to medium		None to slow	Low to medium
				CH	Inorganic clays of high plasticity, fat clays.	High to very high		None	High
				OH	Organic clays of medium to high plasticity.	Medium to high		None to very slow	Low to medium
				Pt	Peat muck and other highly organic soils.	Readily identified by colour, odour, spongy feel and generally fibrous texture			

ORDER OF DESCRIPTION

In the soil description the terms should be given in the following order:

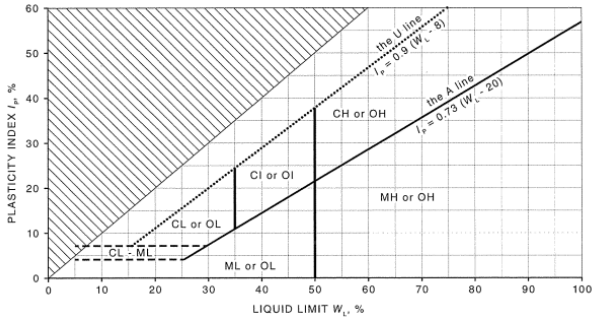
- SOIL NAME & UNIFIED CLASSIFICATION SYMBOL.
- Plasticity, behavioural or particle characteristics of the primary soil component
- Colour
- Secondary soil components' name(s), estimated proportion(s), plasticity, behavioural or particle characteristics, colour and where practical, its plasticity
- Moisture Condition (disturbed or undisturbed state)
- Consistency of fine-grained soils (undisturbed state only)
- Relative density of coarse-grained soils (determined by in situ tests)
- Structure of soil (in undisturbed state)
  - Zoning
  - Defects
  - Cementing
- Origin of soil
- Additional observations

EXAMPLES:

Silty SAND SM: fine to coarse grained, light brown, 15% non-plastic fines, with gravel, 20% angular particles, moist, apparently dense in place, alluvial.

SILT ML: low plasticity, brown, trace fine sand, w > PL, firm, estuarine.

PLASTICITY CHART (after AS 1726:2017)



The classification system excludes the boulder and cobble fractions of the soil and classifies only the materials less than 63 mm in size.

PARTICLE SIZES

Boulders	> 200 mm
Cobbles	63 mm to 200 mm
Gravel	2.36 mm to 63 mm
Sand	0.075 mm to 2.36 mm
Silt and Clay	< 0.075 mm

SAND			SILT
COARSE	MEDIUM	FINE	SILT
2.36-0.6 mm	0.6-0.2 mm	0.2-0.075 mm	0.075-0.002 mm
			

DATA FOR DESCRIPTION AND CLASSIFICATION OF SOILS – Page 2

GRAVEL

Density	Field Test
LOOSE	By inspection of voids and particle packing.
DENSE	

SAND

Density	Field Test	DPT Blows per 300 mm[1]		SPT N Blows	CPT q_c MPa	Relative Density %	Estimated Friction Angle
		Dry[2]	Wet[3]				
VERY LOOSE	Easily penetrated with 13 mm reinforcing rod pushed by hand.	< 1	0	0 – 4	0 – 2	0 – 15	25 - 30
LOOSE	Easily penetrated with 13 mm reinforcing rod pushed by hand. Can be excavated with a spade; 50 mm wooden peg can be easily driven.	1 - 3	< 1	4 – 10	2 – 5	15 – 35	27 - 32
MEDIUM DENSE	Penetrated 300 mm with 13 mm reinforcing rod driven by 2 kg hammer – hard shovelling.	3 - 8	1 - 6	10 – 30	5 – 15	35 – 65	30 - 35
DENSE	Penetrated 300 mm with 13 mm reinforcing rod driven with 2 kg hammer, requires pick for excavation; 50 mm wooden peg hard to drive	8 – 15	6 - 10	30 – 50	15 – 25	65 – 85	35 - 40
VERY DENSE	Penetrated only 25 – 50 mm with 13 mm reinforcing rod driven by 2 kg hammer.	> 15	> 10	> 50	> 25	85 – 100	38 - 43

[1]Valid for depths up to approx 1m bgl; [2]At a mc of approx. 3%-5%; [3]At a mc of approx. 15%.

SILT & CLAY

Consistency	Field Test		DCP Blows per 150 mm	SPT N Blows	Undrained Shear Strength C_u Shear Vane (kPa)	Unconfined Compressive Strength q_u PP* (kPa)	CPT q_c kPa
VERY SOFT	Easily penetrated > 40 mm by thumb. Exudes between thumb and fingers when squeezed in hand	Shear Vane Preferred	< 1	< 2	< 12	< 25	0 - 180
SOFT	Easily penetrated 10 mm by thumb. Moulded by light finger pressure.		1 – 1.5	2 – 4	12 – 25	25 – 50	180 - 375
FIRM	Impression by thumb with moderate effort. Moulded by strong finger pressure		1.5 – 3	4 – 8	25 – 50	50 – 100	375 - 750
STIFF	Slight impression by thumb cannot be moulded with finger		3 – 6	8 – 16	50 – 100	100 – 200	750 - 1500
VERY STIFF	Very tough. Readily indented by thumbnail.		6 – 12	16 – 32	100 – 200	200 – 400	1500 - 3000
HARD	Brittle. Indented with difficulty by thumbnail.		> 12	> 32	> 200	> 400	> 3000
FRIABLE	Easily crumbled or broken into small pieces by hand.						

* Pocket Penetrometer (**PP**) may overestimate q_u by a factor of 1.5 to 2.0.

Note: Visual-tactile assessment is indicative only. Use in-situ testing for logging

MOISTURE OF FINE GRAINED SOILS

Moist, dry of plastic limit	w < PL	Wet, near liquid limit	w ≈ LL
Moist, near plastic limit	w ≈ PL	Wet, wet of liquid limit	w > LL
Moist, wet of plastic limit	w > PL		

DEGREE OF SATURATION OF SANDS

Condition of Sand	Criteria	Degree of Saturation (%)
Dry	Non-cohesive and free-running	0 – 25%
Moist	Feels cool, darker colour, grains tend to adhere to one another	25 – 75%
Wet	Feels cold, makes hands wet, should be close to water table	75 – 99%

FIELD IDENTIFICATION PROCEDURE FOR FINE GRAINED SOILS OR FRACTIONS

These procedures are to be performed on the minus 0.4 mm sieve size particles. For field classification purposes, screening is not intended, simply remove by hand the coarse particles that interfere with the tests.

Dilatancy (Reaction to shaking):

After removing particles larger than 0.4 mm sieve size, prepare a pat of moist soil with a volume of about 8000 mm^3. Add enough water if necessary to make the soil soft but not sticky. Place the pat in the open palm of one hand and shake horizontally, striking vigorously against the other hand several times. A positive reaction consists of the appearance of water on the surface of the pat which changes to a livery consistency and becomes glossy. When the sample is squeezed between the fingers, the water and gloss disappear from the surface, the pat stiffens and finally it cracks or crumbles. The rapidity of appearance of water during shaking and of its disappearance during squeezing assist in identifying the character of the fines in a soil. Very fine clean sands give the quickest and most distinct reaction whereas a plastic clay has no reaction. Inorganic silts, such as a typical rock flour, show a moderately quick reaction.

Dry Strength (Crushing characteristics):

After removing particles larger than 0.4 mm sieve size, mould a pat of soil to the consistency of putty, adding water if necessary. Allow the pat to dry completely by oven sun or air drying, and then test its strength by breaking and crumbling between the fingers. This strength is a measure of the character and quantity of the colloidal fraction contained in the soil. The dry strength increases with increasing plasticity.

High dry strength is characteristic for clays of the CH group. A typical inorganic silt possesses only very slight dry strength. Silty fine sands and silts have about the same dry strength but can be distinguished by the feel when powdering the dried specimen. Fine sand feels gritty whereas a typical silt has the smooth feel of flour.

Toughness (Consistency near plastic limit):

After removing particles larger than the 0.4 mm sieve size, a specimen of soil about 12 mm cube in size, is moulded to the consistency of putty. If too dry, water must be added and if sticky, the specimen should be spread out in a thin layer and allowed to lose some moisture by evaporation. Then the specimen is rolled out by hand on a smooth surface or between the palms into a thread about 3 mm in diameter. The thread is then folded and re-rolled repeatedly. During this manipulation the moisture content is gradually reduced, and the specimen stiffens, finally loses its plasticity, and crumbles when the plastic limit is reached. After the thread crumbles, the pieces should be lumped together, and a slight kneading action continued until the lump crumbles.

The tougher the thread near the plastic limit and the stiffer the lump when it finally crumbles, the more potent is the colloidal clay fraction in the soil. Weakness of the thread at the plastic limit and quick loss of coherence of the lump below the plastic limit indicate either inorganic clay or low plasticity, or materials such as kaolin-type clays and organic clays which occur below the A-line.

Highly organic clays have a very weak and spongy feel at the plastic limit.

PROPORTION OF MINOR AND SECONDARY COMPONENTS

Term	Meaning	Approximate Proportion	
		Coarse Soils	Fine Soils
Trace	Just detectable by feel or eye. Soil properties of main component virtually unaffected.	< 5% fines < 15 % coarse fraction	< 15% sand / gravel
With	Easily detectable by feel or eye. Soil properties only slightly affected by minor components.	5% – 12% fines 15% – 30% coarse fraction	15% – 30% sand / gravel
Prefix	Easily detected by feel or eye. Soil properties significantly affected by secondary components.	> 12% fines > 30% coarse fraction	> 30% sand / gravel

PROPORTIONS OF SECONDARY COMPONENTS

5%	12%	35%
		

Symbols & Abbreviations

Douglas Partners

Introduction

These notes summarise abbreviations commonly used on borehole logs and test pit reports.

Drilling or Excavation Methods

C	Core Drilling
R	Rotary drilling
SFA	Spiral flight augers
NMLC	Diamond core - 52 mm dia
NQ	Diamond core - 47 mm dia
HQ	Diamond core - 63 mm dia
PQ	Diamond core - 81 mm dia

Water

▷	Water seep
▽	Water level

Sampling and Testing

A	Auger sample
B	Bulk sample
D	Disturbed sample
E	Environmental sample
U_{50}	Undisturbed tube sample (50mm)
W	Water sample
pp	pocket penetrometer (kPa)
PID	Photo ionisation detector
PL	Point load strength Is(50) MPa
S	Standard Penetration Test
V	Shear vane (kPa)

Description of Defects in Rock

The abbreviated descriptions of the defects should be in the following order: Depth, Type, Orientation, Coating, Shape, Roughness and Other. Drilling and handling breaks are not usually included on the logs.

Defect Type

B	Bedding plane
Cs	Clay seam
Cv	Cleavage
Cz	Crushed zone
Ds	Decomposed seam
F	Fault
J	Joint
Lam	lamination
Pt	Parting
Sz	Sheared Zone
V	Vein

Orientation

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

h	horizontal
v	vertical
sh	sub-horizontal
sv	sub-vertical

Coating or Infilling Term

cln	clean
co	coating
he	healed
inf	infilled
stn	stained
ti	tight
vn	veneer

Coating Descriptor

ca	calcite
cbs	carbonaceous
cly	clay
fe	iron oxide
mn	manganese
slt	silty

Shape

cu	curved
ir	irregular
pl	planar
st	stepped
un	undulating

Roughness

po	polished
ro	rough
sl	slickensided
sm	smooth
vr	very rough

Other

fg	fragmented
bnd	band
qtz	quartz

Symbols & Abbreviations

Graphic Symbols for Soil and Rock

General


Asphalt


Road base


Concrete


Filling

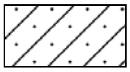
Soils


Topsoil

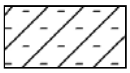

Peat


Clay

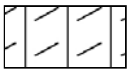

Silty clay

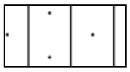

Sandy clay

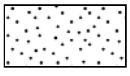

Gravelly clay

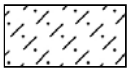

Shaly clay

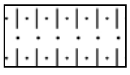

Silt


Clayey silt


Sandy silt

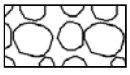

Sand

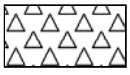

Clayey sand


Silty sand


Gravel


Sandy gravel


Cobbles, boulders

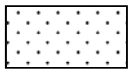

Talus

Sedimentary Rocks

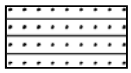

Boulder conglomerate

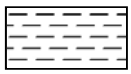

Conglomerate


Conglomeratic sandstone

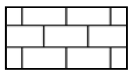

Sandstone


Siltstone


Laminite

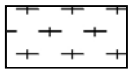

Mudstone, claystone, shale

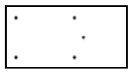

Coal


Limestone

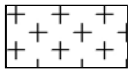
Metamorphic Rocks

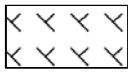

Slate, phyllite, schist

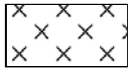

Gneiss

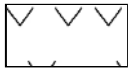

Quartzite

Igneous Rocks


Granite


Dolerite, basalt, andesite


Dacite, epidote


Tuff, breccia


Porphyry

DATA FOR DESCRIPTION AND CLASSIFICATION OF ROCK

SEDIMENTARY ROCK TYPE DEFINITIONS

Rock Type	Definition
Conglomerate	More than 50% of the rock consists of gravel sized (greater than 2 mm) fragments.
Sandstone	More than 50% of the rock consists of sand sized (0.06 mm to 2 mm) grains.
Siltstone	More than 50% of the rock consists of silt-sized (less than 0.06 mm) granular particles and the rock is not laminated.
Claystone	More than 50% of the rock consists of clay or sericitic material and the rock is not laminated.
Shale	More than 50% of the rock consists of silt or clay sized particles and the rock is laminated.

Rocks possessing characteristics of two groups are described by their predominant particle size with reference also to the minor constituents, e.g. Clayey SANDSTONE, Sandy SHALE.

DEGREE OF WEATHERING

Term	Abbreviation	Definition
Residual soil	RS	Material is weathered to such an extent that it has soil properties. Mass structure, material texture and fabric of original rock are no longer visible, but the soil has not been significantly transported.
Extremely Weathered	XW	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.
Highly Weathered	HW	The whole of the rock 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.
Moderately Weathered	MW	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.
Slightly Weathered	SW	Rock is partially discoloured with staining or bleaching along joints but shows little or no change of strength from fresh rock.
Fresh	FR	Rock shows no sign of decomposition of individual minerals or colour changes.

DW*

*If highly and moderately weathered rock cannot be differentiated use the term, 'Distinctly Weathered (DW)'.

ORDER OF DESCRIPTION

In the rock description the terms should be given in the following order:
ROCK NAME
Grain size and type
Colour
Fabric and texture
Inclusions and minor components
Moisture content
Durability
Strength
Weathering and/or alteration
Defects – type, orientation, spacing, roughness
Stratigraphic unit
Geological structure

STRATIFICATION

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

DEGREE OF FRACTURING

This classification applies to diamond drill cores and refers to the spacing of all types of natural fractures along which the core discontinuous. These include bedding plane partings, joints and other rock defects, **but exclude artificial fractures such as drilling breaks.**

Term	Description
Fragmented	The core is comprised primarily of fragments of length less than 20 mm, and mostly of width less than the core diameter
Highly Fractured	Core lengths are generally less than 20 mm to 40 mm with occasional fragments
Fractured	Core lengths are mainly 30 mm to 100 mm with occasional shorter and longer sections
Slightly Fractured	Core lengths are generally 300 mm or longer with occasional sections of 100 mm to 300 mm
Unbroken	The core contains very few fractures

ROCK STRENGTH

Rock strength is classified using the unconfined compressive strength (UCS). Where adequate UCS data are not available then the classification may be based on the Point Load Strength ($I_{S(50)}$) and refers to the strength of the rock substance in the direction normal to the bedding.

Strength Term	UCS MPa	Field Guide	Approx $I_{S(50)}$ MPa
Material less than very low strength is to be described using soil properties			
Very Low	2	Material crumbles under firm blows with sharp end of pick; can be peeled with knife. Pieces up to 30 mm thick can be broken by finger pressure.	0.1
Low	6	Easily scored with a knife; indentations 1 mm to 3 mm show in the specimen with firm blows of the pick point; has dull sound under hammer. A piece of core 150 mm long by 50 mm diameter may be broken by hand. Sharp edges of core may be friable and break during handling.	0.3
Medium	20	Readily scored with a knife; a piece of core 150 mm long by 50 mm diameter can be broken by hand with difficulty.	1.0
High	60	A piece of core 150 mm long by 50 mm diameter cannot be broken by hand but can be broken by a pick with a single firm blow; rock rings under hammer.	3.0
Very High	200	Hand specimen breaks with pick after more than one blow; rock rings under hammer.	10.0
Extremely High		Specimen requires many blows with geological pick to break through intact material; rock rings under hammer.	

The approximate point load strength ($I_{S(50)}$) is based on an assumed ratio to UCS of 1:20. This ratio may vary widely and should be determined for each site and rock type.

DISCONTINUITIES / DEFECTS

The actual defect is described not the process which formed or may have formed it, e.g. 'sheared zone', not 'zone of shearing'; the latter suggests a currently active process.

Spacing*:

A measure of the spacing of discontinuities. Measure mean and range of spacings for each set where possible (do not use descriptive terms).

Thickness, openness:

Measured in millimetres normal to plane of the discontinuity.

Persistence*:

The areal extent of a discontinuity. Give trace lengths in metres.

Roughness and Shape*:

A measure of the inherent surface unevenness and waviness of the defect relative to its mean plane.

Coating or Infilling:

Clean: no visible coating or infilling.

Stained: no visible coating or infilling but surfaces are discoloured by mineral staining.

Veneer: a visible coating or infilling of soil or mineral substance but usually unable to be measured (less than 1 mm).

Patchy Veneer: if discontinuous over the plane.

Coating: a visible coating or infilling of soil or mineral substance, greater than 1 mm thick. Describe composition and thickness.

* Usually determined in field exposures

Roughness:

Very Rough
Rough
Smooth
Polished
Slickensided

Shape*:

Planar
Curved
Undulating
Stepped
Irregular

Discontinuity Spacing in Three Dimensions:

The spacing of discontinuities in exposures may be described with reference to the size and shape of rock bounded by the discontinuities.

Equidimensional	Same size in all directions
Tabular	Thickness much less than length or width
Columnar	Height much greater than cross section
Polyhedral	Irregular defects without obvious pattern

Sampling

Sampling is carried out during drilling or test pitting to allow engineering examination (and laboratory testing where required) of the soil or rock.

Disturbed samples taken during drilling provide information on colour, type, inclusions and, depending upon the degree of disturbance, some information on strength and structure.

Undisturbed samples are taken by pushing a thin-walled sample tube into the soil and withdrawing it to obtain a sample of the soil in a relatively undisturbed state. Such samples yield information on structure and strength, and are necessary for laboratory determination of shear strength and compressibility. Undisturbed sampling is generally effective only in cohesive soils.

Test Pits

Test pits are usually excavated with a backhoe or an excavator, allowing close examination of the in-situ soil if it is safe to enter into the pit. The depth of excavation is limited to about 3 m for a backhoe and up to 6 m for a large excavator. A potential disadvantage of this investigation method is the larger area of disturbance to the site.

Large Diameter Augers

Boreholes can be drilled using a rotating plate or short spiral auger, generally 300 mm or larger in diameter commonly mounted on a standard piling rig. The cuttings are returned to the surface at intervals (generally not more than 0.5 m) and are disturbed but usually unchanged in moisture content. Identification of soil strata is generally much more reliable than with continuous spiral flight augers, and is usually supplemented by occasional undisturbed tube samples.

Continuous Spiral Flight Augers

The borehole is advanced using 90-115 mm diameter continuous spiral flight augers which are withdrawn at intervals to allow sampling or in-situ testing. This is a relatively economical means of drilling in clays and sands above the water table. Samples are returned to the surface, or may be collected after withdrawal of the auger flights, but they are disturbed and may be mixed with soils from the sides of the hole. Information from the drilling (as distinct from specific sampling by SPTs or undisturbed samples) is of relatively low reliability, due to the remoulding, possible mixing or softening of samples by groundwater.

Non-core Rotary Drilling

The borehole is advanced using a rotary bit, with water or drilling mud being pumped down the drill rods and returned up the annulus, carrying the drill cuttings. Only major changes in stratification can be determined from the cuttings, together with some information from the rate of penetration. Where drilling mud is used this can mask the cuttings and reliable identification is only possible from separate sampling such as SPTs.

Continuous Core Drilling

A continuous core sample can be obtained using a diamond tipped core barrel, usually with a 50 mm internal diameter. Provided full core recovery is achieved (which is not always possible in weak rocks and granular soils), this technique provides a very reliable method of investigation.

Standard Penetration Tests

Standard penetration tests (SPT) are used as a means of estimating the density or strength of soils and also of obtaining a relatively undisturbed sample. The test procedure is described in Australian Standard 1289, Methods of Testing Soils for Engineering Purposes - Test 6.3.1.

The test is carried out in a borehole by driving a 50 mm diameter split sample tube under the impact of a 63 kg hammer with a free fall of 760 mm. It is normal for the tube to be driven in three successive 150 mm increments and the 'N' value is taken as the number of blows for the last 300 mm. In dense sands, very hard clays or weak rock, the full 450 mm penetration may not be practicable and the test is discontinued.

The test results are reported in the following form.

- In the case where full penetration is obtained with successive blow counts for each 150 mm of, say, 4, 6 and 7 as:

  4,6,7
  N=13

- In the case where the test is discontinued before the full penetration depth, say after 15 blows for the first 150 mm and 30 blows for the next 40 mm as:

  15, 30/40 mm

The results of the SPT tests can be related empirically to the engineering properties of the soils.

Dynamic Cone Penetrometer Tests / Perth Sand Penetrometer Tests

Dynamic penetrometer tests (DCP or PSP) are carried out by driving a steel rod into the ground using a standard weight of hammer falling a specified distance. As the rod penetrates the soil the number of blows required to penetrate each successive 150 mm depth are recorded. Normally there is a depth limitation of 1.2 m, but this may be extended in certain conditions by the use of extension rods. Two types of penetrometer are commonly used.

- Perth sand penetrometer - a 16 mm diameter flat ended rod is driven using a 9 kg hammer dropping 600 mm (AS 1289, Test 6.3.3). This test was developed for testing the density of sands and is mainly used in granular soils and filling.
- Cone penetrometer - a 16 mm diameter rod with a 20 mm diameter cone end is driven using a 9 kg hammer dropping 510 mm (AS 1289, Test 6.3.2). This test was developed initially for pavement subgrade investigations, and correlations of the test results with California Bearing Ratio have been published by various road authorities.

Appendix B

Site Drawings



Locality Plan

FUTURE UNNAMED ARTERIAL ROAD

PROPOSED GAMES COURTS

PROPOSED SOCCER FIELD

PROPOSED BATTER

PROPOSED CARPARK

PROPOSED NEW BUILDNG

PROPOSED SCHOOL SITE
2889
DP1230906

32
DP1233692

UNNAMED ROAD

UNNAMED ROAD

BH110 BH218 BH212 BH211 BH213 TP228 BH115 BH106 BH221 BH214 TP227 TP226 BH109 BH216 BH215 BH217 BH111 BH113 BH207 BH205 BH101 BH208 TP229 BH210 BH209 BH119 TP230 BH206 BH117 TP231 BH204 BH204A BH203 BH220 BH116 BH201 BH202 TP232 BH123 BH118 BH114 BH107 BH102 TP225 BH103 BH121 BH122 BH120 BH104 BH105 BH219 TP224 BH125 BH124 BH108 BH112 TP223

D

0 10 20 30 40 50 75 100m
1:1000 @ A3

NOTE:
2: Base drawing from client
(Dwg ACAD-PR144542_DET_190621(2007)
2: Test locations are approximate only and are shown with reference to existing features.

LEGEND
- Previous borehole location
- Current borehole location
- Current test pit location

Douglas Partners
Geotechnics / Environment / Groundwater

CLIENT: SiNSW		TITLE: **Location of Tests**	PROJECT No: 94522.01
OFFICE: Riverstone	DRAWN BY: PSCH	**Marsden Park New Primary School**	DRAWING No: 1
SCALE: 1:1000 @ A3	DATE: 29.7.2019	**Northbourne Drive, MARSDEN PARK**	REVISION: 1

Appendix C

Site History

LOTSEARCH

LOTSEARCH ENVIRO PROFESSIONAL

Date: 29 Oct 2018 12:12:42

Reference: LS004477 EP

Address: Northbourne Drive, Marsden Park, NSW 2765

Disclaimer:
The purpose of this report is to provide an overview of some of the site history, environmental risk and planning information available, affecting an individual address or geographical area in which the property is located. It is not a substitute for an on-site inspection or review of other available reports and records. It is not intended to be, and should not be taken to be, a rating or assessment of the desirability or market value of the property or its features.
You should obtain independent advice before you make any decision based on the information within the report.
The detailed terms applicable to use of this report are set out at the end of this report.

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Location Confidences

Where Lotsearch has had to georeference features from supplied addresses, a location confidence has been assigned to the data record. This indicates a confidence to the positional accuracy of the feature. Where applicable, a confidence is given under the field heading “LocConf” or “Location Confidence”.

LC Code	Location Confidence
Premise match	Georeferenced to the site location / premise or part of site
General area or suburb match	Georeferenced with the confidence of the general/approximate area
Road match	Georeferenced to the road or rail
Road intersection	Georeferenced to the road intersection
Feature is a buffered point	Feature is a buffered point
Land adjacent to geocoded site	Land adjacent to Georeferenced Site

Dataset Listing

Datasets contained within this report, detailing their source and data currency:

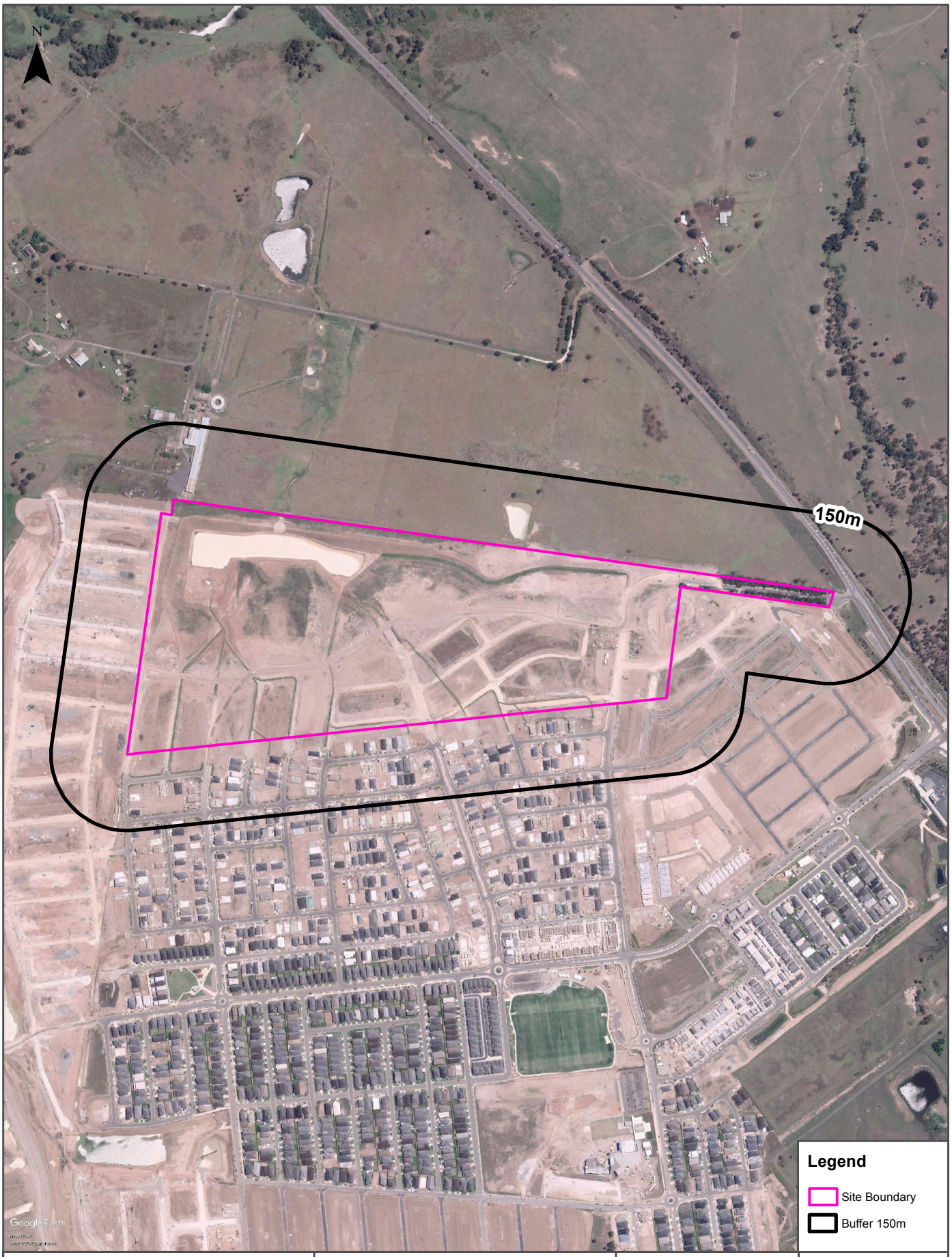
Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Cadastre Boundaries	Dept. Finance, Services & Innovation	29/10/2018	29/10/2018	Daily	-	-	-	-
Topographic Data	Dept. Finance, Services & Innovation	17/07/2018	17/07/2018	As required	-	-	-	-
List of NSW contaminated sites notified to EPA	Environment Protection Authority	17/10/2018	17/10/2018	Monthly	1000	0	0	0
Contaminated Land Records of Notice	Environment Protection Authority	10/10/2018	10/10/2018	Monthly	1000	0	0	0
Former Gasworks	Environment Protection Authority	04/10/2018	11/10/2017	Monthly	1000	0	0	0
National Waste Management Facilities Database	Geoscience Australia	07/08/2018	07/03/2017	Quarterly	1000	0	0	0
EPA PFAS Investigation Program	Environment Protection Authority	05/10/2018	05/10/2018	Monthly	2000	0	0	0
EPA Other Sites with Contamination Issues	Environment Protection Authority	11/01/2018	11/01/2018	As required	1000	0	0	0
Licensed Activities under the POEO Act 1997	Environment Protection Authority	03/10/2018	03/10/2018	Monthly	1000	0	0	0
Delicensed POEO Activities still Regulated by the EPA	Environment Protection Authority	03/10/2018	03/10/2018	Monthly	1000	0	0	0
Former POEO Licensed Activities now revoked or surrendered	Environment Protection Authority	03/10/2018	03/10/2018	Monthly	1000	0	4	4
UPSS Environmentally Sensitive Zones	Environment Protection Authority	14/04/2015	12/01/2010	As required	1000	0	0	1
UBD Business to Business Directory 1991 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business to Business Directory 1991 (Road & Area Matches)	Hardie Grant			Not required	150	-	1	1
UBD Business to Business Directory 1986 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business to Business Directory 1986 (Road & Area Matches)	Hardie Grant			Not required	150	-	4	4
UBD Business Directory 1982 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1982 (Road & Area Matches)	Hardie Grant			Not required	150	-	4	4
UBD Business Directory 1978 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1978 (Road & Area Matches)	Hardie Grant			Not required	150	-	1	1
UBD Business Directory 1975 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1975 (Road & Area Matches)	Hardie Grant			Not required	150	-	1	1
UBD Business Directory 1970 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1970 (Road & Area Matches)	Hardie Grant			Not required	150	-	3	3
UBD Business Directory 1965 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1965 (Road & Area Matches)	Hardie Grant			Not required	150	-	1	1
UBD Business Directory 1961 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1961 (Road & Area Matches)	Hardie Grant			Not required	150	-	0	0
UBD Business Directory 1950 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1950 (Road & Area Matches)	Hardie Grant			Not required	150	-	1	1

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
UBD Business Directory Drycleaners & Motor Garages/Service Stations (Premise & Intersection Matches)	Hardie Grant			Not required	500	0	0	0
UBD Business Directory Drycleaners & Motor Garages/Service Stations (Road & Area Matches)	Hardie Grant			Not required	500	-	4	4
Points of Interest	Dept. Finance, Services & Innovation	12/10/2018	12/10/2018	Quarterly	1000	0	0	2
Tanks (Areas)	Dept. Finance, Services & Innovation	15/10/2018	15/10/2018	Quarterly	1000	0	0	0
Tanks (Points)	Dept. Finance, Services & Innovation	15/10/2018	15/10/2018	Quarterly	1000	0	0	0
Major Easements	Dept. Finance, Services & Innovation	12/10/2018	12/10/2018	Quarterly	1000	1	1	7
State Forest	Dept. Finance, Services & Innovation	18/01/2018	18/01/2018	As required	1000	0	0	0
NSW National Parks and Wildlife Service Reserves	NSW Office of Environment & Heritage	18/01/2018	30/09/2017	Annually	1000	0	0	0
Hydrogeology Map of Australia	Commonwealth of Australia (Geoscience Australia)	08/10/2014	17/03/2000	As required	1000	1	1	1
Botany Groundwater Management Zones	NSW Department of Primary Industries	15/03/2018	01/10/2005	As required	1000	0	0	0
Groundwater Boreholes	NSW Dept. of Primary Industries - Water NSW; Commonwealth of Australia (Bureau of Meteorology)	24/07/2018	23/07/2018	Annually	2000	0	0	17
Geological Units 1:100,000	NSW Dept. of Industry, Resources & Energy	20/08/2014		None planned	1000	1	-	5
Geological Structures 1:100,000	NSW Dept. of Industry, Resources & Energy	20/08/2014		None planned	1000	0	-	0
Naturally Occurring Asbestos Potential	NSW Dept. of Industry, Resources & Energy	04/12/2015	24/09/2015	Unknown	1000	0	0	0
Soil Landscapes	NSW Office of Environment & Heritage	12/08/2014		None planned	1000	2	-	3
Atlas of Australian Soils	CSIRO	19/05/2017	17/02/2011	As required	1000	2	2	2
Environmental Planning Instrument - Acid Sulfate Soils	NSW Department of Planning and Environment	23/10/2018	12/10/2018	As required	500	0	-	-
Atlas of Australian Acid Sulfate Soils	CSIRO	19/01/2017	21/02/2013	As required	1000	2	2	2
Dryland Salinity - National Assessment	National Land and Water Resources Audit	18/07/2014	12/05/2013	None planned	1000	1	1	1
Dryland Salinity Potential of Western Sydney	NSW Office of Environment & Heritage	12/05/2017	01/01/2002	None planned	1000	2	3	8
Mining Subsidence Districts	Dept. Finance, Services & Innovation	13/07/2017	01/07/2017	As required	1000	0	0	0
SEPP 14 - Coastal Wetlands	NSW Planning and Environment	17/12/2015	24/10/2008	Annually	1000	0	0	0
SEPP 26 - Littoral Rainforest	NSW Planning and Environment	17/12/2015	05/02/1988	Annually	1000	0	0	0
SEPP 71 - Coastal Protection	NSW Planning and Environment	17/12/2015	01/08/2003	Annually	1000	0	0	0
SEPP Major Developments 2005	NSW Planning and Environment	09/03/2013	25/05/2005	Under Review	1000	0	0	0
SEPP Strategic Land Use Areas	NSW Planning and Environment	01/08/2017	28/01/2014	Annually	1000	1	1	1
EPI - Land Zoning	NSW Planning and Environment	23/10/2018	12/10/2018	Quarterly	1000	3	9	39
EPI - Minimum Lot Size	NSW Planning and Environment	23/10/2018	12/10/2018	Quarterly	0	0	-	-
EPI - Height of Buildings	NSW Planning and Environment	23/10/2018	12/10/2018	Quarterly	0	1	-	-
EPI - Floor Space Ratio	NSW Planning and Environment	23/10/2018	12/10/2018	Quarterly	0	0	-	-
EPI - Land Application	NSW Planning and Environment	23/10/2018	12/10/2018	Quarterly	0	0	-	-
EPI - Land Reservation Acquisition	NSW Planning and Environment	23/10/2018	12/10/2018	Quarterly	0	1	-	-
State Heritage Register - Curtilages	NSW Office of Environment & Heritage	18/10/2018	19/01/2018	Quarterly	1000	0	1	1

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Environmental Planning Instrument - Heritage	NSW Department of Planning and Environment	10/09/2018	27/07/2018	Quarterly	1000	1	1	2
Bush Fire Prone Land	NSW Rural Fire Service	08/08/2018	31/07/2018	Quarterly	1000	0	0	3
Remnant Vegetation of the Cumberland Plain	NSW Office of Environment & Heritage	07/10/2014	04/08/2011	Unknown	1000	1	2	6
RAMSAR Wetlands	Commonwealth of Australia Department of the Environment	08/10/2014	24/06/2011	As required	1000	0	0	0
Groundwater Dependent Ecosystems	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	1000	0	2	4
Inflow Dependent Ecosystems Likelihood	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	1000	0	1	6
NSW BioNet Species Sightings	NSW Office of Environment & Heritage	29/10/2018	29/10/2018	Daily	10000	-	-	-

Aerial Imagery 2017

Northbourne Drive, Marsden Park, NSW 2765



Scale:
0 100 200 400
Meters

Data Source Aerial Imagery: © 2018 Google Inc, used with permission. Google and the Google logo are registered trademarks of Google Inc.

Coordinate System:
GDA 1994 MGA Zone 56

Date: 26 October 2018

Contaminated Land & Waste Management Facilities

Northbourne Drive, Marsden Park, NSW 2765

List of NSW contaminated sites notified to EPA

Records from the NSW EPA Contaminated Land list within the dataset buffer:

Map Id	Site	Address	Suburb	Activity	Management Class	Status	Location Confidence	Dist (m)	Direction
N/A	No records in buffer								

The values within the EPA site management class in the table above, are given more detailed explanations in the table below:

EPA site management class	Explanation
Contamination being managed via the planning process (EP&A Act)	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation. The contamination of this site is managed by the consent authority under the Environmental Planning and Assessment Act 1979 (EP&A Act) planning approval process, with EPA involvement as necessary to ensure significant contamination is adequately addressed. The consent authority is typically a local council or the Department of Planning and Environment.
Contamination currently regulated under CLM Act	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the Contaminated Land Management Act 1997 (CLM Act). Management of the contamination is regulated by the EPA under the CLM Act. Regulatory notices are available on the EPA's Contaminated Land Public Record of Notices.
Contamination currently regulated under POEO Act	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation. Management of the contamination is regulated under the Protection of the Environment Operations Act 1997 (POEO Act). The EPA's regulatory actions under the POEO Act are available on the POEO public register.
Contamination formerly regulated under the CLM Act	The EPA has determined that the contamination is no longer significant enough to warrant regulation under the Contaminated Land Management Act 1997 (CLM Act). The contamination was addressed under the CLM Act.
Contamination formerly regulated under the POEO Act	The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed under the Protection of the Environment Operations Act 1997 (POEO Act).
Contamination was addressed via the planning process (EP&A Act)	The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed by the appropriate consent authority via the planning process under the Environmental Planning and Assessment Act 1979 (EP&A Act).
Ongoing maintenance required to manage residual contamination (CLM Act)	The EPA has determined that ongoing maintenance, under the Contaminated Land Management Act 1997 (CLM Act), is required to manage the residual contamination. Regulatory notices under the CLM Act are available on the EPA's Contaminated Land Public Record of Notices.
Regulation being finalised	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the Contaminated Land Management Act 1997. A regulatory approach is being finalised.
Regulation under the CLM Act not required	The EPA has completed an assessment of the contamination and decided that regulation under the Contaminated Land Management Act 1997 is not required.
Under assessment	The contamination is being assessed by the EPA to determine whether regulation is required. The EPA may require further information to complete the assessment. For example, the completion of management actions regulated under the planning process or Protection of the Environment Operations Act 1997. Alternatively, the EPA may require information via a notice issued under s77 of the Contaminated Land Management Act 1997 or issue a Preliminary Investigation Order.

NSW EPA Contaminated Land List Data Source: Environment Protection Authority

© State of New South Wales through the Environment Protection Authority

Contaminated Land & Waste Management Facilities

Northbourne Drive, Marsden Park, NSW 2765

Contaminated Land: Records of Notice

Record of Notices within the dataset buffer:

Map Id	Name	Address	Suburb	Notices	Area No	Location Confidence	Distance	Direction
N/A	No records in buffer							

Contaminated Land Records of Notice Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority
Terms of use and disclaimer for Contaminated Land: Record of Notices, please visit
http://www.epa.nsw.gov.au/clm/clmdisclaimer.htm

Former Gasworks

Former Gasworks within the dataset buffer:

Map Id	Location	Council	Further Info	Location Confidence	Distance	Direction
N/A	No records in buffer					

Former Gasworks Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

National Waste Management Site Database

Sites on the National Waste Management Site Database within the dataset buffer:

Site Id	Owner	Name	Address	Suburb	Class	Landfill	Reprocess	Transfer	Comments	Loc Conf	Dist (m)	Direction
N/A	No records in buffer											

Waste Management Facilities Data Source: Geoscience Australia
Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

EPA PFAS Investigation Program

Northbourne Drive, Marsden Park, NSW 2765

EPA PFAS Investigation Program

Sites that are part of the EPA PFAS investigation program, within the dataset buffer:

Id	Site	Address	Location Confidence	Distance	Direction
N/A	No records in buffer				

EPA PFAS Investigation Program: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

EPA Other Sites with Contamination Issues

Northbourne Drive, Marsden Park, NSW 2765

EPA Other Sites with Contamination Issues

This dataset contains other sites identified on the EPA website as having contamination issues. This dataset currently includes:

- James Hardie asbestos manufacturing and waste disposal sites
- Radiological investigation sites in Hunter's Hill

Sites within the dataset buffer:

Site Id	Site Name	Site Address	Dataset	Comments	Location Confidence	Distance	Direction
N/A	No records in buffer						

EPA Other Sites with Contamination Issues: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

EPA Activities

Northbourne Drive, Marsden Park, NSW 2765

Licensed Activities under the POEO Act 1997

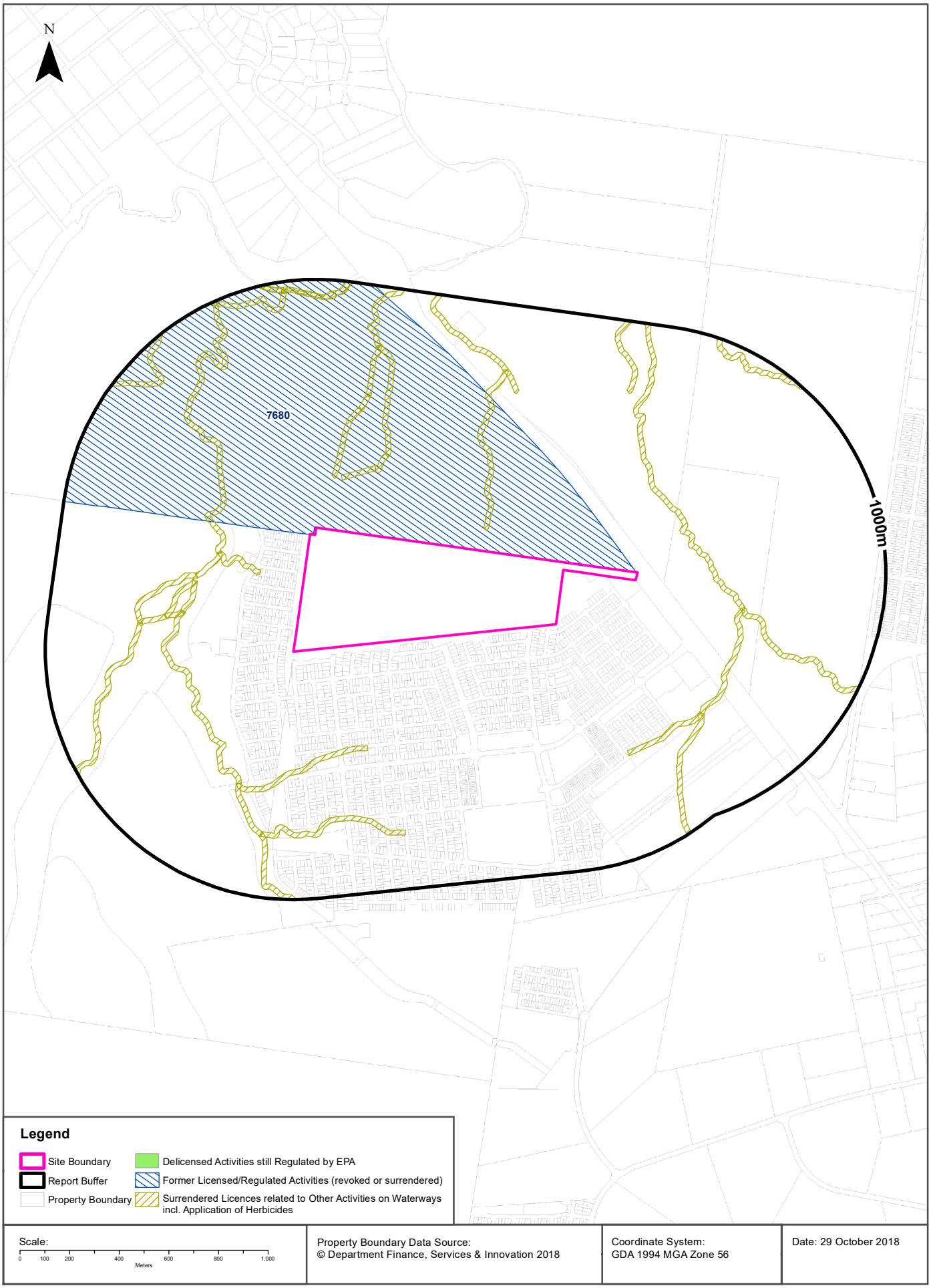
Licensed activities under the Protection of the Environment Operations Act 1997, within the dataset buffer:

EPL	Organisation	Name	Address	Suburb	Activity	Loc Conf	Distance	Direction
N/A	No records in buffer							

POEO Licence Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

Delicensed & Former Licensed EPA Activities

Northbourne Drive, Marsden Park, NSW 2765



EPA Activities

Northbourne Drive, Marsden Park, NSW 2765

Delicensed Activities still regulated by the EPA

Delicensed activities still regulated by the EPA, within the dataset buffer:

Licence No	Organisation	Name	Address	Suburb	Activity	Loc Conf	Distance	Direction
N/A	No records in buffer							

Delicensed Activities Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

Former Licensed Activities under the POEO Act 1997, now revoked or surrendered

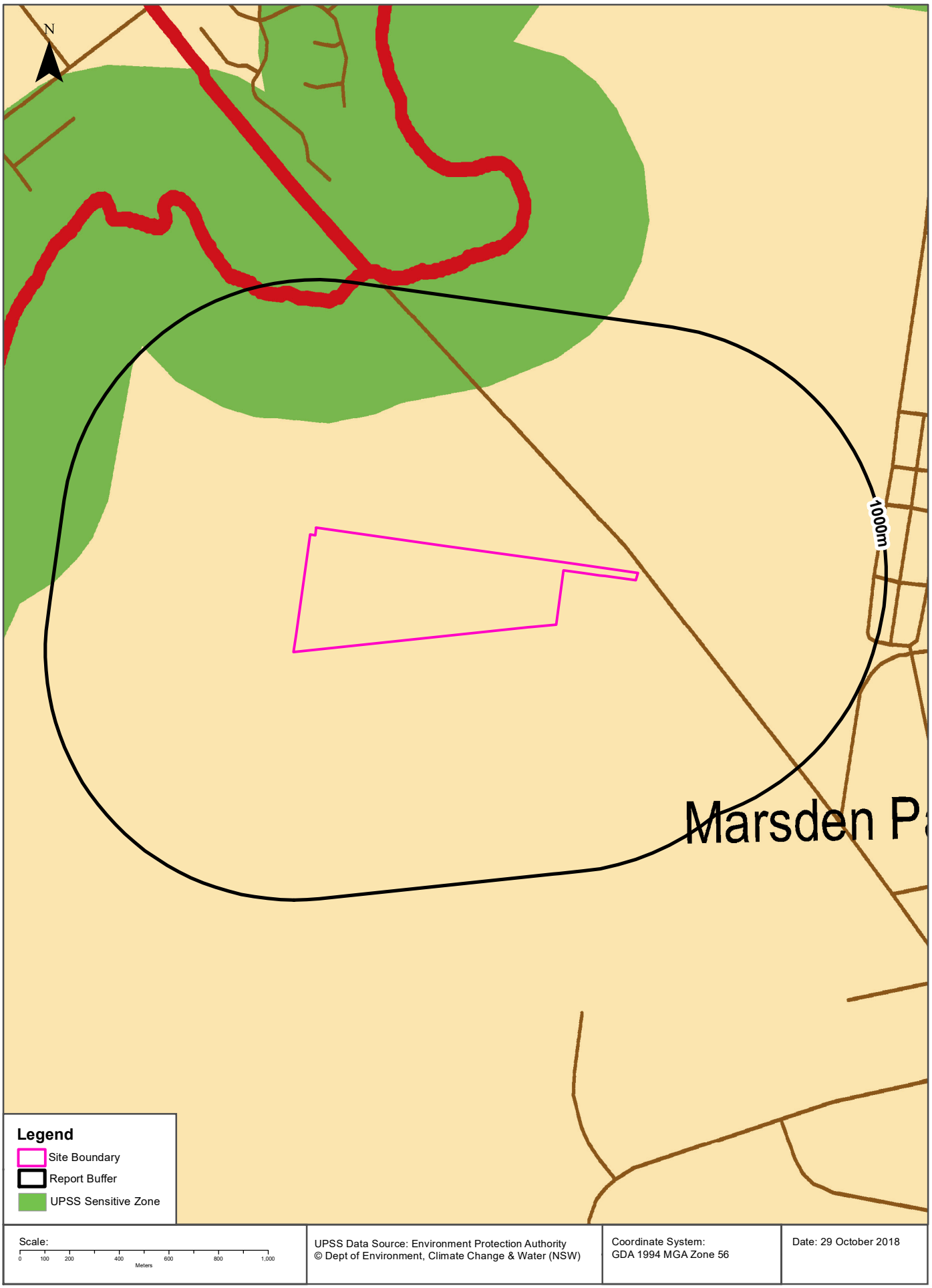
Former Licensed activities under the Protection of the Environment Operations Act 1997, now revoked or surrendered, within the dataset buffer:

Licence No	Organisation	Location	Status	Issued Date	Activity	Loc Conf	Distance	Direction
7680	ASSOCIATED DAIRIES PTY LTD	1270 RICHMOND ROAD, MARSDEN PARK, NSW 2765	Surrendered	12/07/2000	Dairy animal accommodation	Premise Match	0m	North
4653	LUHRMANN ENVIRONMENT MANAGEMENT PTY LTD	WATERWAYS THROUGHOUT NSW	Surrendered		Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	84m	-
4838	Robert Orchard	Various Waterways throughout New South Wales - SYDNEY NSW 2000	Surrendered		Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	84m	-
6630	SYDNEY WEED & PEST MANAGEMENT PTY LTD	WATERWAYS THROUGHOUT NSW - PROSPECT, NSW, 2148	Surrendered		Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	84m	-

Former Licensed Activities Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

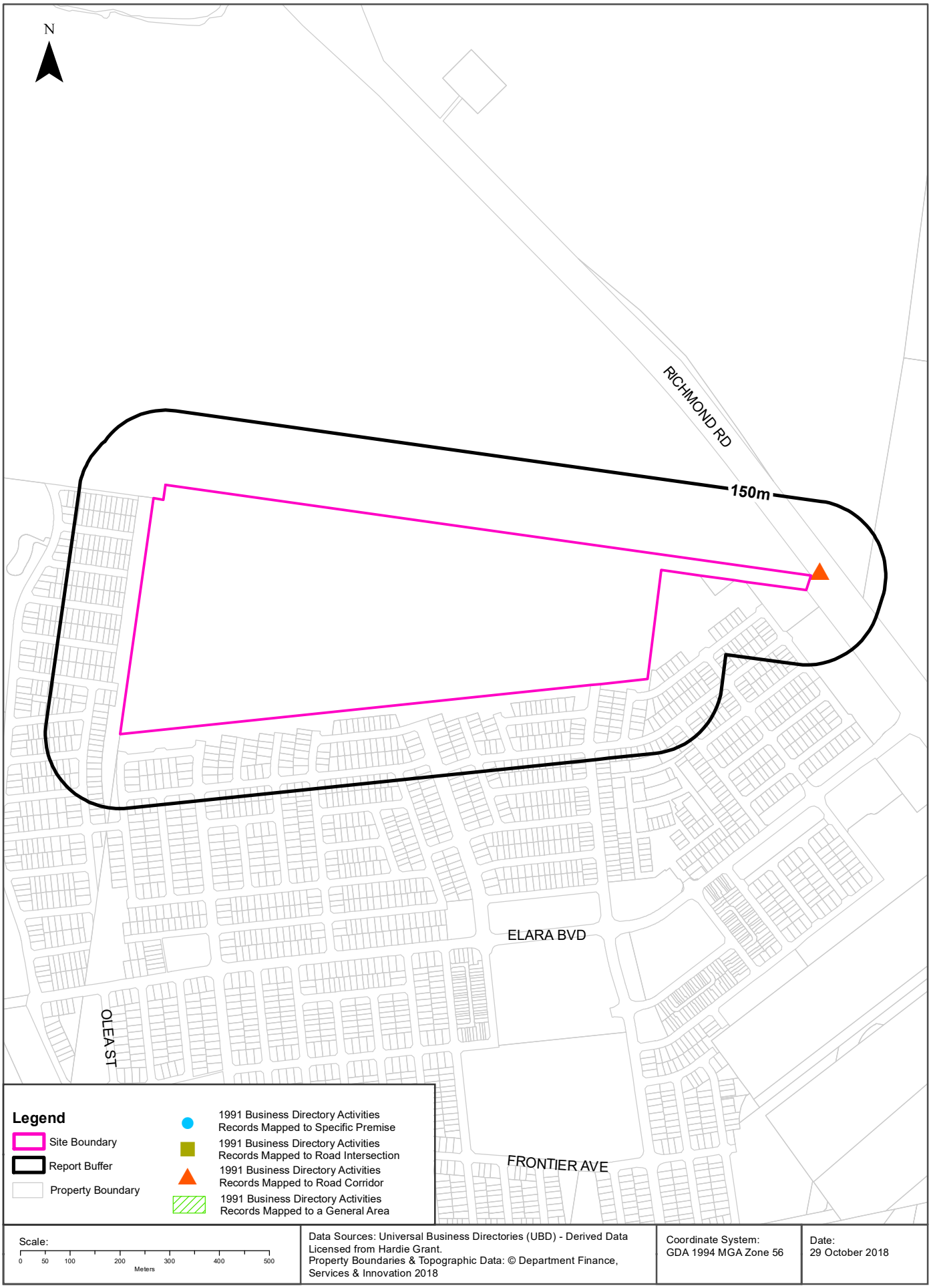
UPSS Sensitive Zones

Northbourne Drive, Marsden Park, NSW 2765



1991 Historical Business Directory Records

Northbourne Drive, Marsden Park, NSW 2765



Historical Business Directories

Northbourne Drive, Marsden Park, NSW 2765

1991 Business to Business Directory Records Premise or Road Intersection Matches

Records from the 1991 UBD Business to Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1991 Business to Business Directory Records Road or Area Matches

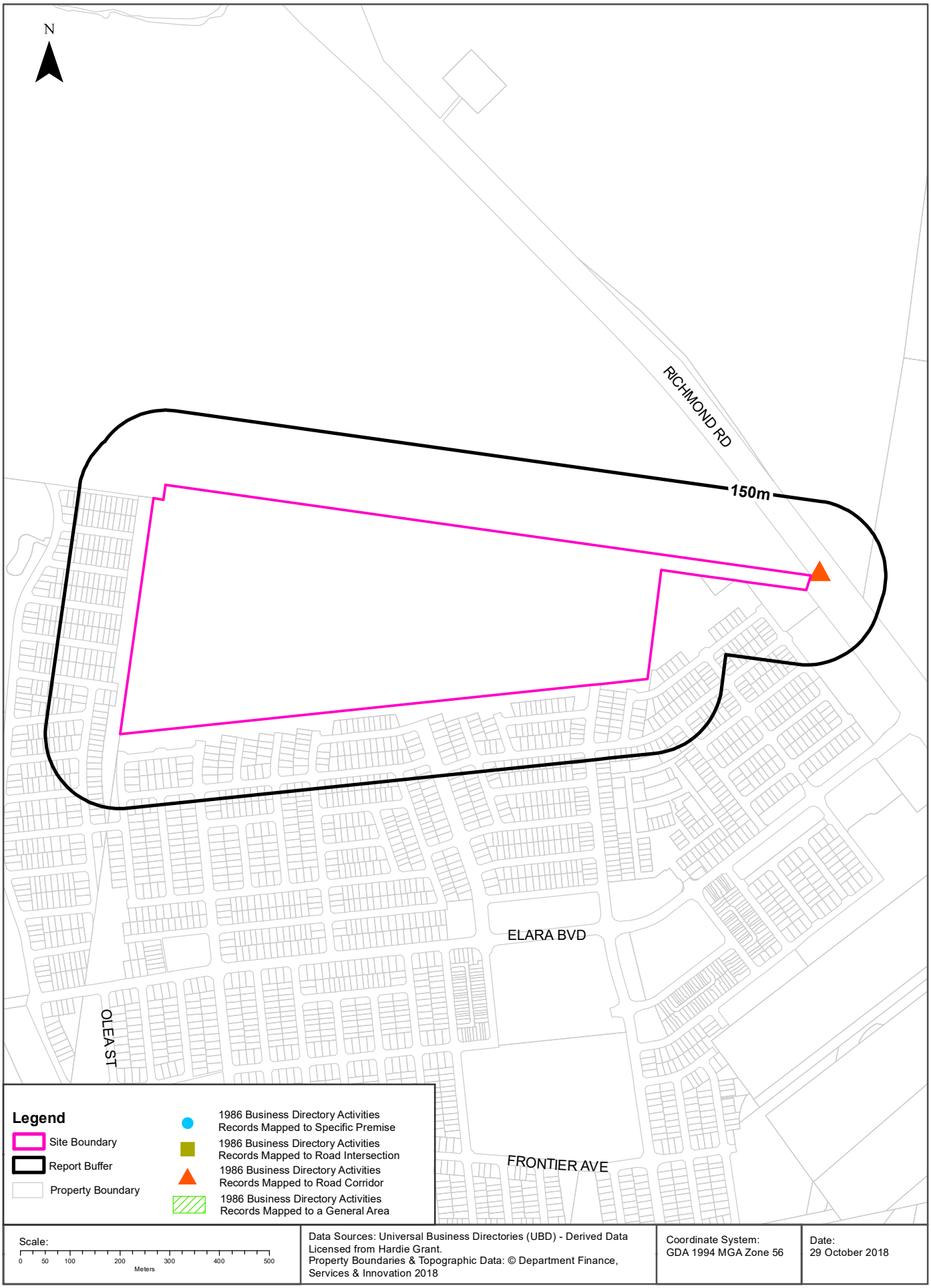
Records from the 1991 UBD Business to Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
Motor Garages & Service Stations	BP Marsden Park Service Station, Richmond Rd., Marsden Park	53589	Road Match	0m

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1986 Historical Business Directory Records

Northbourne Drive, Marsden Park, NSW 2765



Historical Business Directories

Northbourne Drive, Marsden Park, NSW 2765

1986 Business to Business Directory Records Premise or Road Intersection Matches

Records from the 1986 UBD Business to Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1986 Business to Business Directory Records Road or Area Matches

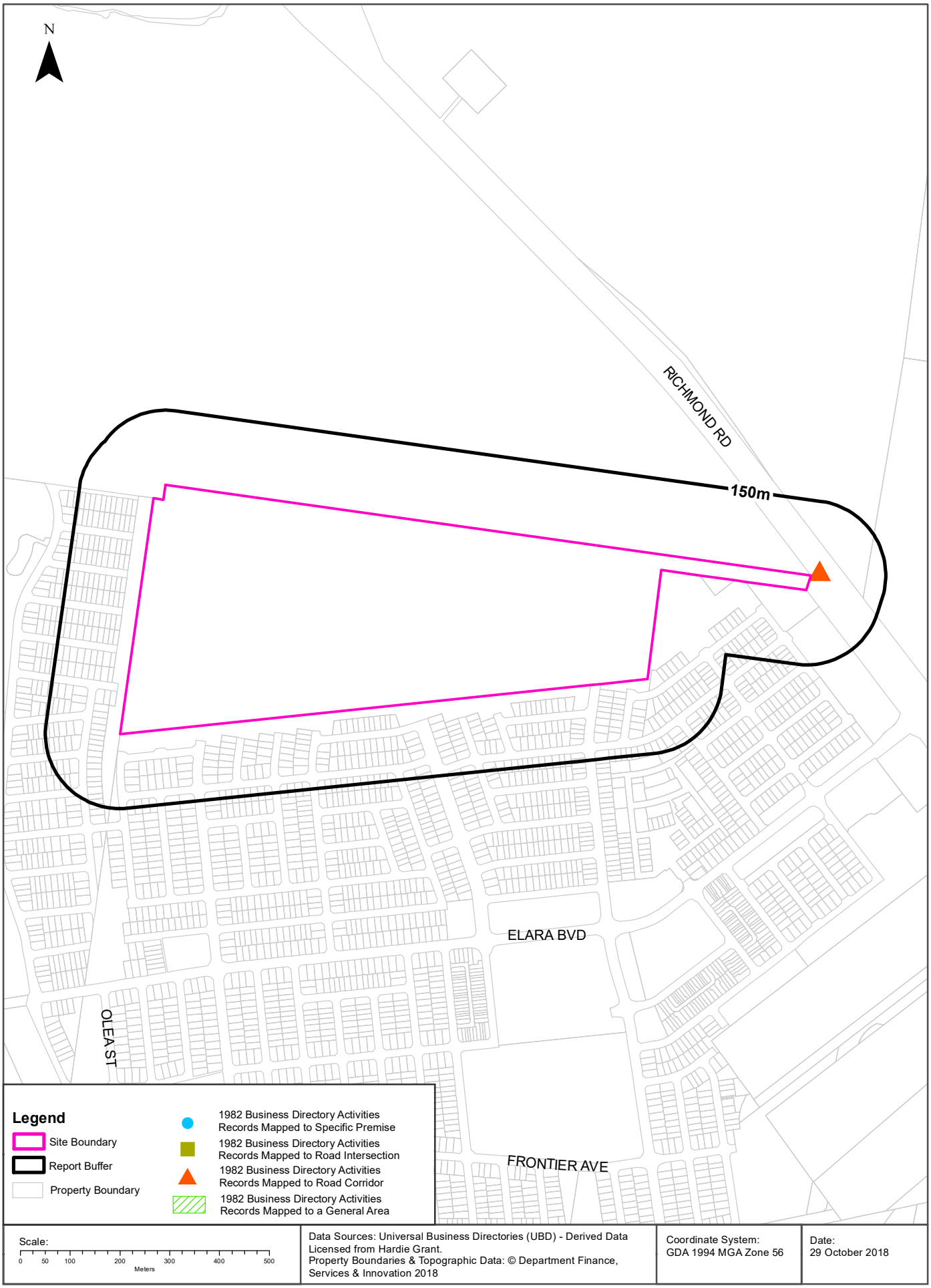
Records from the 1986 UBD Business to Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
CARRIERS &/OR CARTAGE CONTRACTORS.	Associated Dairies Transport, Richmond Rd., Marsden Park,	12725	Road Match	0m
ROAD TRANSPORT SERVICES; INTERSTATE.	Associated Dairies Transport, Richmond Rd., Marsden Park.	83285	Road Match	0m
MOTOR GARAGES & SERVICE STATIONS.	BP Marsden Park, Richmond Rd., Marsden Park.	64176	Road Match	0m
FERTILIZER MFRS. &/OR SUPPLIERS.	Gard-N-Aid Compost Co., Richmond Rd., Marsden Park.	32333	Road Match	0m

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1982 Historical Business Directory Records

Northbourne Drive, Marsden Park, NSW 2765



Historical Business Directories

Northbourne Drive, Marsden Park, NSW 2765

1982 Business Directory Records
Premise or Road Intersection Matches

Records from the 1982 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1982 Business Directory Records
Road or Area Matches

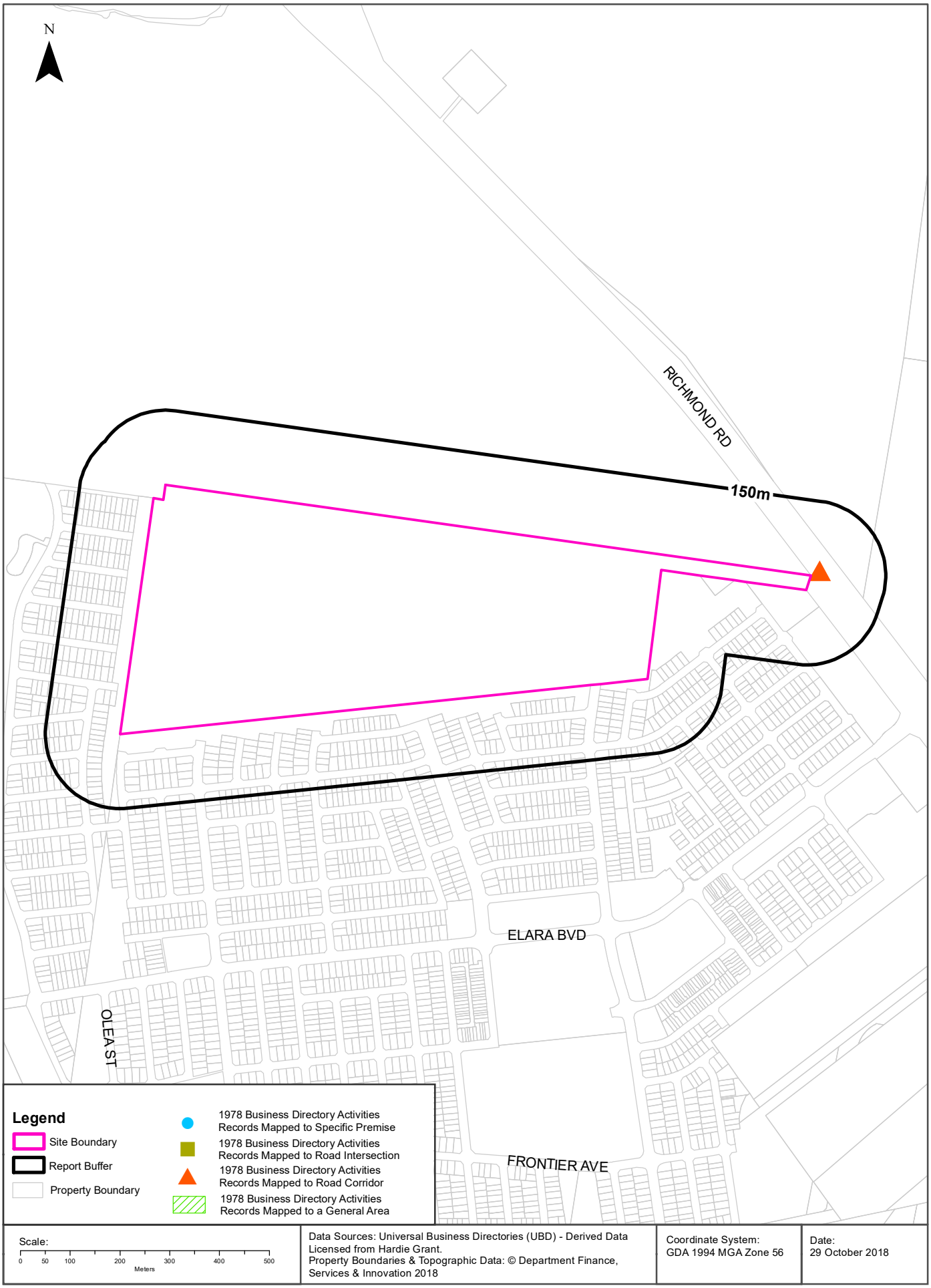
Records from the 1982 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
CARRIERS &/OR CARTAGE CONTRACTORS. (C2115)	Associated Dairies Transport, Richmond Rd., Marsden Park.2765.	13562	Road Match	0m
ROAD TRANSPORT SERVICES - INTERSTATE, (R5810)	Associated Dairies Transport, Richmond Rd., Marsden Park.2765.	72008	Road Match	0m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	BP Marsden Park, Richmond Rd., Marsden Park, 2765.	56249	Road Match	0m
FERTILIZER MFRS. &/OR SUPPLIERS. (F1000)	Gard-N-Aid Compost Co., Richmond Rd., Marsden Park, 2765.	30220	Road Match	0m

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1978 Historical Business Directory Records

Northbourne Drive, Marsden Park, NSW 2765



Historical Business Directories

Northbourne Drive, Marsden Park, NSW 2765

1978 Business Directory Records
Premise or Road Intersection Matches

Records from the 1978 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1978 Business Directory Records
Road or Area Matches

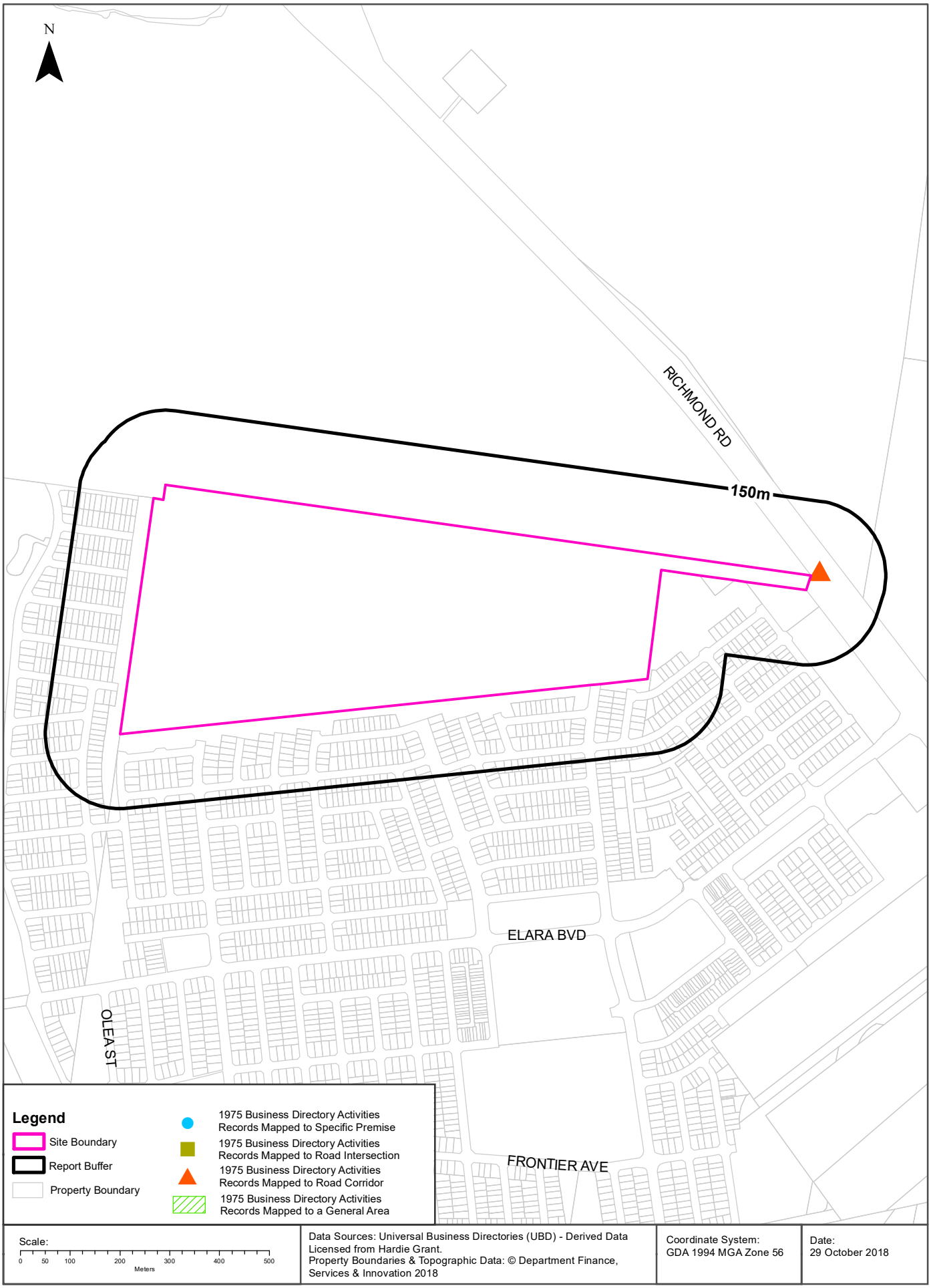
Records from the 1978 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
FERTILIZER MFRS. &/OR SUPPLIERS.	Gard-N-Aid Compost Co., Richmond Rd., Marsden Park.	27315	Road Match	0m

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1975 Historical Business Directory Records

Northbourne Drive, Marsden Park, NSW 2765



Historical Business Directories

Northbourne Drive, Marsden Park, NSW 2765

1975 Business Directory Records
Premise or Road Intersection Matches

Records from the 1975 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1975 Business Directory Records
Road or Area Matches

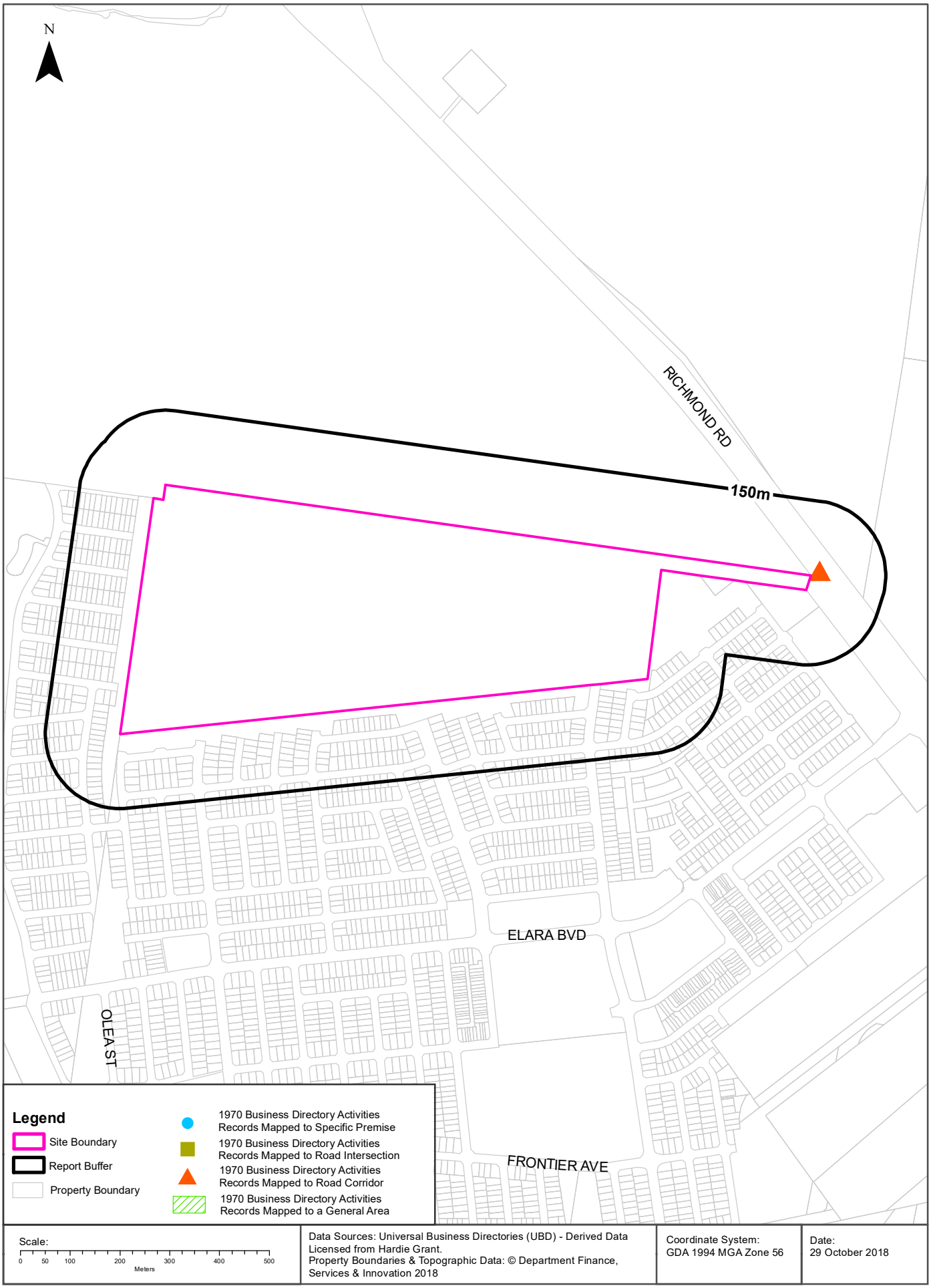
Records from the 1975 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
FERTILIZER MFRS. &/OR SUPPLIERS.	Gard-N-Aid Compost Co., Richmond Rd., Marsden Park.	31509	Road Match	0m

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1970 Historical Business Directory Records

Northbourne Drive, Marsden Park, NSW 2765



Historical Business Directories

Northbourne Drive, Marsden Park, NSW 2765

1970 Business Directory Records
Premise or Road Intersection Matches

Records from the 1970 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1970 Business Directory Records
Road or Area Matches

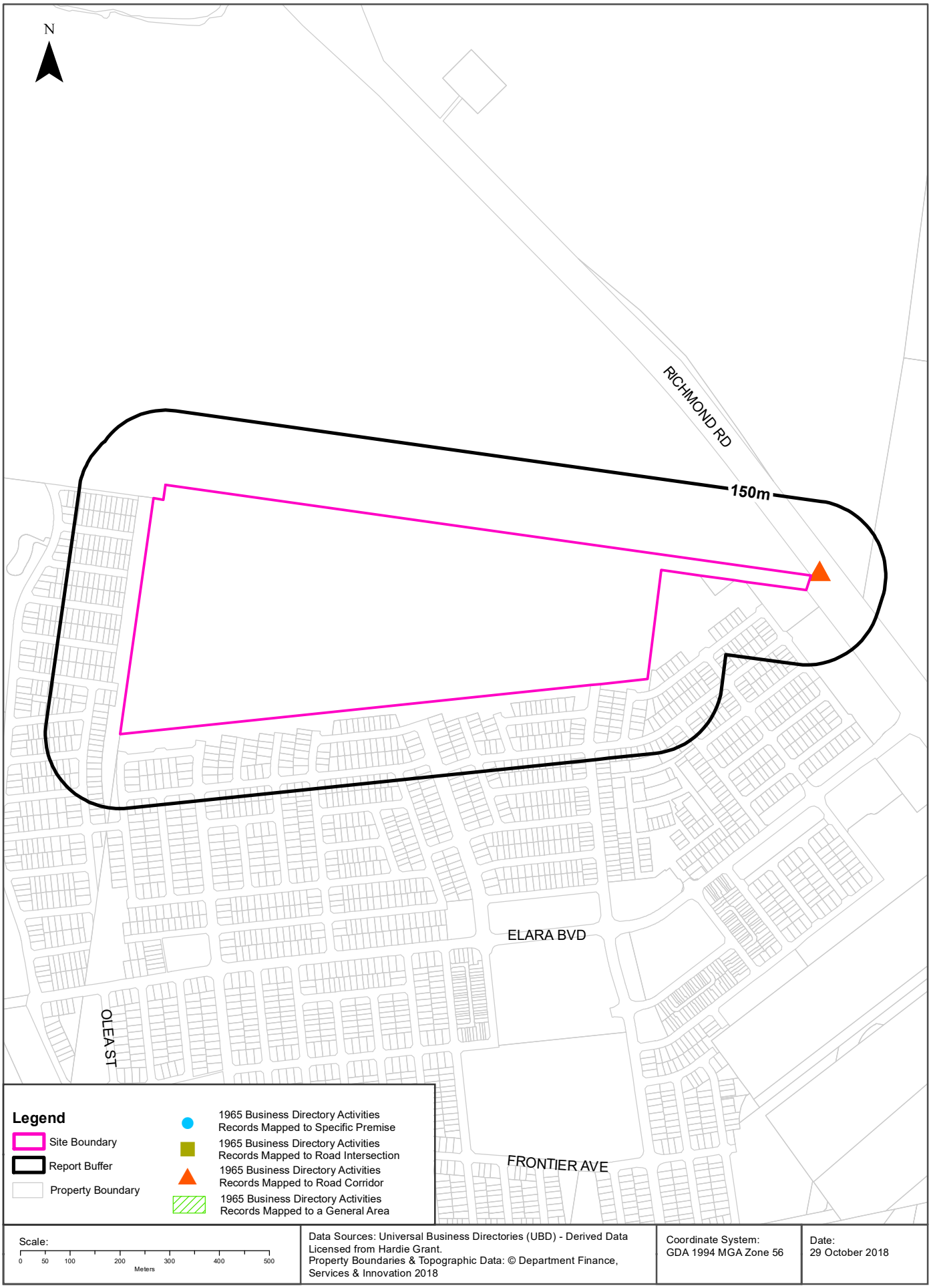
Records from the 1970 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
MOTOR PAINTERS (M672)	Thomas,J. W. & Sons,Richmond Rd.,Marsden Park	339687	Road Match	0m
MOTOR PANEL BEATERS (M680)	Thomas,J. W. & Sons,Richmond Rd.,Marsden Park	340481	Road Match	0m
MOTOR SERVICE STATIONS-PETROL,OIL,Etc. (M716)	Thomas,J. W. & Sons,Richmond Rd.MARSDEN PARK	341539	Road Match	0m

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1965 Historical Business Directory Records

Northbourne Drive, Marsden Park, NSW 2765



Historical Business Directories

Northbourne Drive, Marsden Park, NSW 2765

1965 Business Directory Records
Premise or Road Intersection Matches

Records from the 1965 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

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1965 Business Directory Records
Road or Area Matches

Records from the 1965 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
Radio &/Or Television Sakes & Servicemen - Masden Park	Carr, R. , Richmond Rd. Marsden Park	138292	Road Match	0m

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

Historical Business Directories

Northbourne Drive, Marsden Park, NSW 2765

1961 Business Directory Records
Premise or Road Intersection Matches

Records from the 1961 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1961 Business Directory Records
Road or Area Matches

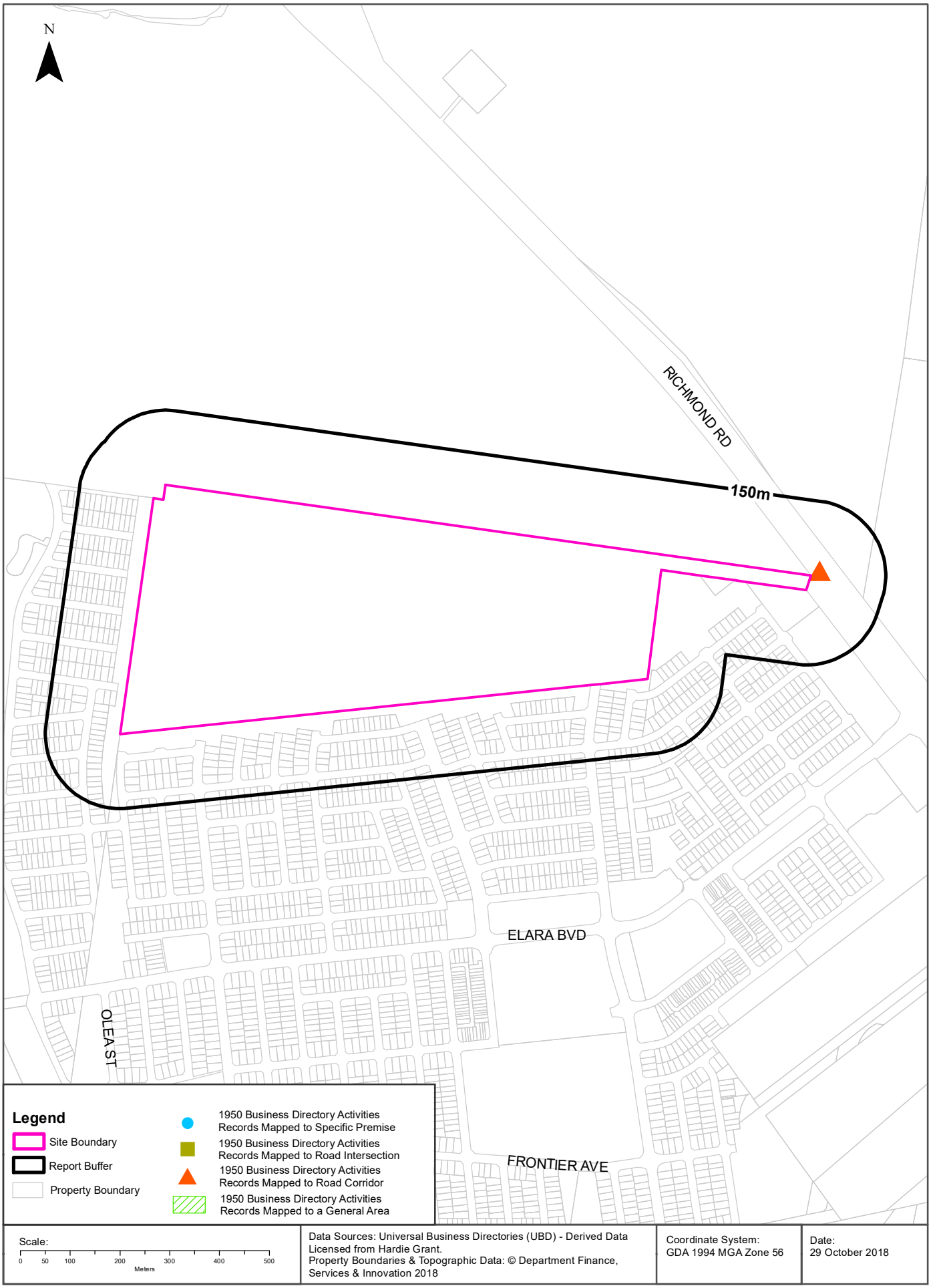
Records from the 1961 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
N/A	No records in buffer			

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1950 Historical Business Directory Records

Northbourne Drive, Marsden Park, NSW 2765



Historical Business Directories

Northbourne Drive, Marsden Park, NSW 2765

1950 Business Directory Records
Premise or Road Intersection Matches

Records from the 1950 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1950 Business Directory Records
Road or Area Matches

Records from the 1950 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
POULTRY FARMERS	Asher Hart, Richmond Rd., Marsden Park	93842	Road Match	0m

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

Historical Business Directories

Northbourne Drive, Marsden Park, NSW 2765

Dry Cleaners, Motor Garages & Service Stations Premise or Road Intersection Matches

Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer					

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

Historical Business Directories

Northbourne Drive, Marsden Park, NSW 2765

Dry Cleaners, Motor Garages & Service Stations Road or Area Matches

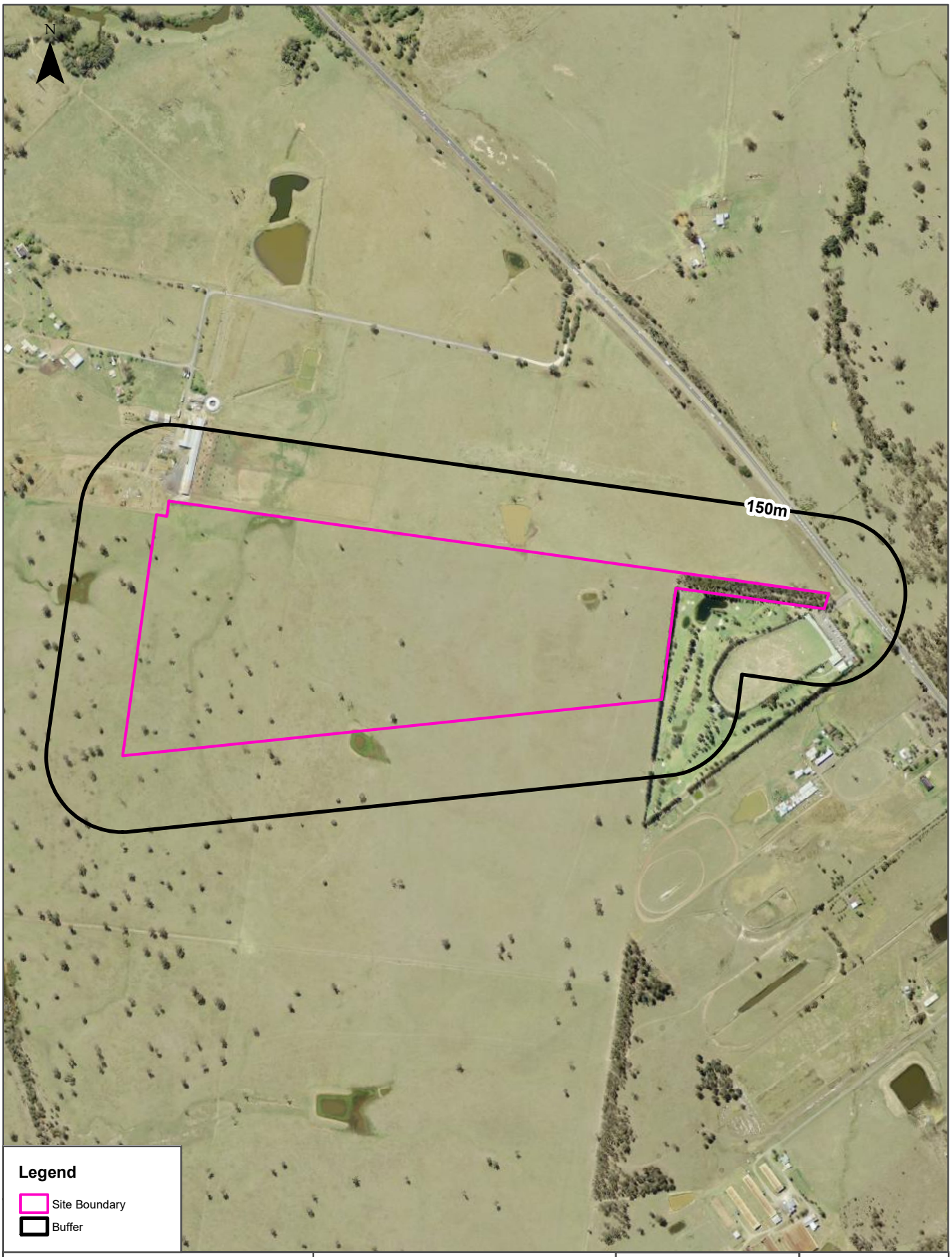
Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
Motor Garages & Service Stations	BP Marsden Park Service Station Richmond Rd., Marsden Park	53589	1991	Road Match	0m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	BP Marsden Park, Richmond Rd., Marsden Park, 2765.	56249	1982	Road Match	0m
MOTOR GARAGES & SERVICE STATIONS.	BP Marsden Park, Richmond Rd., Marsden Park.	64176	1986	Road Match	0m
MOTOR SERVICE STATIONS-PETROL,OIL,Etc. (M716)	Thomas,J. W. & Sons,Richmond Rd.MARSDEN PARK	341539	1970	Road Match	0m

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

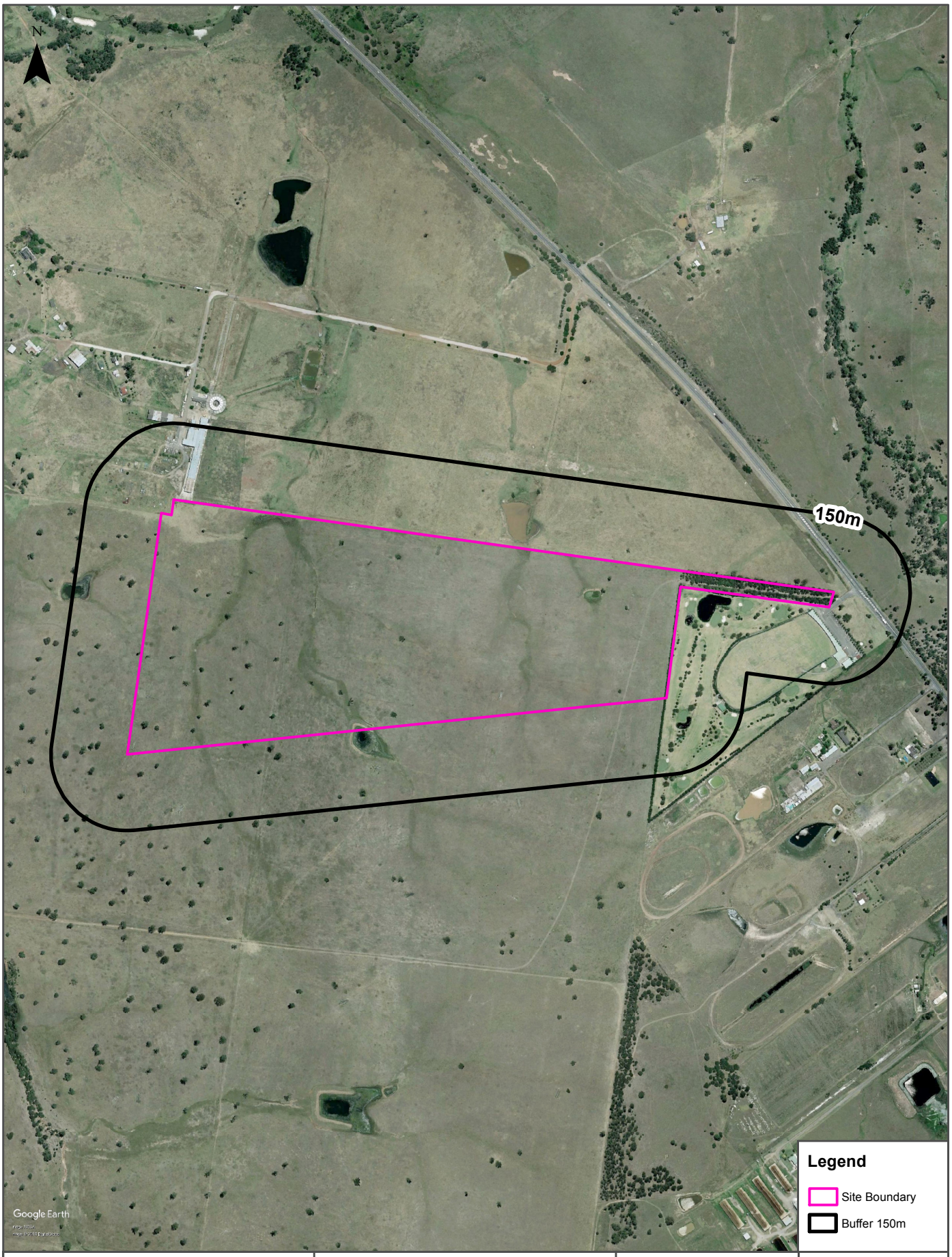
Aerial Imagery 2016

Northbourne Drive, Marsden Park, NSW 2765



Aerial Imagery 2009

Northbourne Drive, Marsden Park, NSW 2765



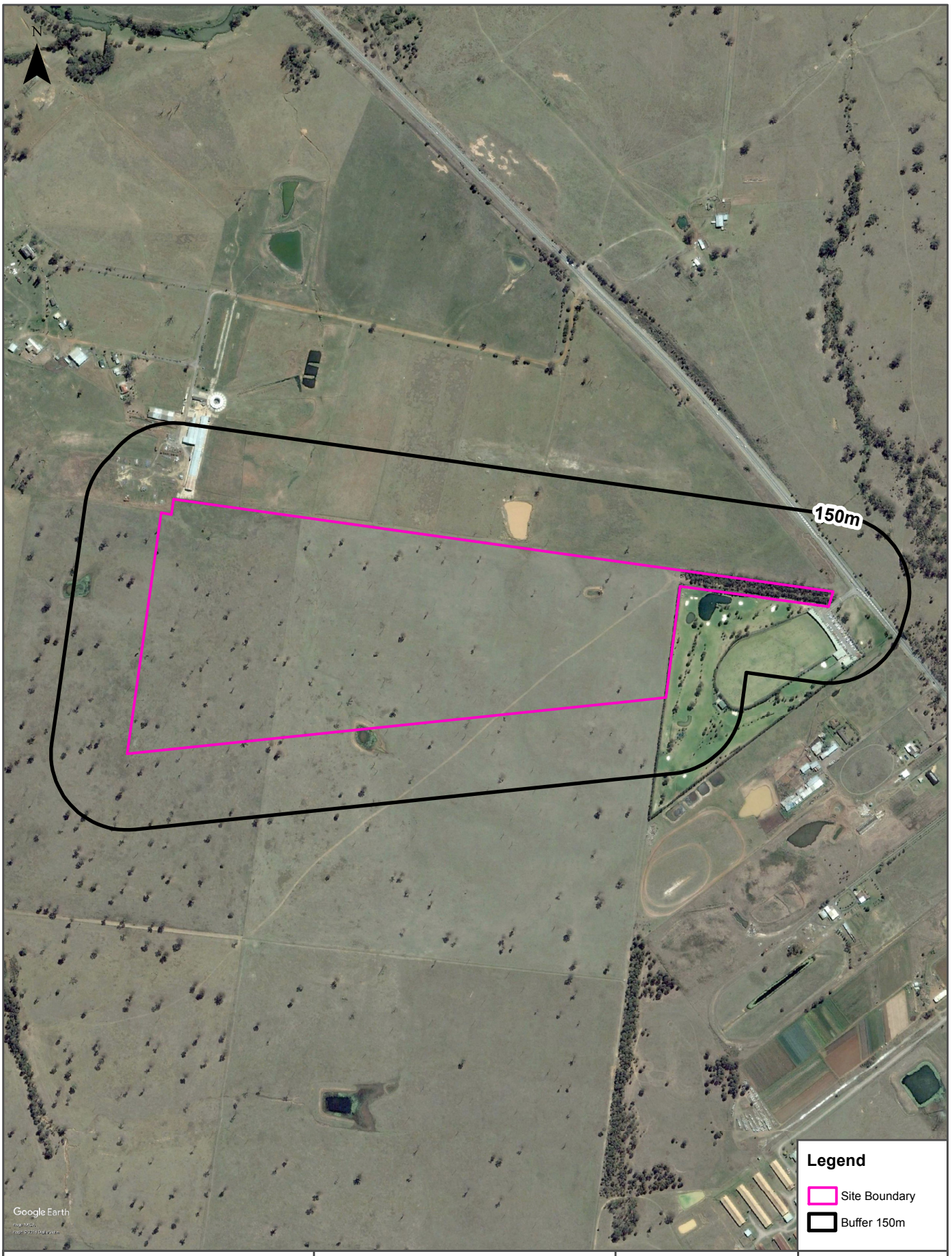
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Coordinate System: GDA 1994 MGA Zone 56

Date: 26 October 2018

Aerial Imagery 2005

Northbourne Drive, Marsden Park, NSW 2765



Scale:
0 100 200 400
Meters

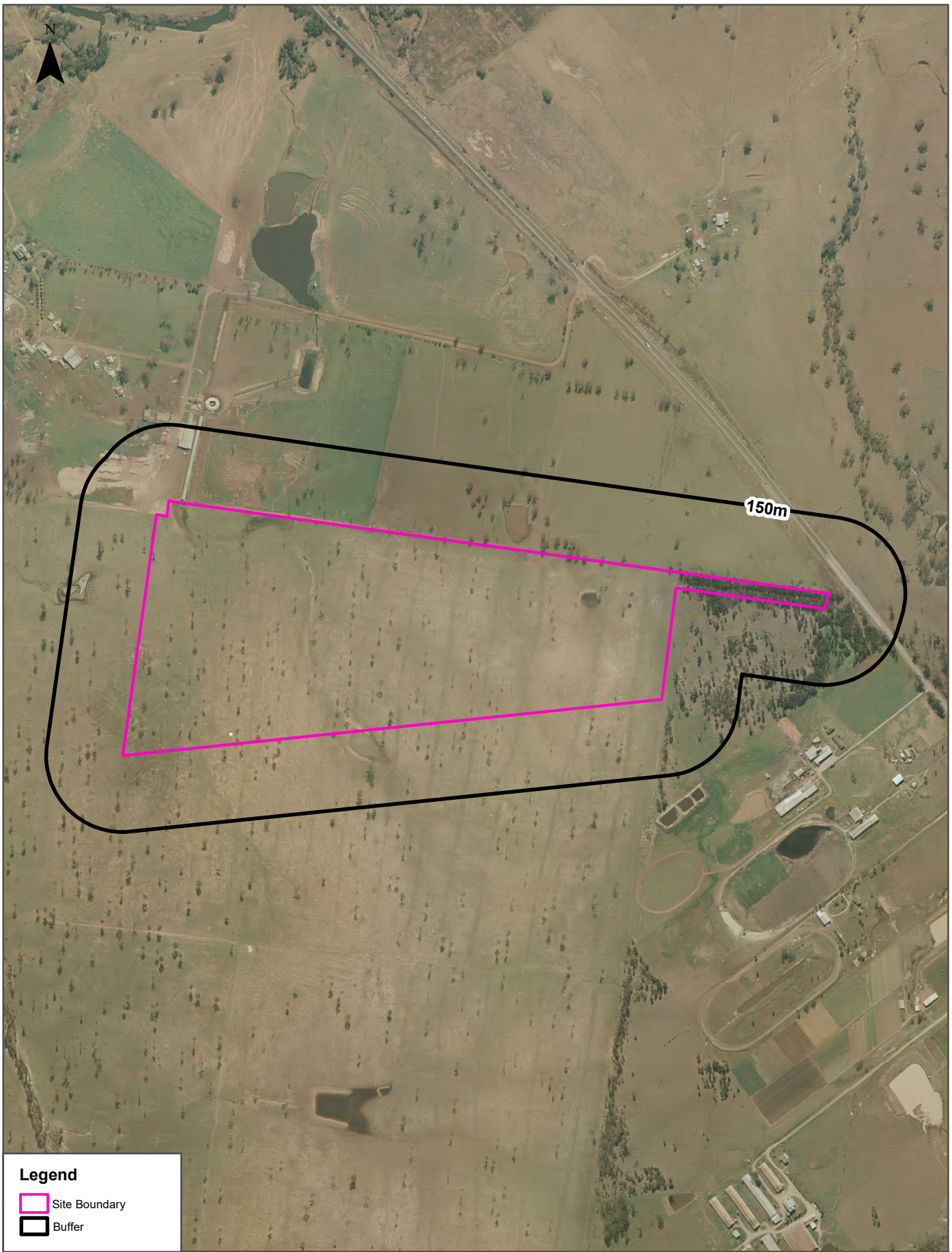
Data Source Aerial Imagery: © 2018 Google Inc, used with permission. Google and the Google logo are registered trademarks of Google Inc.

Coordinate System:
GDA 1994 MGA Zone 56

Date: 26 October 2018

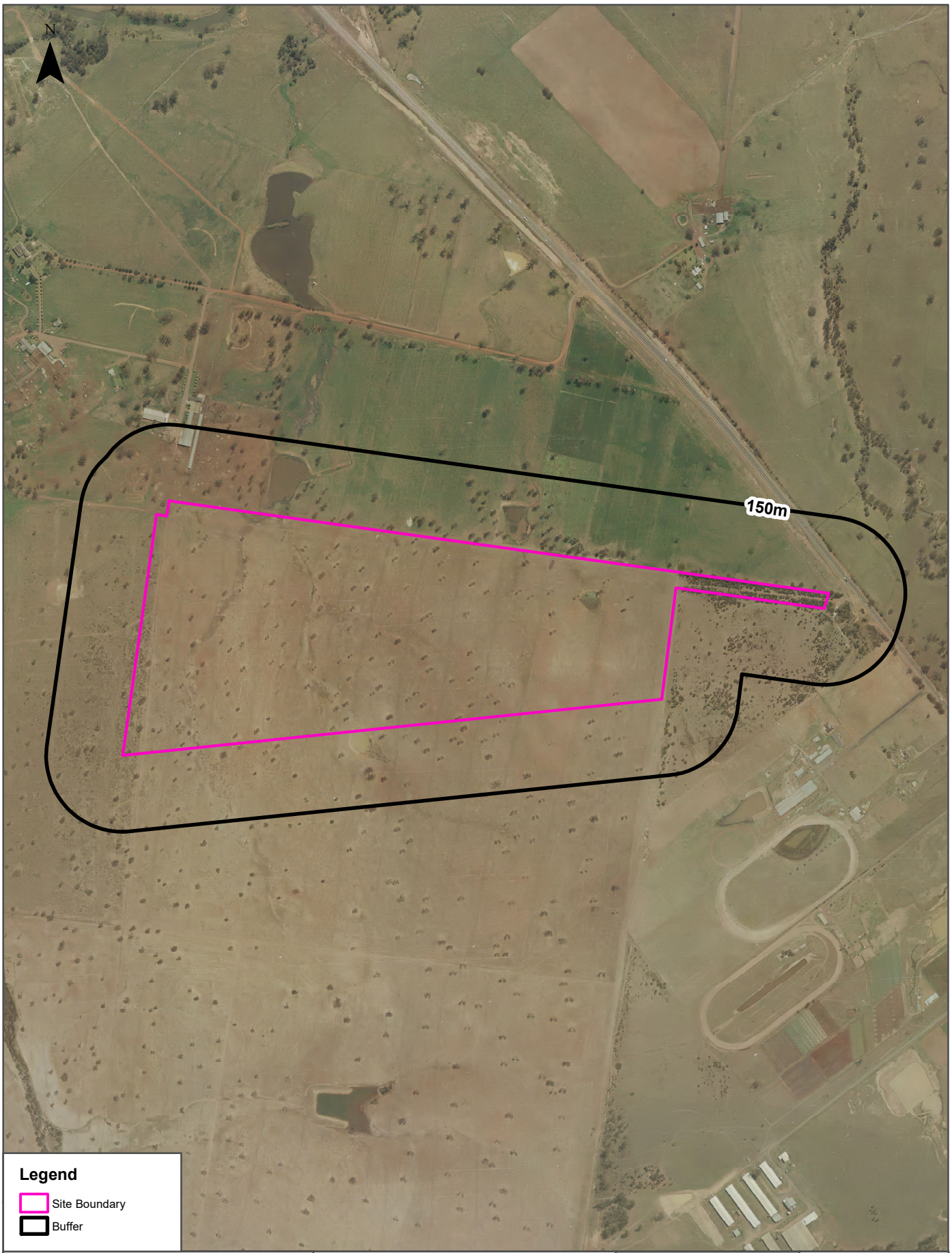
Aerial Imagery 1991

Northbourne Drive, Marsden Park, NSW 2765



Aerial Imagery 1982

Northbourne Drive, Marsden Park, NSW 2765



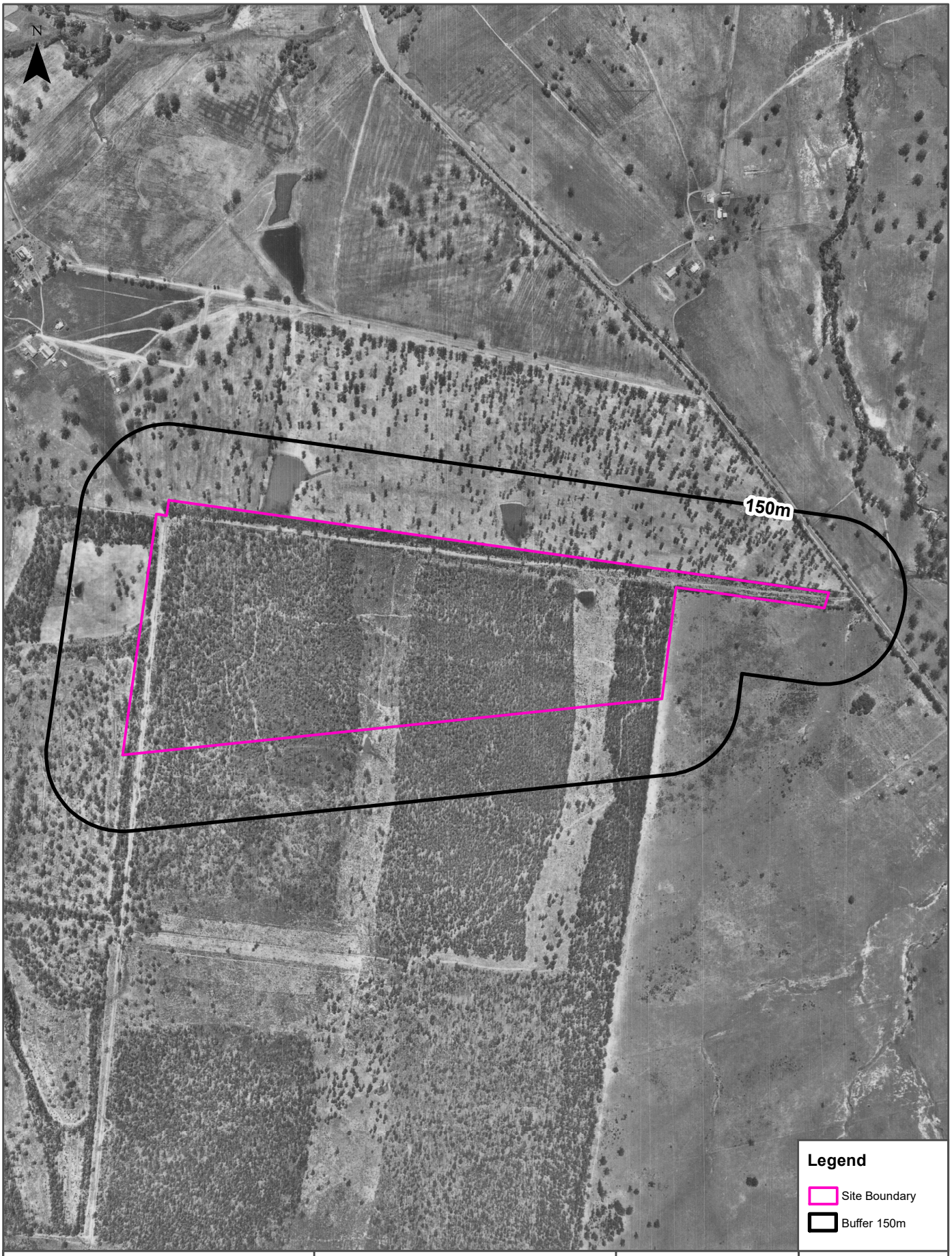
Aerial Imagery 1970

Northbourne Drive, Marsden Park, NSW 2765



Aerial Imagery 1965

Northbourne Drive, Marsden Park, NSW 2765



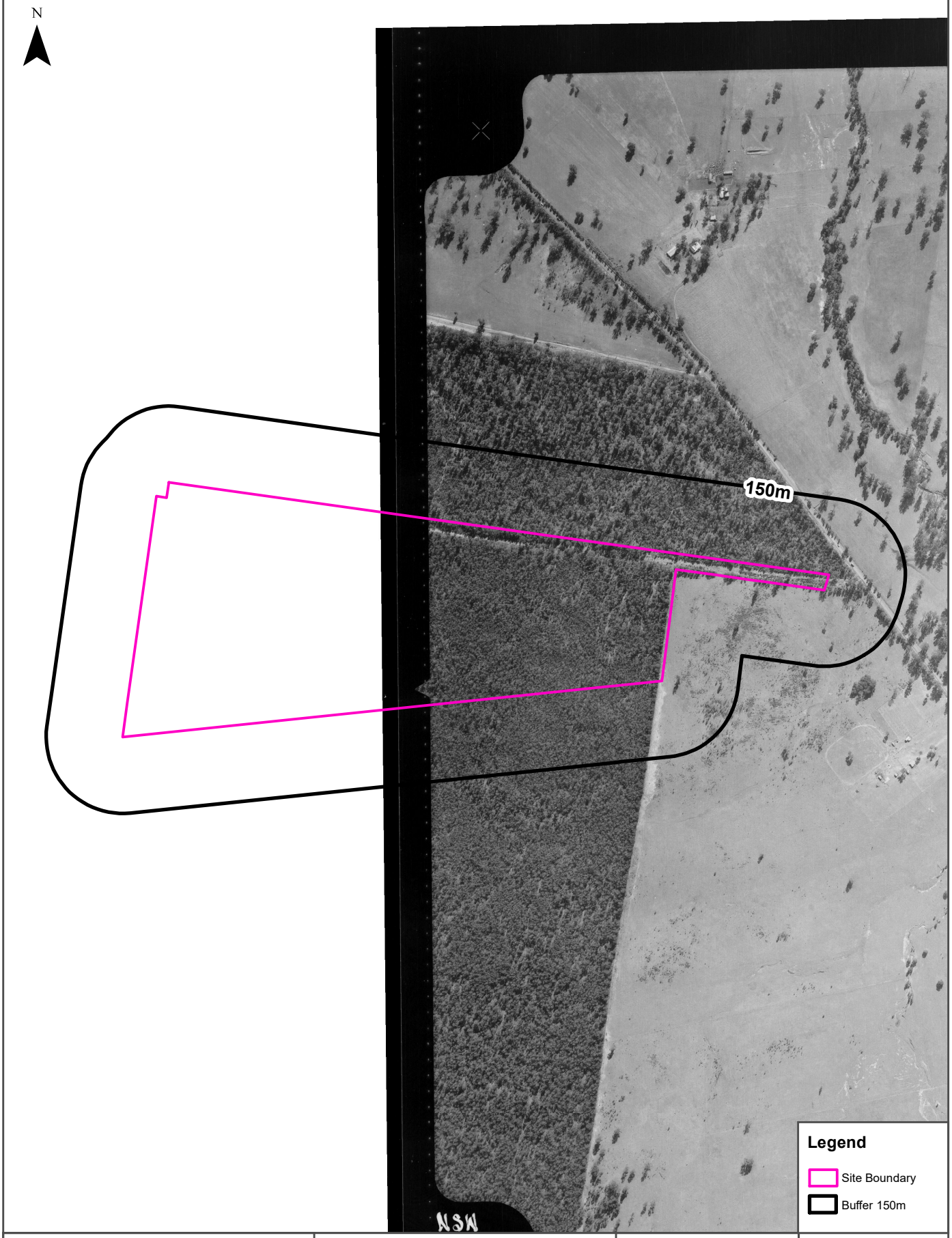
Aerial Imagery 1961

Northbourne Drive, Marsden Park, NSW 2765



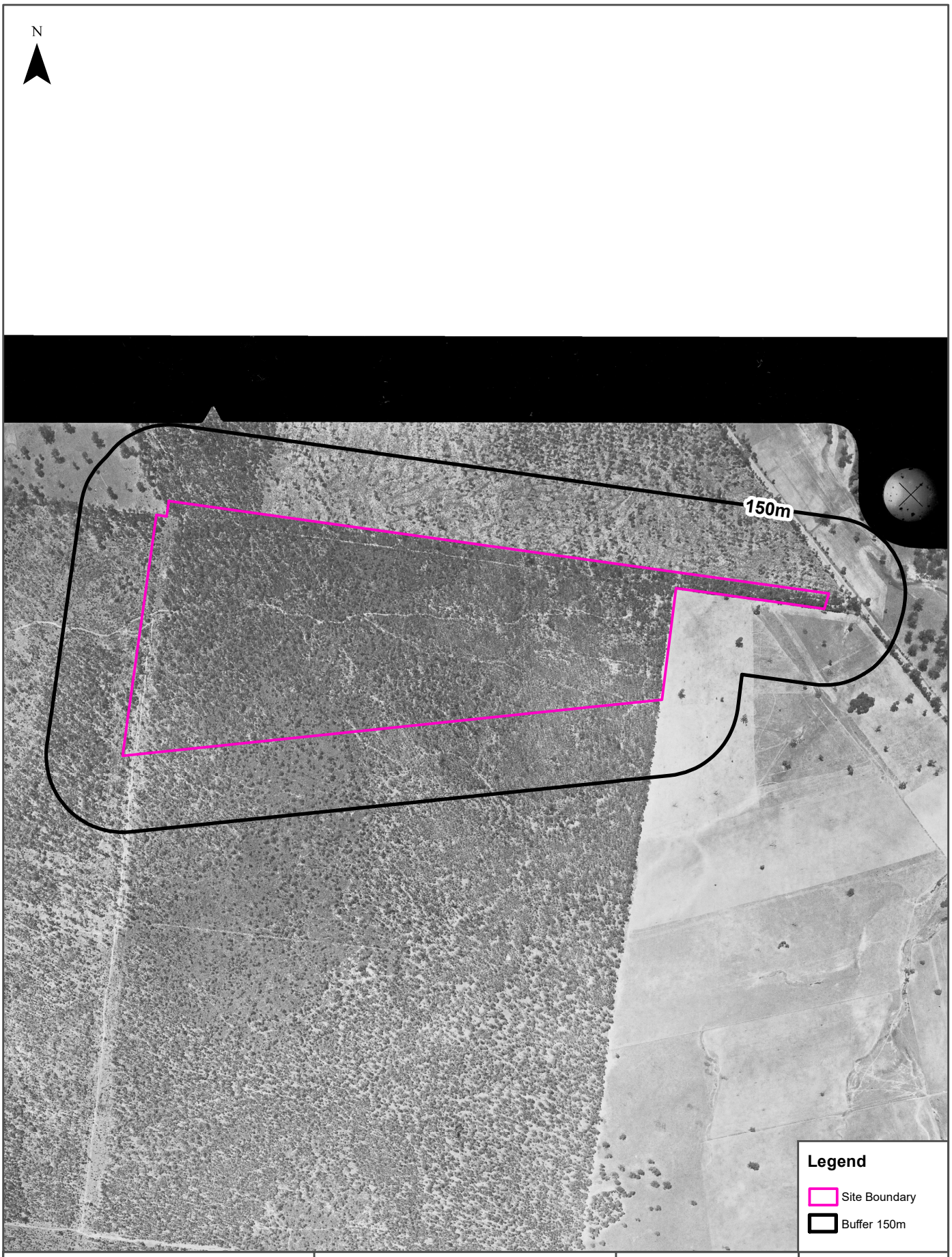
Aerial Imagery 1961

Northbourne Drive, Marsden Park, NSW 2765



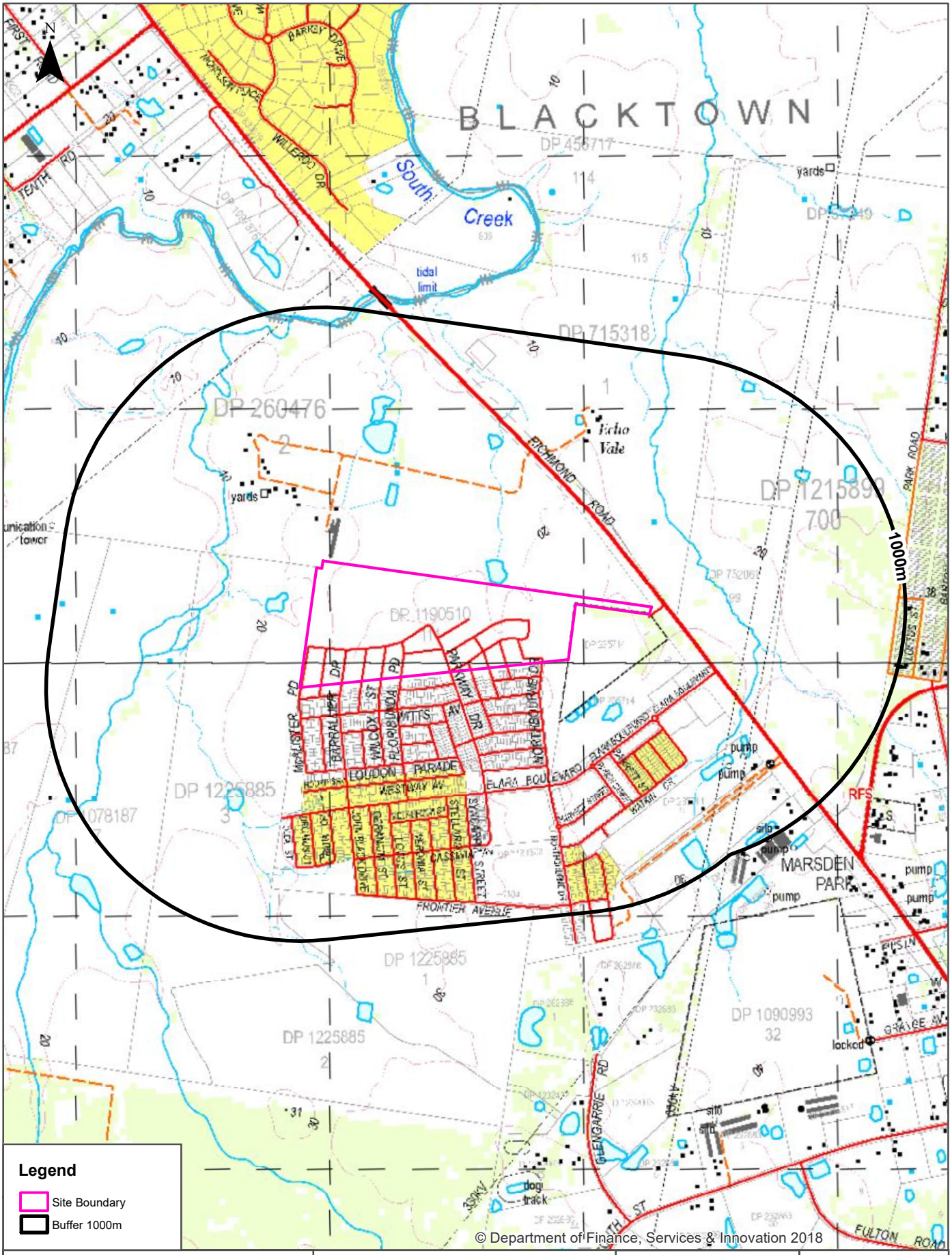
Aerial Imagery 1956

Northbourne Drive, Marsden Park, NSW 2765



Topographic Map 2015

Northbourne Drive, Marsden Park, NSW 2765



Scale: 0 100 200 400 600 800 1,000 Meters

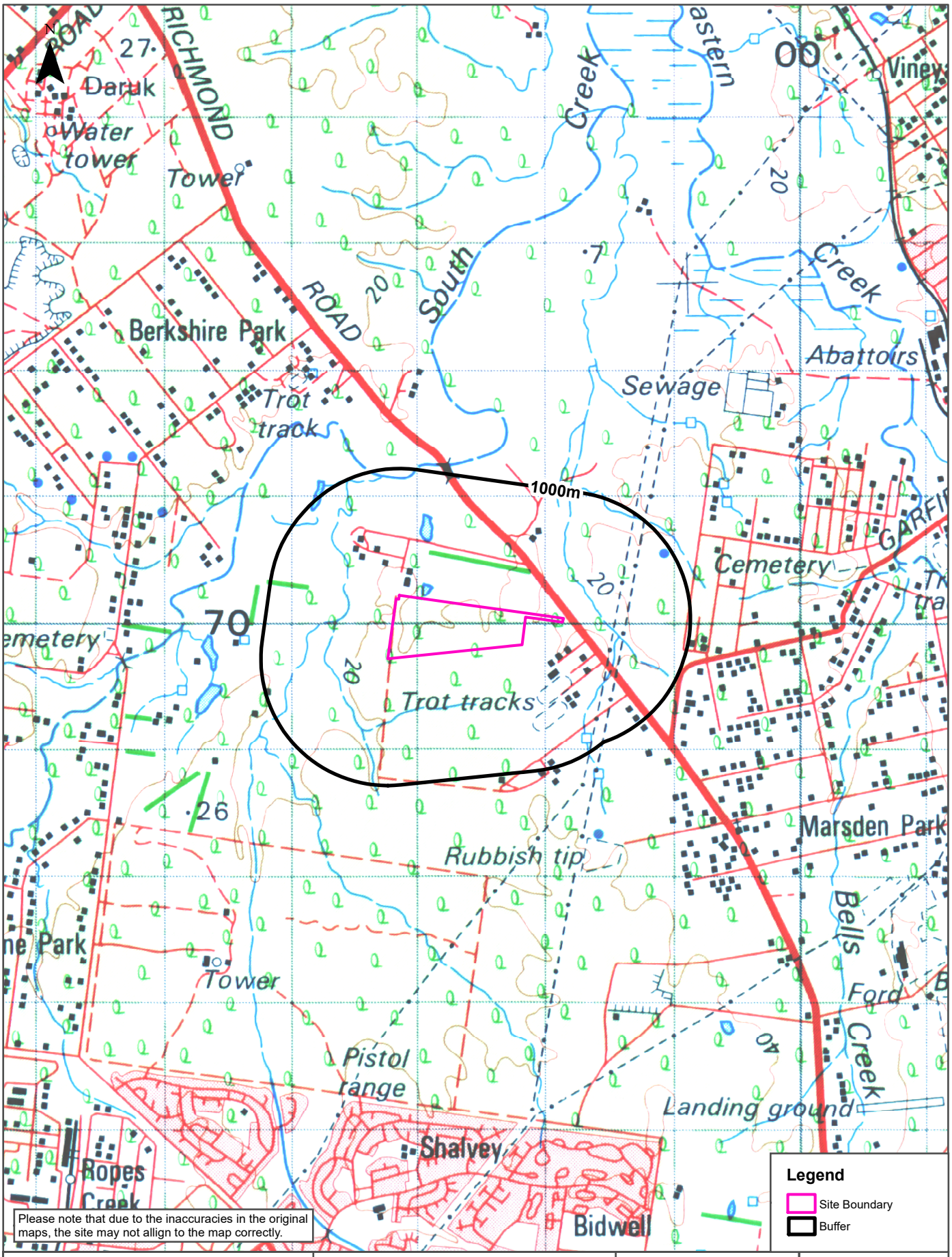
Data Sources: Topographic Map Data © NSW Land and Property Information

Coordinate System: GDA 1994 MGA Zone 56

Date: 29 October 2018

Historical Map 1975

Northbourne Drive, Marsden Park, NSW 2765



Scale: 0 200 400 800 1,200 1,600 2,000 Meters

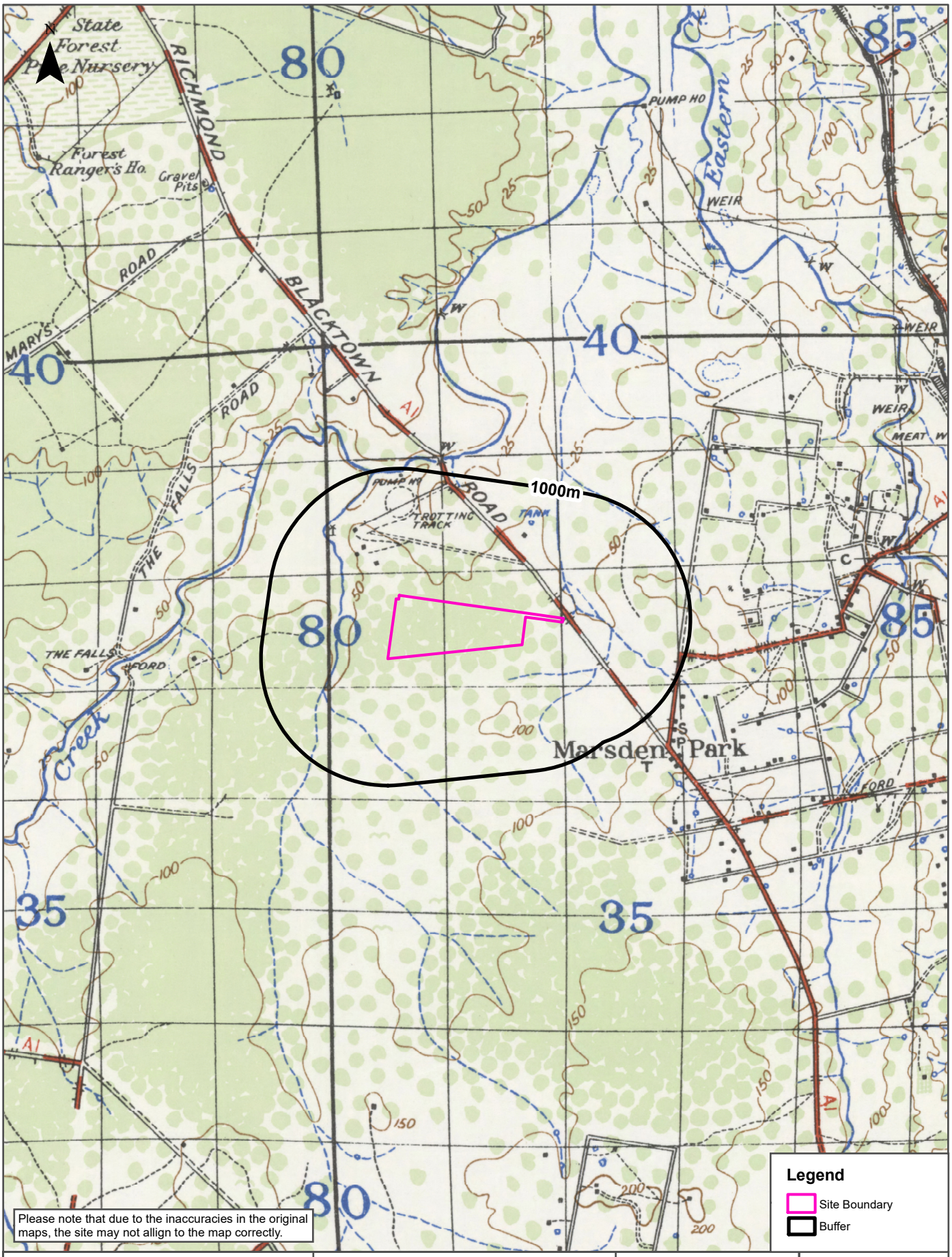
Data Sources: NATMAP 1:100,000
Topographic Maps Geoscience Australia

Coordinate System:
GDA 1994 MGA Zone 56

Date: 29 October 2018

Historical Map 1942

Northbourne Drive, Marsden Park, NSW 2765



Please note that due to the inaccuracies in the original maps, the site may not allign to the map correctly.

Legend

- Site Boundary
- Buffer

Scale: 0 200 400 800 1,200 1,600 2,000 Meters

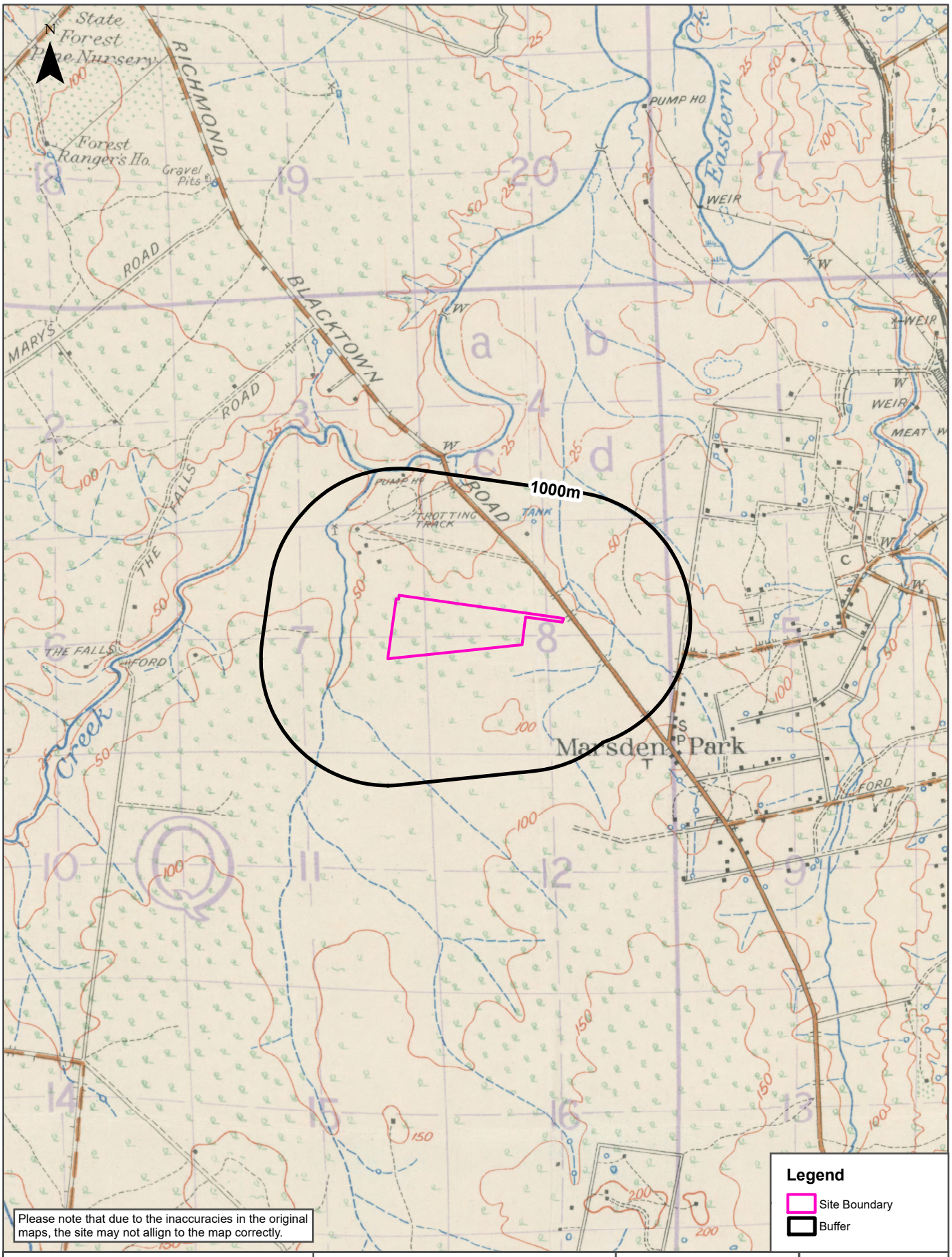
Data Sources: Australia 1:63360, Produced by Australian Section Imperial General Staff

Coordinate System: GDA 1994 MGA Zone 56

Date: 29 October 2018

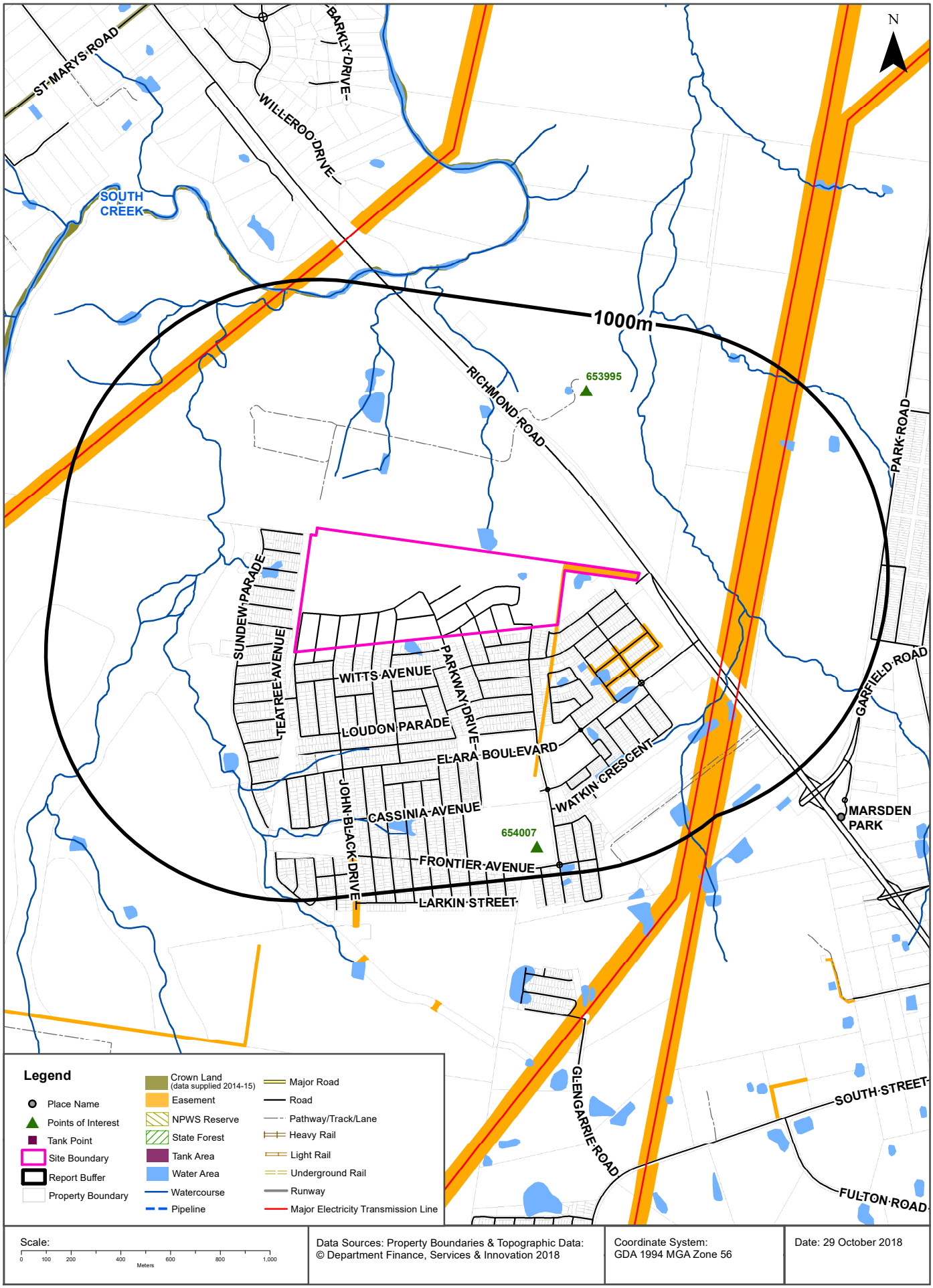
Historical Map 1929

Northbourne Drive, Marsden Park, NSW 2765



Topographic Features

Northbourne Drive, Marsden Park, NSW 2765



Topographic Features

Northbourne Drive, Marsden Park, NSW 2765

Points of Interest

What Points of Interest exist within the dataset buffer?

Map Id	Feature Type	Label	Distance	Direction
653995	Homestead	ECHO VALE	699m	North East
654007	Primary School	ST LUKE'S CATHOLIC COLLEGE PRIMARY	878m	South East

Topographic Data Source: © Land and Property Information (2015)
Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

Topographic Features

Northbourne Drive, Marsden Park, NSW 2765

Tanks (Areas)

What are the Tank Areas located within the dataset buffer?
Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

Map Id	Tank Type	Status	Name	Feature Currency	Distance	Direction
	No records in buffer					

Tanks (Points)

What are the Tank Points located within the dataset buffer?
Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

Map Id	Tank Type	Status	Name	Feature Currency	Distance	Direction
	No records in buffer					

Tanks Data Source: © Land and Property Information (2015)
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Major Easements

What Major Easements exist within the dataset buffer?
Note. Easements provided by LPI are not at the detail of local governments. They are limited to major easements such as Right of Carriageway, Electrical Lines (66kVa etc.), Easement to drain water & Significant subterranean pipelines (gas, water etc.).

Map Id	Easement Class	Easement Type	Easement Width	Distance	Direction
168342091	Secondary	Easement for Access	7m	0m	Onsite
176957706	Primary	Right of way		176m	East
120107715	Primary	Undefined		364m	East
120119389	Primary	Undefined		494m	South East
163455985	Primary	Undefined		792m	West
176983914	Primary	Right of way	20.8m	841m	South
163455986	Primary	Undefined		954m	North

Easements Data Source: © Land and Property Information (2015)
Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

Topographic Features

Northbourne Drive, Marsden Park, NSW 2765

State Forest

What State Forest exist within the dataset buffer?

State Forest Number	State Forest Name	Distance	Direction
N/A	No records in buffer		

State Forest Data Source: © Land and Property Information (2015)
Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

National Parks and Wildlife Service Reserves

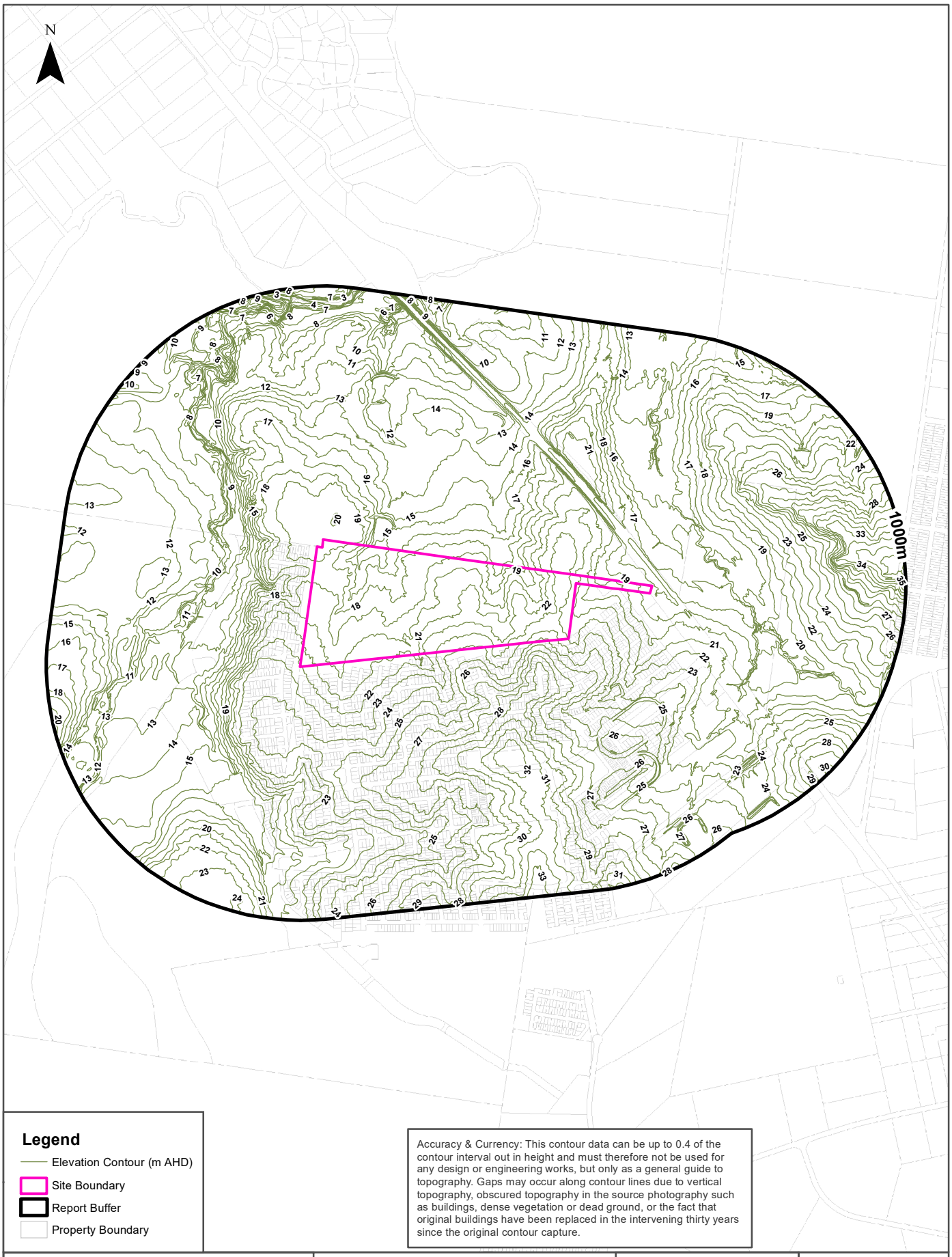
What NPWS Reserves exist within the dataset buffer?

Reserve Number	Reserve Type	Reserve Name	Gazetted Date	Distance	Direction
N/A	No records in buffer				

NPWS Data Source: © Land and Property Information (2015)
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Elevation Contours (m AHD)

Northbourne Drive, Marsden Park, NSW 2765



Hydrogeology & Groundwater

Northbourne Drive, Marsden Park, NSW 2765

Hydrogeology

Description of aquifers on-site:

Description
Porous, extensive aquifers of low to moderate productivity

Description of aquifers within the dataset buffer:

Description
Porous, extensive aquifers of low to moderate productivity

Hydrogeology Map of Australia : Commonwealth of Australia (Geoscience Australia)
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Botany Groundwater Management Zones

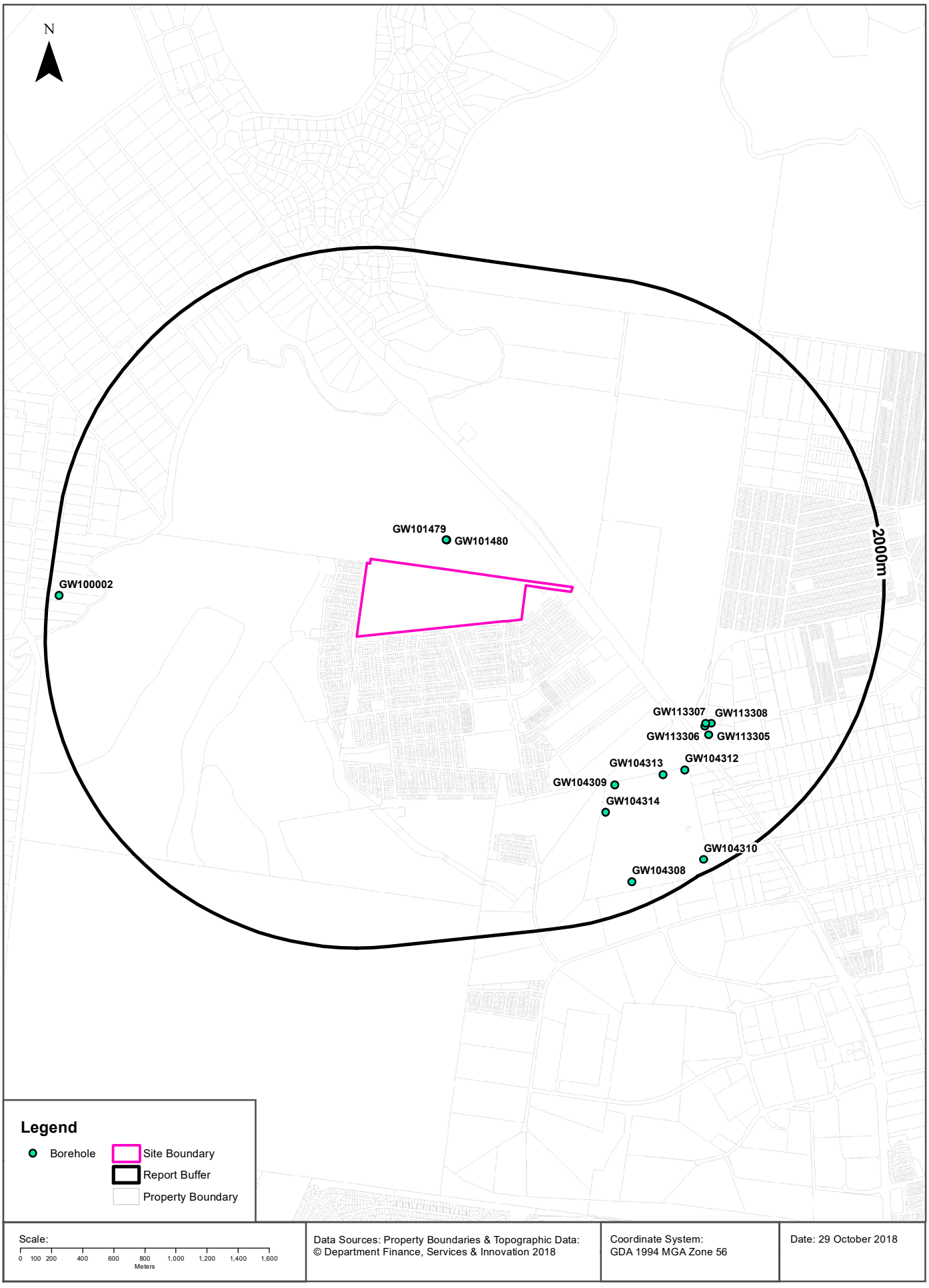
Groundwater management zones relating to the Botany Sand Beds aquifer within the dataset buffer:

Management Zone No.	Restriction	Distance	Direction
N/A	No records in buffer		

Botany Groundwater Management Zones Data Source : NSW Department of Primary Industries

Groundwater Boreholes

Northbourne Drive, Marsden Park, NSW 2765



Hydrogeology & Groundwater

Northbourne Drive, Marsden Park, NSW 2765

Groundwater Boreholes

Boreholes within the dataset buffer:

GW No.	Licence No	Work Type	Owner Type	Authorised Purpose	Intended Purpose	Name	Complete Date	Final Depth (m)	Drilled Depth (m)	Salinity (mg/L)	SWL (m)	Yield (L/s)	Elev (AHD)	Dist	Dir
GW101482	10BL157915	Bore	Private	Monitoring Bore	Monitoring Bore		06/01/1997	2.50	2.50					185m	North
GW101480	10BL157915	Bore	Private	Monitoring Bore	Monitoring Bore		06/01/1997	3.90	3.90					185m	North
GW101481	10BL157915	Bore	Private	Monitoring Bore	Monitoring Bore		06/01/1997	3.00	3.00					185m	North
GW101478	10BL157915	Bore	Private	Monitoring Bore	Monitoring Bore		06/01/1997	2.40	2.40					185m	North
GW101483	10BL157915	Bore	Private	Monitoring Bore	Monitoring Bore		06/01/1997	5.50	5.50					185m	North
GW101479	10BL157915	Bore	Private	Monitoring Bore	Monitoring Bore		06/01/1997	5.00	5.00					185m	North
GW113307		Bore	Private		Monitoring Bore		23/10/2013	9.50	9.50					1212m	South East
GW104309	10BL160669	Bore	Private	Monitoring Bore	Monitoring Bore		07/02/1996	14.00	14.00					1221m	South East
GW113306		Bore	Private		Monitoring Bore		24/10/2013	9.30	9.30					1221m	South East
GW113308		Bore	Private		Monitoring Bore		24/10/2013	10.50	10.50					1239m	South East
GW113305		Bore	Private		Monitoring Bore		23/10/2013	14.90	14.90					1278m	South East
GW104313	10BL160669	Bore	Private	Monitoring Bore	Monitoring Bore		20/02/1996	14.00	14.00					1317m	South East
GW104314	10BL160669	Bore	Private	Monitoring Bore	Monitoring Bore		07/02/1996	15.00	15.00					1354m	South East
GW104312	10BL160669	Bore	Private	Monitoring Bore	Monitoring Bore		08/02/1996	18.00	18.00					1360m	South East
GW104308	10BL160669	Bore	Private	Monitoring Bore	Monitoring Bore		19/02/1996	14.00	14.00					1830m	South East
GW104310	10BL160669	Bore	Private	Monitoring Bore	Monitoring Bore		07/02/1996	9.00	9.00					1921m	South East
GW100002	10BL156689, 10BL159491, 10WA108452	Bore	Private	Domestic, Irrigation, Stock	Domestic, Stock		27/10/1995	244.00	244.00	1100				1927m	West

Borehole Data Source : NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corporation for all bores prefixed with GW. All other bores © Commonwealth of Australia (Bureau of Meteorology) 2015. Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

Hydrogeology & Groundwater

Northbourne Drive, Marsden Park, NSW 2765

Driller's Logs

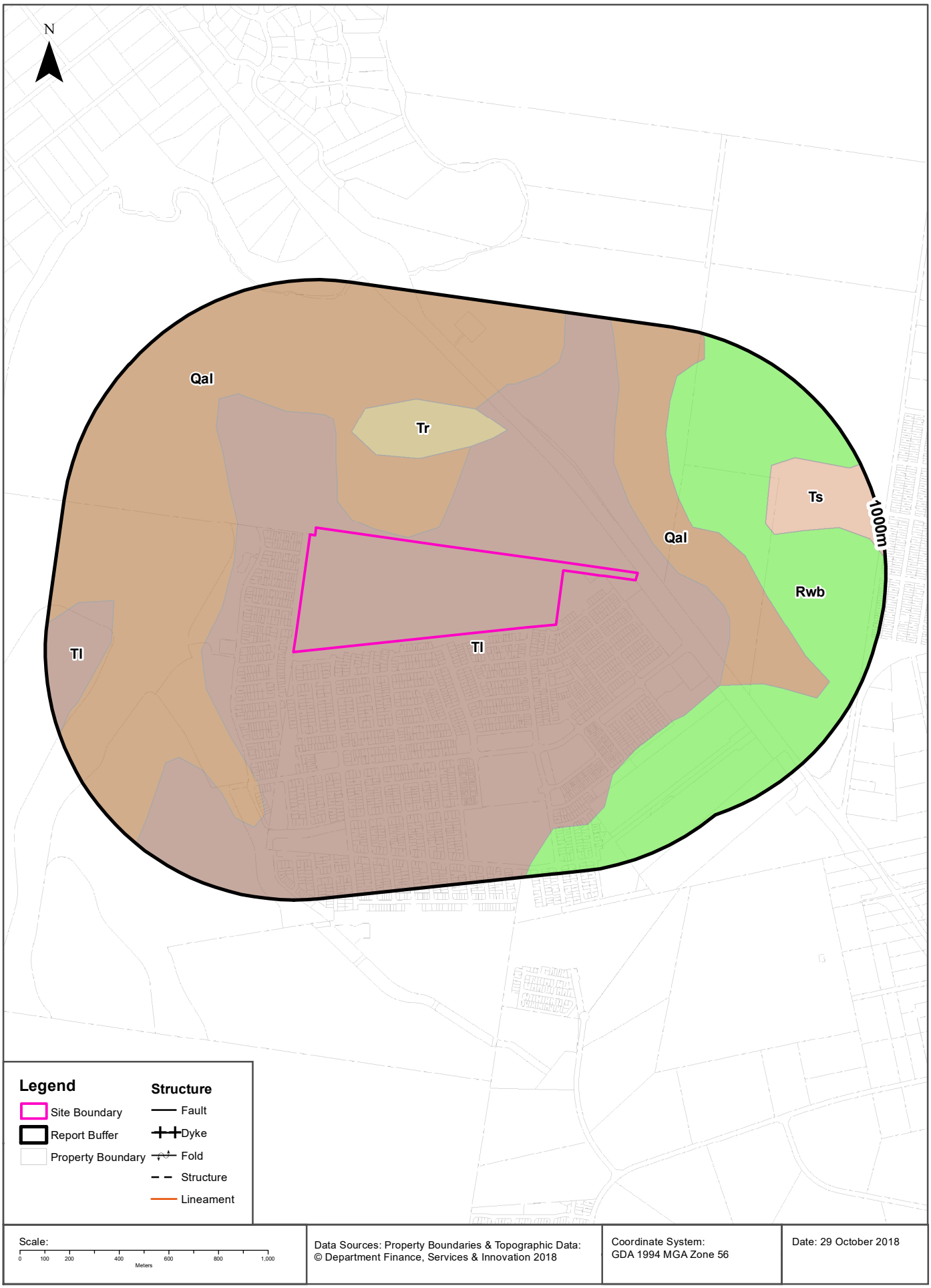
Drill log data relevant to the boreholes within the dataset buffer:

Groundwater No	Drillers Log	Distance	Direction
GW101478	0.00m-0.50m LOAM (TOP SOIL) -GREY TO BROWN 0.50m-2.00m SANDY CLAY- LIGHT BROWN (PROBABLY FILL) 2.00m-2.40m CLAY - RED BROWN TO BROWN. RESIDUAL WEATHERED SHALE	185m	North
GW101479	0.00m-1.00m CLAY LOAM,(TOP SOIL) - GREY GRADING TO LT. BROWN THEN RED BROWN. SLIGHTLY MOIST 1.00m-1.50m SANDY CLAY- LIGHT BROWN. (MAY BE RICKABYS CK GRAVEL) 1.50m-5.00m SILTY CLAY - LIGHT BROWN, BECOMMING GREY WITH DEPTH.VERTUALLY DRY BELOW 4.0m.RESIDUAL WEATHERED SHALE	185m	North
GW101480	0.00m-1.00m LOAM(TOP SOIL) LIGHT BROWN 1.00m-3.50m SILTY CLAY- LIGHT BROWN, SLIGHTLY MOIST. CREEK ALLUVIUM. 3.50m-3.90m SILTY CLAY - LIGHT BROWN, WITH OCCASIONAL SILTSTOME FRAGMENTS. RESIDUAL WEATHER SILTSTONE.	185m	North
GW101481	0.00m-0.20m CLAY LOAM, BROWN 0.20m-3.00m SILTY CLAY- MOTTLED GREY TO RED. RESIDUAL WEATHERED SHALE.	185m	North
GW101482	0.00m-1.20m CLAY LOAM - DARK BROW. DRY 1.20m-2.50m CLAY. MOTTLED LIGHT BROWN TO RED. V. SLIGHTLY MOIST. RESIDUAL WEATHERED SHALE.	185m	North
GW101483	0.00m-4.50m LOAM. -BROWN. MOSTLY DRY. CREEK ALLUVIUM. 4.50m-5.50m CLAYEY SAND - BROWN,MOIST, SAND FRACTION TYP. FINE GRAINED. CREEK ALLUVIUM.	185m	North
GW113307	0.00m-0.15m Topsoil 0.15m-3.10m Clay; red brown 3.10m-4.70m Clay; grey 4.70m-6.10m Shale; grey, weak 6.10m-9.50m Shale; grey, becoming hard	1212m	South East
GW113306	0.00m-0.15m Topsoil 0.15m-2.80m Clay; red 2.80m-4.20m Clay; grey 4.20m-8.50m Shale; grey, weak becoming hard 8.50m-9.30m Shale; grey, hard	1221m	South East
GW113308	0.00m-0.10m Topsoil 0.10m-3.00m Clay; red brown 3.00m-4.50m Clay; grey 4.50m-7.50m Shale; grey, weak 7.50m-9.80m Shale; grey, becoming hard 9.80m-10.50m Shale; grey, hard	1239m	South East
GW113305	0.00m-0.15m Fill; Roadbase 0.15m-2.70m Clay; red 2.70m-4.10m Clay; red brown with trace grey 4.10m-6.20m Clay; grey 6.20m-8.50m Shale; grey, weak 8.50m-11.90m Shale; grey, becoming hard 11.90m-14.90m Shale; grey, hard	1278m	South East
GW100002	0.00m-104.00m SHALE 104.00m-244.00m SANDSTONE & SHALE BANDS (SEE REMARKS)	1927m	West

Drill Log Data Source: NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corp
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Geology 1:100,000

Northbourne Drive, Marsden Park, NSW 2765



Geology

Northbourne Drive, Marsden Park, NSW 2765

Geological Units

What are the Geological Units onsite?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Tl	Clay, patched of ferruginized, consolidated sand	Londonderry Clay			Tertiary		Penrith	1:100,000

What are the Geological Units within the dataset buffer?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Qal	Fine-grained sand, silt and clay				Quaternary		Penrith	1:100,000
Rwb	Shale, carbonaceous claystone,claystone, laminate, fine to medium-grained lithic sandstone, rare coal and tuff	Bringelly Shale	Wianamatta Group (undifferentiated)		Middle Triassic		Penrith	1:100,000
Tl	Clay, patched of ferruginized, consolidated sand	Londonderry Clay			Tertiary		Penrith	1:100,000
Tr	Conglomerate, matrix supported				Tertiary		Penrith	1:100,000
Ts	Laterized sand and clay with ferricrete bands, includes silcrete sandstone and shale boulders	St Marys Formation			Tertiary		Penrith	1:100,000

Geological Structures

What are the Geological Structures onsite?

Feature	Name	Description	Map Sheet	Dataset
No features				1:100,000

What are the Geological Structures within the dataset buffer?

Feature	Name	Description	Map Sheet	Dataset
No features				1:100,000

Geological Data Source : NSW Department of Industry, Resources & Energy
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Naturally Occurring Asbestos Potential

Northbourne Drive, Marsden Park, NSW 2765

Naturally Occurring Asbestos Potential

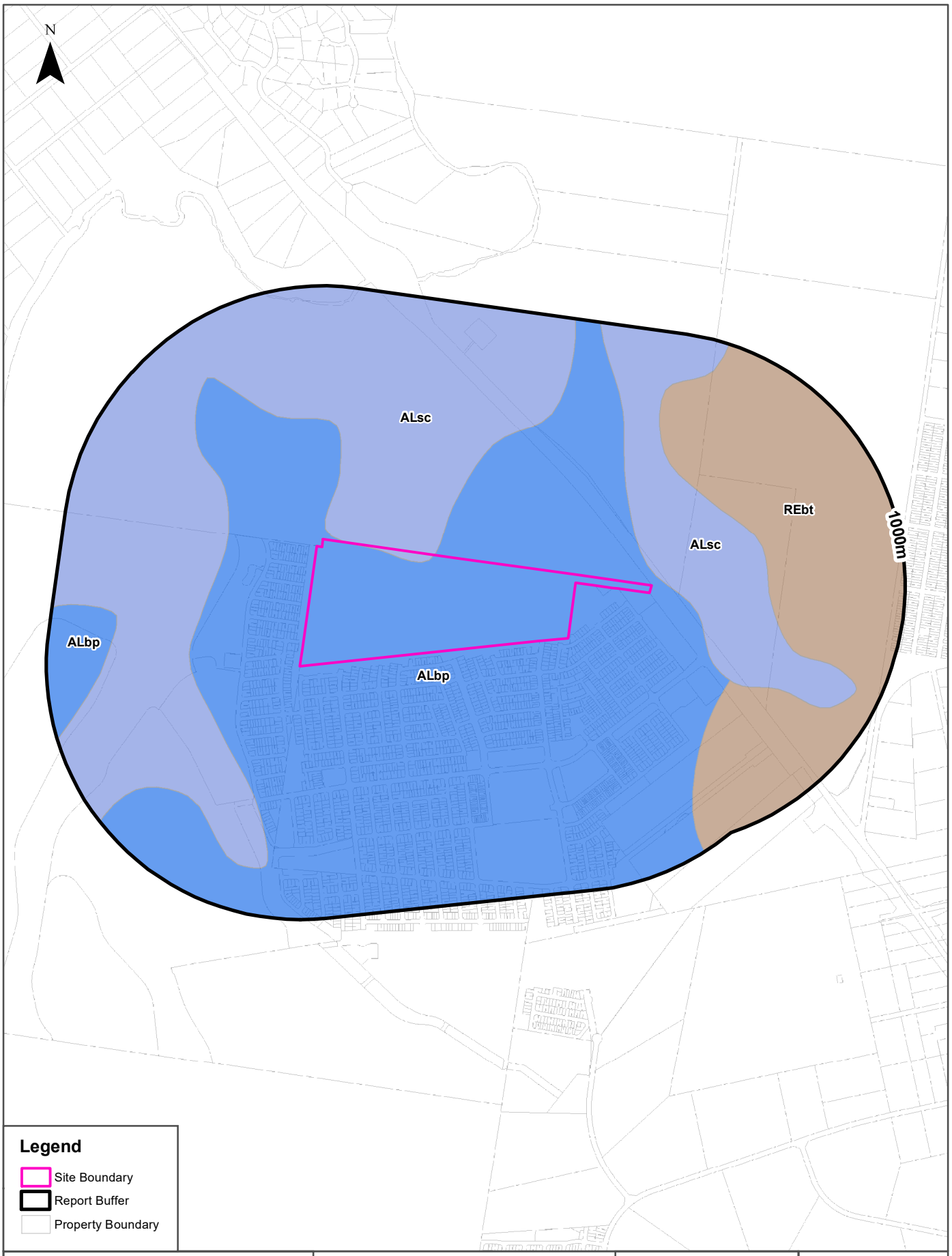
Naturally Occurring Asbestos Potential within the dataset buffer:

Potential	Sym	Strat Name	Group	Formation	Scale	Min Age	Max Age	Rock Type	Dom Lith	Description	Dist	Dir
No records in buffer												

Mining Subsidence District Data Source: © State of New South Wales through NSW Department of Industry, Resources & Energy

Soil Landscapes

Northbourne Drive, Marsden Park, NSW 2765



Soils

Northbourne Drive, Marsden Park, NSW 2765

Soil Landscapes

What are the onsite Soil Landscapes?

Soil Code	Name	Group	Process	Map Sheet	Scale
ALbp	BERKSHIRE PARK		ALLUVIAL	Penrith	1:100,000
ALsc	SOUTH CREEK		ALLUVIAL	Penrith	1:100,000

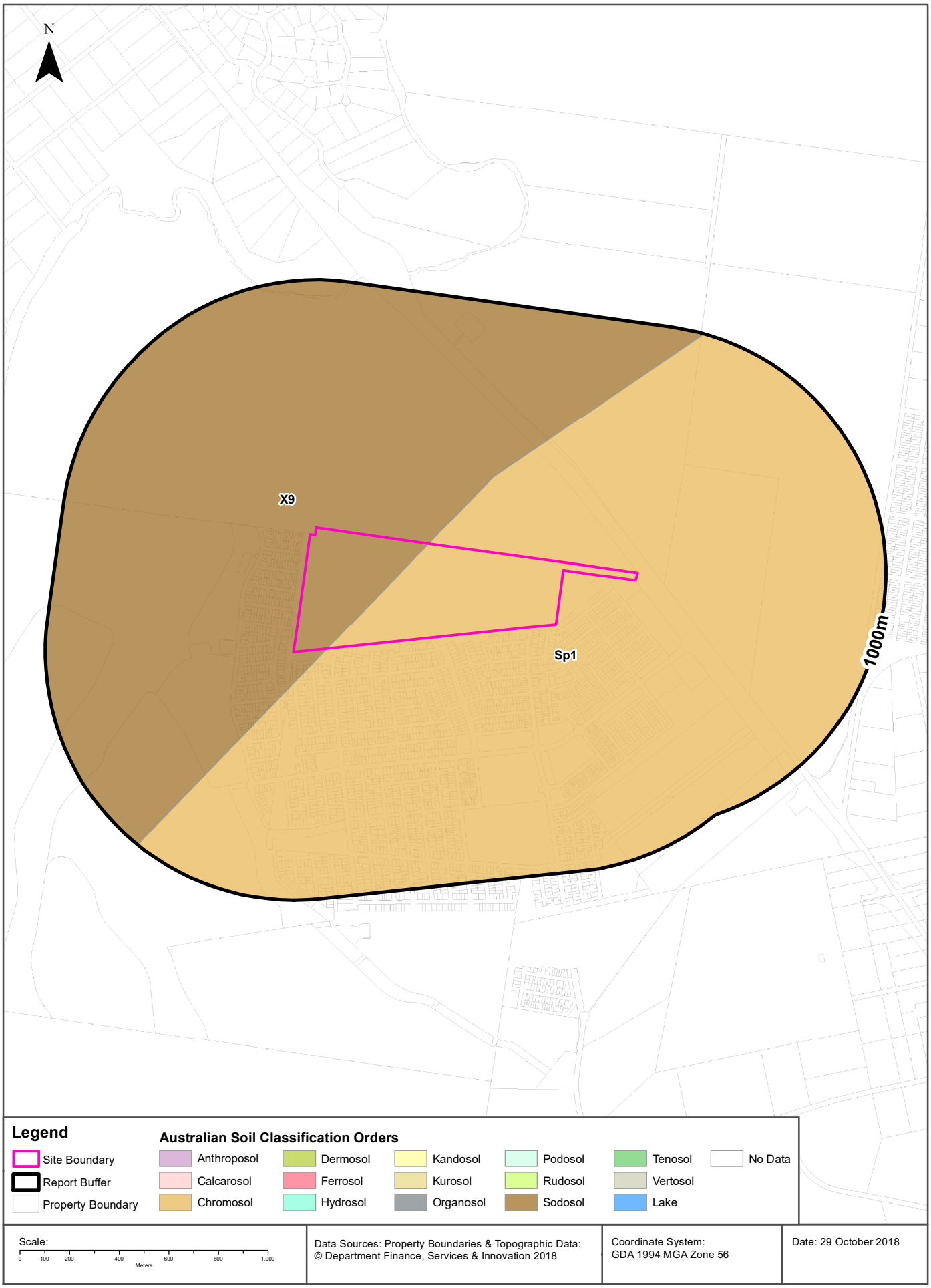
What are the Soil Landscapes within the dataset buffer?

Soil Code	Name	Group	Process	Map Sheet	Scale
ALbp	BERKSHIRE PARK		ALLUVIAL	Penrith	1:100,000
ALsc	SOUTH CREEK		ALLUVIAL	Penrith	1:100,000
REbt	BLACKTOWN		RESIDUAL	Penrith	1:100,000

Soils Landscapes Data Source : NSW Office of Environment and Heritage
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Atlas of Australian Soils

Northbourne Drive, Marsden Park, NSW 2765



Soils

Northbourne Drive, Marsden Park, NSW 2765

Atlas of Australian Soils

Soil mapping units and Australian Soil Classification orders within the dataset buffer:

Map Unit Code	Soil Order	Map Unit Description	Distance
Sp1	Chromosol	Gently undulating plain usually with a surface scatter of ironstone gravel: chief soils are hard acidic yellow soils (Dy2.61) on flat-topped ridges and higher situations generally and hard acidic yellow mottled soils (Dy3.41) or (Dy3.81) in lower-lying situations. They all commonly contain ironstone gravel through the profile. Associated are (Dy5.41) or (Dy5.81) soils, containing ironstone gravels; and shallow (Gn2.1) gravelly soils also with indurated materials below the solum. Iron-cemented and/or silica-cemented strata have been recorded in many areas below the soils. As mapped, areas of units X9, Pb12, and Tb35 may be included.	0m
X9	Sodosol	Plains--former river terraces and levees: chief soils are sandy neutral yellow mottled soils (Dy5.42) with leached sands (Uc2.3) on the broader plains. Associated are (Dy3.41, Dy3.42, and Dy3.43) soils, some containing ironstone gravels, in relatively low-lying areas and depressions, and (Dr2.2), (Gn2.15), and (Gn2.18) soils on levees. Areas of other soils, possibly including (Um4.31), occur throughout what is a complex unit. As mapped, areas of units Gb6 and Sp1 are included.	0m

Atlas of Australian Soils Data Source: CSIRO
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Acid Sulfate Soils

Northbourne Drive, Marsden Park, NSW 2765

Environmental Planning Instrument - Acid Sulfate Soils

What is the on-site Acid Sulfate Soil Plan Class that presents the largest environmental risk?

Soil Class	Description	EPI
N/A		

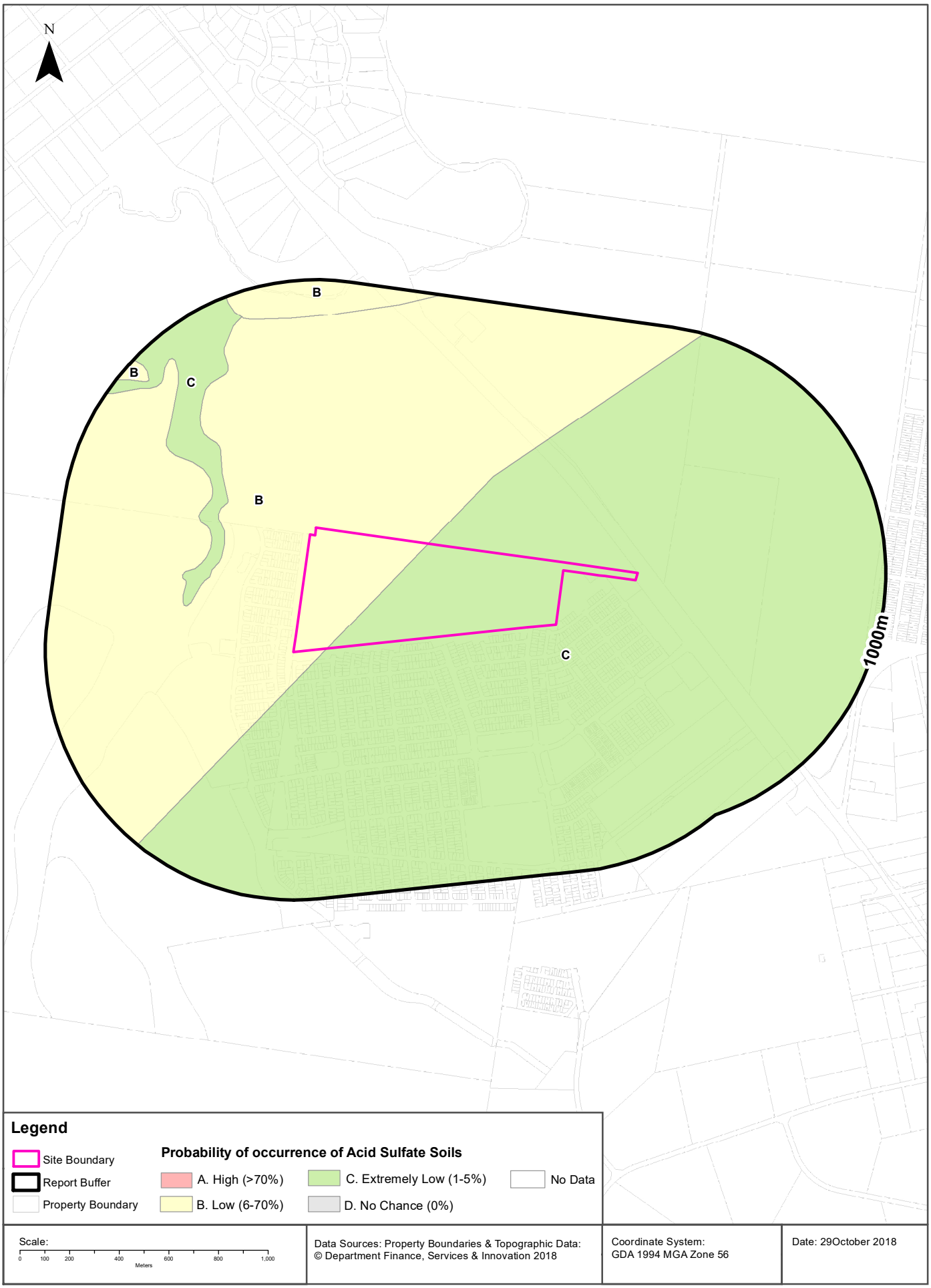
If the on-site Soil Class is 5, what other soil classes exist within 500m?

Soil Class	Description	EPI	Distance	Direction
N/A				

Acid Sulfate Data Source Accessed 23/10/2018: NSW Crown Copyright - Planning and Environment
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Atlas of Australian Acid Sulfate Soils

Northbourne Drive, Marsden Park, NSW 2765



Acid Sulfate Soils

Northbourne Drive, Marsden Park, NSW 2765

Atlas of Australian Acid Sulfate Soils

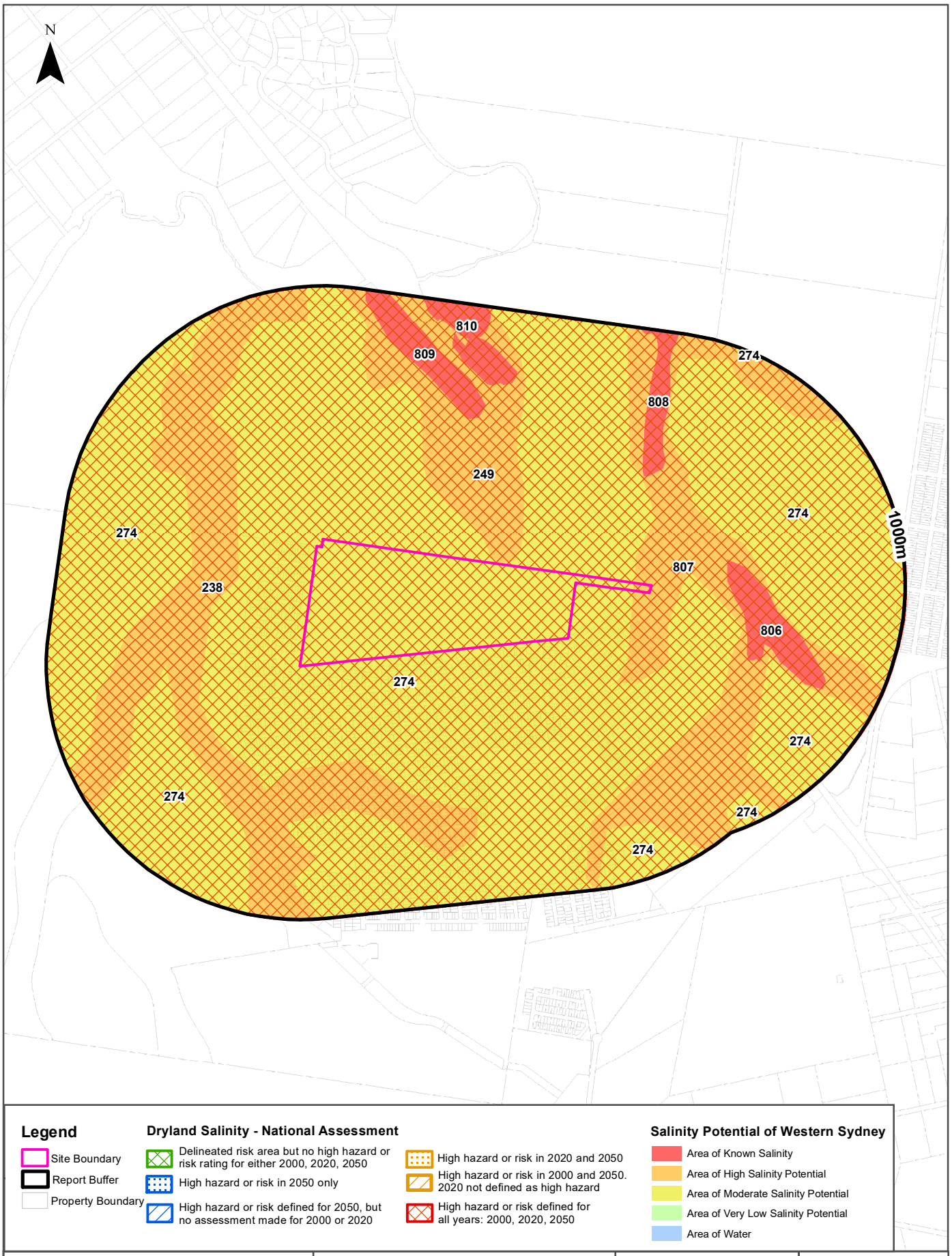
Atlas of Australian Acid Sulfate Soil categories within the dataset buffer:

Class	Description	Distance
B	Low Probability of occurrence. 6-70% chance of occurrence.	0m
C	Extremely low probability of occurrence. 1-5% chance of occurrence with occurrences in small localised areas.	0m

Atlas of Australian Acid Sulfate Soils Data Source: CSIRO
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Dryland Salinity

Northbourne Drive, Marsden Park, NSW 2765



Legend

- Site Boundary
- Report Buffer
- Property Boundary

Dryland Salinity - National Assessment

- Delineated risk area but no high hazard or risk rating for either 2000, 2020, 2050
- High hazard or risk in 2050 only
- High hazard or risk defined for 2050, but no assessment made for 2000 or 2020
- High hazard or risk in 2020 and 2050
- High hazard or risk in 2000 and 2050. 2020 not defined as high hazard
- High hazard or risk defined for all years: 2000, 2020, 2050

Salinity Potential of Western Sydney

- Area of Known Salinity
- Area of High Salinity Potential
- Area of Moderate Salinity Potential
- Area of Very Low Salinity Potential
- Area of Water

Scale: 0 100 200 400 600 800 1,000 Meters

Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2018

Coordinate System: GDA 1994 MGA Zone 56

Date: 29 October 2018

Dryland Salinity

Northbourne Drive, Marsden Park, NSW 2765

Dryland Salinity - National Assessment

Is there Dryland Salinity - National Assessment data onsite?

Yes

Is there Dryland Salinity - National Assessment data within the dataset buffer?

Yes

What Dryland Salinity assessments are given?

Assessment 2000	Assessment 2020	Assessment 2050	Distance	Direction
High hazard or risk	High hazard or risk	High hazard or risk	0m	Onsite

Dryland Salinity Data Source : National Land and Water Resources Audit
The Commonwealth and all suppliers of source data used to derive the maps of "Australia, Forecast Areas Containing Land of High Hazard or Risk of Dryland Salinity from 2000 to 2050" do not warrant the accuracy or completeness of information in this product. Any person using or relying upon such information does so on the basis that the Commonwealth and data suppliers shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information. Any persons using this information do so at their own risk.
In many cases where a high risk is indicated, less than 100% of the area will have a high hazard or risk.

Dryland Salinity Potential of Western Sydney

Dryland Salinity Potential of Western Sydney within the dataset buffer?

Feature Id	Classification	Description	Distance	Direction
274	MODERATE	Area of Moderate Salinity Potential	0m	Onsite
807	HIGH	Area of High Salinity Potential	0m	Onsite
249	HIGH	Area of High Salinity Potential	2m	North
238	HIGH	Area of High Salinity Potential	287m	South
806	SALT	Area of Known Salinity	298m	East
808	SALT	Area of Known Salinity	421m	North East
809	SALT	Area of Known Salinity	552m	North
810	SALT	Area of Known Salinity	694m	North

Dryland Salinity Potential of Western Sydney Data Source : NSW Office of Environment and Heritage
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Mining Subsidence Districts

Northbourne Drive, Marsden Park, NSW 2765

Mining Subsidence Districts

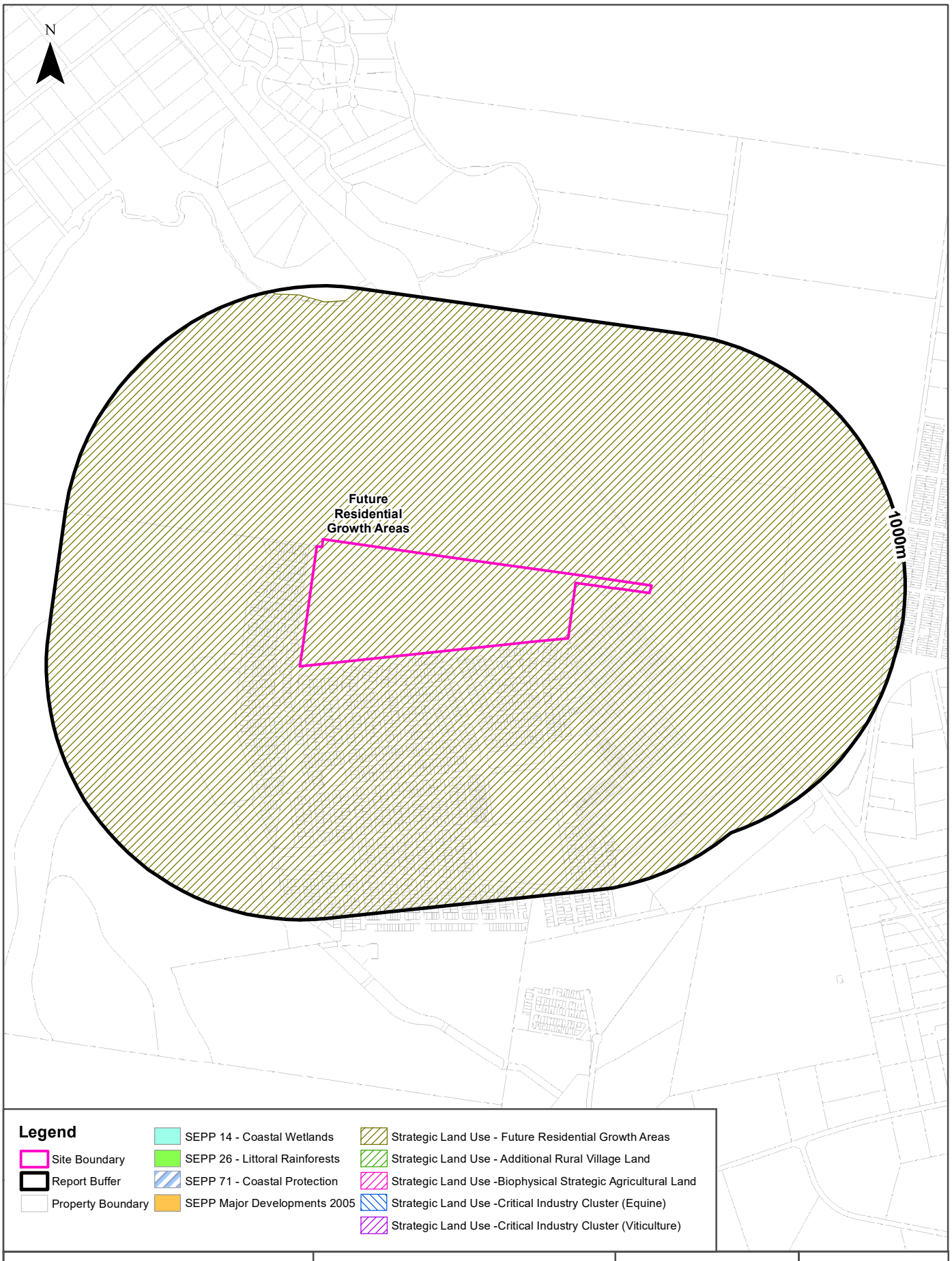
Mining Subsidence Districts within the dataset buffer:

District	Distance	Direction
There are no Mining Subsidence Districts within the report buffer		

Mining Subsidence District Data Source: © Land and Property Information (2016)
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State Environmental Planning Policy

Northbourne Drive, Marsden Park, NSW 2765



Environmental Zoning

Northbourne Drive, Marsden Park, NSW 2765

State Environmental Planning Policy Protected Areas

Are there any State Environmental Planning Policy Protected Areas onsite or within the dataset buffer?

Dataset	Onsite	Within Site Buffer	Distance
SEPP14 - Coastal Wetlands	No	No	N/A
SEPP26 - Littoral Rainforests	No	No	N/A
SEPP71 - Coastal Protection Zone	No	No	N/A

SEPP Protected Areas Data Source: NSW Department of Planning & Environment
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State Environmental Planning Policy Major Developments (2005)

State Environmental Planning Policy Major Developments within the dataset buffer:

Map Id	Feature	Effective Date	Distance	Direction
N/A	No records within buffer			

SEPP Major Development Data Source: NSW Department of Planning & Environment
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State Environmental Planning Policy Strategic Land Use Areas

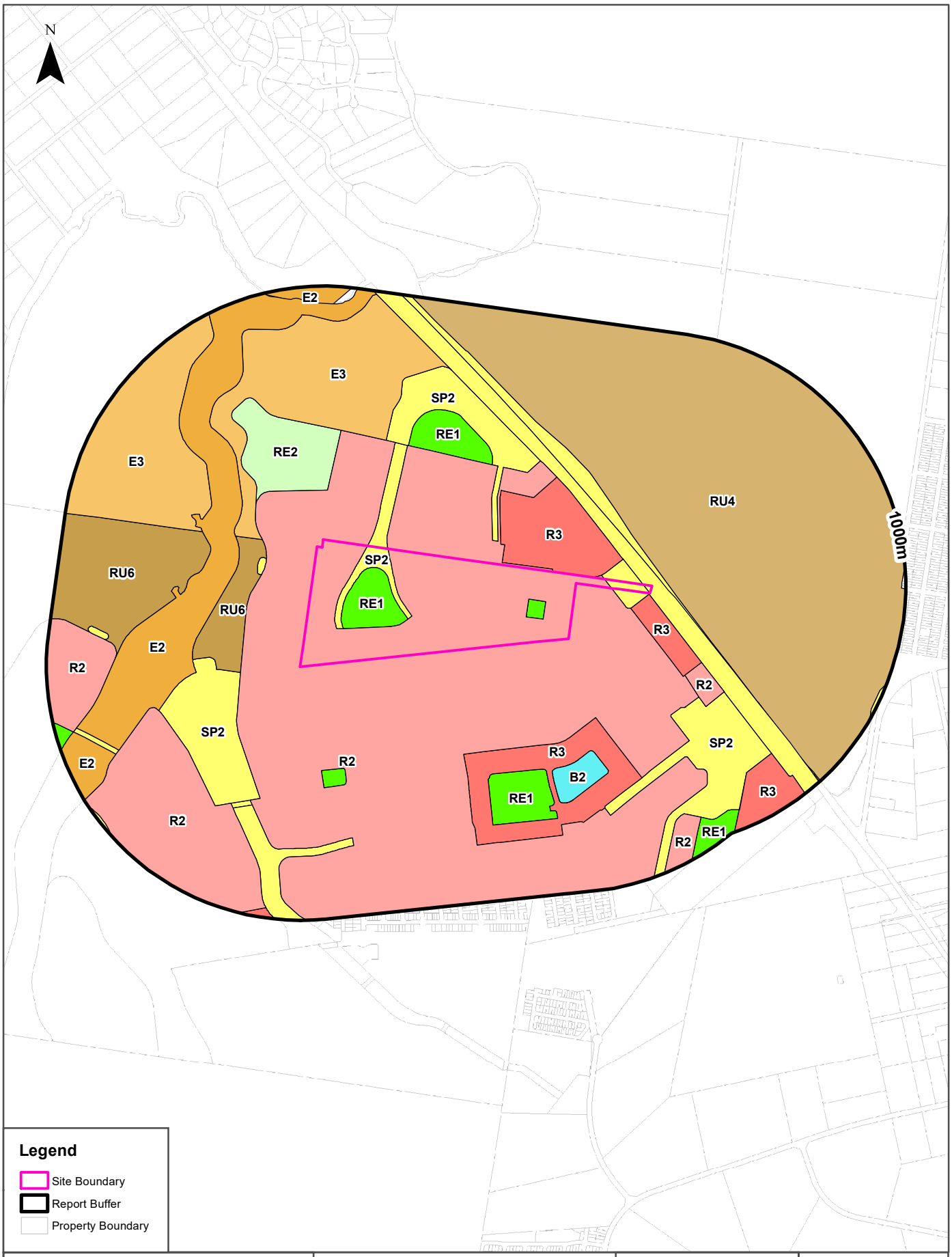
State Environmental Planning Policy Strategic Land Use Areas onsite or within the dataset buffer:

Strategic Land Use	SEPPNo	Effective Date	Amendment	Amendment Year	Distance	Direction
Future Residential Growth Areas	2007	28/01/2014	Coal Seam Gas	2014	0m	Onsite

SEPP Strategic Land Use Data Source: NSW Department of Planning & Environment
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EPI Planning Zones

Northbourne Drive, Marsden Park, NSW 2765



Scale: 0 100 200 400 600 800 1,000 Meters	Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2018 Planning: NSW Crown Copyright - Planning & Environment	Coordinate System: GDA 1994 MGA Zone 56	Date: 29 October 2018

Environmental Planning Instrument

Northbourne Drive, Marsden Park, NSW 2765

Land Zoning

What Environmental Planning Instrument Land Zones exist within the dataset buffer?

Zone	Description	Purpose	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
R2	Low Density Residential		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	15/12/2017	15/12/2017	16/02/2018	Blacktown Local Environmental Plan Amendment (Sydney Region Growth Centres - Blacktown Growth Centres Precinct Plan) 2017	0m	Onsite
RE1	Public Recreation		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	0m	Onsite
SP2	Infrastructure	Local Drainage	State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	0m	Onsite
SP2	Infrastructure	Classified Road	State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	0m	East
R3	Medium Density Residential		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	0m	North East
R3	Medium Density Residential		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	4m	East
SP2	Infrastructure	Classified Road	Blacktown Local Environmental Plan 2015	26/05/2015	07/07/2015	24/08/2018		39m	North East
RU4	Primary Production Small Lots		Blacktown Local Environmental Plan 2015	26/05/2015	07/07/2015	24/08/2018		54m	North East
SP2	Infrastructure	Local Drainage	State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	90m	North
RU6	Transition		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	190m	West
SP2	Infrastructure	Local Drainage	State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	190m	West
RE2	Private Recreation		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	195m	North West
E3	Environmental Management		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	217m	North West
SP2	Infrastructure	Local Drainage	State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	235m	South West

Zone	Description	Purpose	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
E2	Environmental Conservation		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	297m	West
R3	Medium Density Residential		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Blacktown Local Environmental Plan Amendment (Sydney Region Growth Centres - Blacktown Growth Centres Precinct Plan) 2017	329m	South East
R2	Low Density Residential		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	340m	East
RE1	Public Recreation		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	385m	North
RU6	Transition		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	413m	West
RE1	Public Recreation		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	15/12/2017	15/12/2017	16/02/2018	Blacktown Local Environmental Plan Amendment (Sydney Region Growth Centres - Blacktown Growth Centres Precinct Plan) 2017	416m	South West
E3	Environmental Management		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	445m	North West
B2	Local Centre		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	15/12/2017	15/12/2017	16/02/2018	Blacktown Local Environmental Plan Amendment (Sydney Region Growth Centres - Blacktown Growth Centres Precinct Plan) 2017	451m	South East
SP2	Infrastructure	Local Drainage	State Environmental Planning Policy (Sydney Region Growth Centres) 2006	15/12/2017	15/12/2017	16/02/2018	Blacktown Local Environmental Plan Amendment (Sydney Region Growth Centres - Blacktown Growth Centres Precinct Plan) 2017	452m	South East

Zone	Description	Purpose	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
RE1	Public Recreation		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	15/12/2017	15/12/2017	16/02/2018	Blacktown Local Environmental Plan Amendment (Sydney Region Growth Centres - Blacktown Growth Centres Precinct Plan) 2017	500m	South East
R2	Low Density Residential		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	552m	South West
SP2	Infrastructure	Local Road	State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	562m	South West
SP2	Infrastructure	Local Drainage	State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	577m	South West
R2	Low Density Residential		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	725m	South West
SP2	Infrastructure	Local Drainage	State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	764m	West
SP2	Infrastructure	Local Road	State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	787m	West
R3	Medium Density Residential		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	792m	South East
E2	Environmental Conservation		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	805m	South West
R2	Low Density Residential		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	826m	South East
RE1	Public Recreation		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	876m	South East
SP2	Infrastructure	Classified Road	Blacktown Local Environmental Plan 2015	26/05/2015	07/07/2015	24/08/2018		880m	East
E2	Environmental Conservation		Penrith Local Environmental Plan 2010	22/09/2010	22/09/2010	22/06/2018		914m	West
RE1	Public Recreation		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	930m	West
R3	Medium Density Residential		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	960m	South West
SP2	Infrastructure	Local Drainage	State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013	985m	South West

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Environmental Planning Instrument

Northbourne Drive, Marsden Park, NSW 2765

Minimum Lot Size

What are the onsite Environmental Planning Instrument Minimum Lot Sizes?

Symbol	Minimum Lot Size	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Percentage of Site Area
No Data							

Maximum Height of Buildings

What are the onsite Environmental Planning Instrument Maximum Height of Buildings?

Symbol	Maximum Height of Building	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Percentage of Site Area
10	9.00 m (AHD)	State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Blacktown Local Environmental Plan Amendment (Sydney Region Growth Centres - Blacktown Growth Centres Precinct Plan) 2017	82.8

Floor Space Ratio

What are the onsite Environmental Planning Instrument Floor Space Ratios?

Symbol	Floor Space Ratio	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Percentage of Site Area
No Data							

Land Application

What are the onsite Environmental Planning Instrument Land Applications?

Application Type	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Percentage of Site Area
No Data						

Land Reservation Acquisition

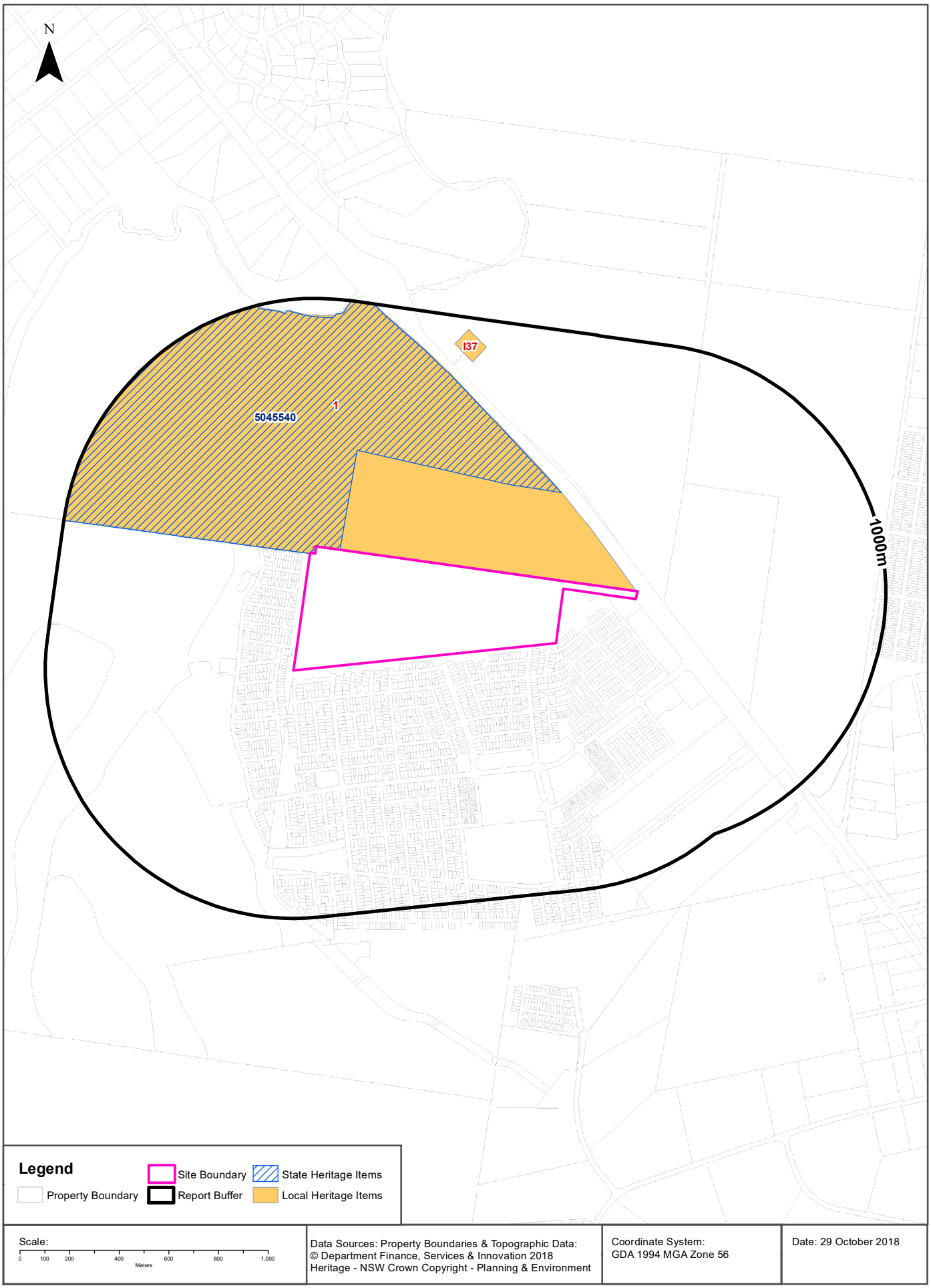
What are the onsite Environmental Planning Instrument Land Reservation Acquisitions?

Reservation	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Comments	Percentage of Site Area
Land Reservation Acquisition	State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	16/02/2018	Marsden Park Precinct Amendment 2013		18.4

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Heritage Items

Northbourne Drive, Marsden Park, NSW 2765



Heritage

Northbourne Drive, Marsden Park, NSW 2765

State Heritage Register - Curtilages

What are the State Heritage Register Items located within the dataset buffer?

Map Id	Name	Address	LGA	Listing Date	Listing No	Plan No	Distance	Direction
5045540	Clydesdale - Grand House, Barn & Cottage	1270 Richmond Road, Marsden Park	Blacktown	02/04/1999	00674	1713	0m	North West

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Environmental Planning Instrument - Heritage

What are the EPI Heritage Items located within the dataset buffer?

Map Id	Name	Classification	Significance	EPI	Published Date	Commenced Date	Currency Date	Distance	Direction
1		Item - General	Local	State Environmental Planning Policy (Sydney Region Growth Centres) 2006	30/12/1899	30/12/1899	15/12/2017	0m	Onsite
I37	Cemetery'??St Phillips	Item - General	Local	Blacktown Local Environmental Plan 2015	07/07/2015	07/07/2015	07/07/2015	825m	North

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Natural Hazards - Bush Fire Prone Land

Northbourne Drive, Marsden Park, NSW 2765



Natural Hazards

Northbourne Drive, Marsden Park, NSW 2765

Bush Fire Prone Land

What are the nearest Bush Fire Prone Land Categories that exist within the dataset buffer?

Bush Fire Prone Land Category	Distance	Direction
Vegetation Buffer	551m	East
Vegetation Category 1	651m	East
Vegetation Category 2	947m	North West

NSW Bush Fire Prone Land - © NSW Rural Fire Service under Creative Commons 4.0 International Licence

Ecological Constraints - Remnant Vegetation of the Cumberland Plain

Northbourne Drive, Marsden Park, NSW 2765



Ecological Constraints

Northbourne Drive, Marsden Park, NSW 2765

Remnant Vegetation of the Cumberland Plain

What remnant vegetation of the Cumberland Plain exists within the dataset buffer?

Description	Crown Cover	Distance	Direction
103 - Shale/Gravel Transition Forest	Crown cover less than 10%	0m	Onsite
103 - Shale/Gravel Transition Forest	Crown cover greater than 10%	17m	East
11 - Alluvial Woodland	Crown cover less than 10%	132m	North East
11 - Alluvial Woodland	Crown cover greater than 10%	294m	East
10 - Shale Plains Woodland	Crown cover less than 10%	323m	South West
10 - Shale Plains Woodland	Crown cover greater than 10%	649m	East

Remnant Vegetation of the Cumberland Plain : NSW Office of Environment and Heritage
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RAMSAR Wetlands

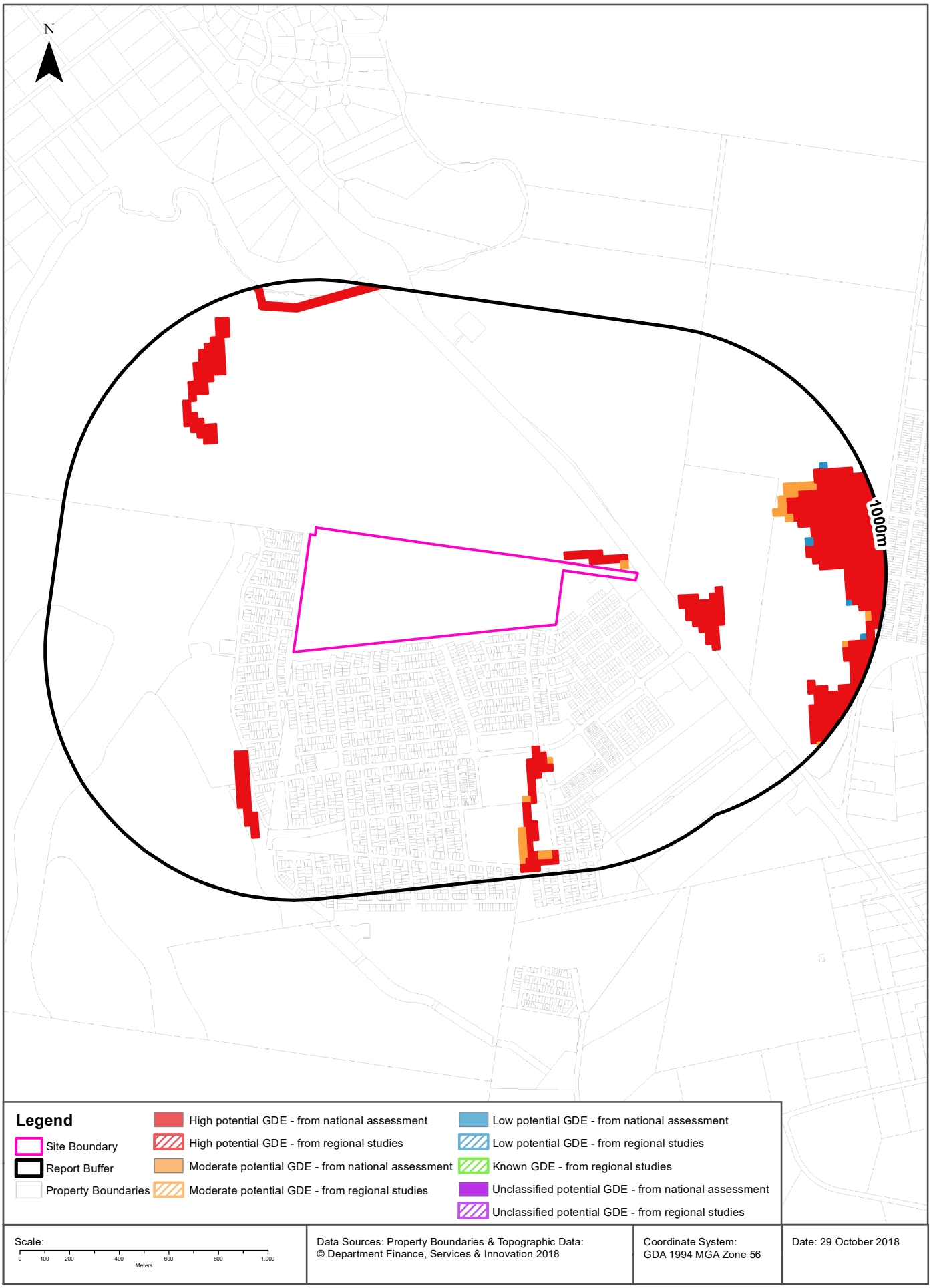
What RAMSAR Wetland areas exist within the dataset buffer?

Map Id	RAMSAR Name	Wetland Name	Designation Date	Source	Distance	Direction
N/A	No records in buffer					

RAMSAR Wetlands Data Source: © Commonwealth of Australia - Department of Environment

Ecological Constraints - Groundwater Dependent Ecosystems Atlas

Northbourne Drive, Marsden Park, NSW 2765



Ecological Constraints

Northbourne Drive, Marsden Park, NSW 2765

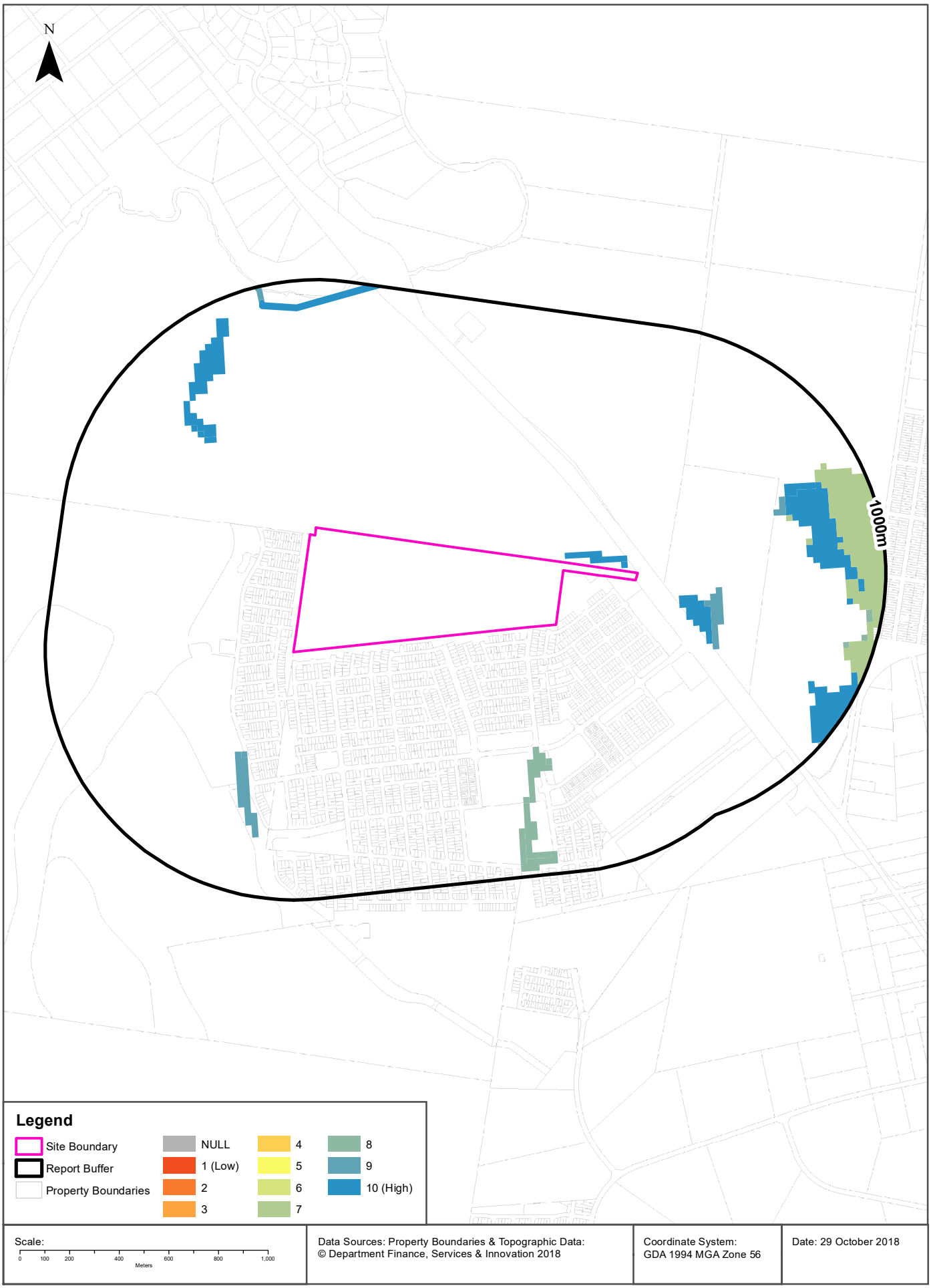
Groundwater Dependent Ecosystems Atlas

Type	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial	High potential GDE - from national assessment	Undulating to low hilly country, mainly on shale.	Vegetation	Unconsolidated sedimentary	9m
Terrestrial	Moderate potential GDE - from national assessment	Undulating to low hilly country, mainly on shale.	Vegetation	Unconsolidated sedimentary	9m
Terrestrial	Low potential GDE - from national assessment	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	688m
Aquatic	High potential GDE - from national assessment	Undulating to low hilly country, mainly on shale.	River		875m

Groundwater Dependent Ecosystems Atlas Data Source: The Bureau of Meteorology
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Ecological Constraints - Inflow Dependent Ecosystems Likelihood

Northbourne Drive, Marsden Park, NSW 2765



Ecological Constraints

Northbourne Drive, Marsden Park, NSW 2765

Inflow Dependent Ecosystems Likelihood

Type	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial	10	Undulating to low hilly country, mainly on shale.	Vegetation	Unconsolidated sedimentary	9m
Terrestrial	9	Undulating to low hilly country, mainly on shale.	Vegetation	Unconsolidated sedimentary	288m
Terrestrial	8	Undulating to low hilly country, mainly on shale.	Vegetation	Unconsolidated sedimentary	480m
Terrestrial	7	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	633m
Aquatic	10	Undulating to low hilly country, mainly on shale.	River		875m
Aquatic	9	Undulating to low hilly country, mainly on shale.	River		932m

Inflow Dependent Ecosystems Likelihood Data Source: The Bureau of Meteorology
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Ecological Constraints

Northbourne Drive, Marsden Park, NSW 2765

NSW BioNet Atlas

Species on the NSW BioNet Atlas that have a NSW or federal conservation status, a NSW sensitivity status, or are listed under a migratory species agreement, and are within 10km of the site?

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Amphibia	Heleioporus australiacus	Giant Burrowing Frog	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Amphibia	Litoria aurea	Green and Golden Bell Frog	Endangered	Not Sensitive	Vulnerable	
Animalia	Aves	Acrocephalus orientalis	Oriental Reed-Warbler	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA
Animalia	Aves	Actitis hypoleucos	Common Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA;JAMBA
Animalia	Aves	Anthochaera phrygia	Regent Honeyeater	Critically Endangered	Not Sensitive	Critically Endangered	
Animalia	Aves	Apus pacificus	Fork-tailed Swift	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA;JAMBA
Animalia	Aves	Ardea ibis	Cattle Egret	Not Listed	Not Sensitive	Not Listed	CAMBA;JAMBA
Animalia	Aves	Arenaria interpres	Ruddy Turnstone	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA;JAMBA
Animalia	Aves	Artamus cyanopterus cyanopterus	Dusky Woodswallow	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Botaurus poiciloptilus	Australasian Bittern	Endangered	Not Sensitive	Endangered	
Animalia	Aves	Calidris acuminata	Sharp-tailed Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA;JAMBA
Animalia	Aves	Calidris ferruginea	Curlew Sandpiper	Endangered	Not Sensitive	Critically Endangered	ROKAMBA;CAMBA;JAMBA
Animalia	Aves	Calidris melanotos	Pectoral Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;JAMBA
Animalia	Aves	Calidris ruficollis	Red-necked Stint	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA;JAMBA
Animalia	Aves	Calidris subminuta	Long-toed Stint	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA;JAMBA
Animalia	Aves	Callocephalon fimbriatum	Gang-gang Cockatoo	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Calyptorhynchus lathami	Glossy Black-Cockatoo	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Charadrius hiaticula	Ringed Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA;JAMBA
Animalia	Aves	Chthonicola sagittata	Speckled Warbler	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Circus assimilis	Spotted Harrier	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Daphoenositta chrysoptera	Varied Sittella	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Egretta sacra	Eastern Reef Egret	Not Listed	Not Sensitive	Not Listed	CAMBA
Animalia	Aves	Ephippiorhynchus asiaticus	Black-necked Stork	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Falco subniger	Black Falcon	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Gallinago hardwickii	Latham's Snipe	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA;JAMBA
Animalia	Aves	Glossopsitta pusilla	Little Lorikeet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Grantiella picta	Painted Honeyeater	Vulnerable	Not Sensitive	Vulnerable	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Aves	Haliaeetus leucogaster	White-bellied Sea-Eagle	Vulnerable	Not Sensitive	Not Listed	CAMBA
Animalia	Aves	Hieraaetus morphnoides	Little Eagle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Hirundapus caudacutus	White-throated Needletail	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Hirundo rustica	Barn Swallow	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Ixobrychus flavicollis	Black Bittern	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Lathamus discolor	Swift Parrot	Endangered	Category 3	Critically Endangered	
Animalia	Aves	Lophochroa leadbeateri	Major Mitchell's Cockatoo	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Lophoictinia isura	Square-tailed Kite	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Melithreptus gularis gularis	Black-chinned Honeyeater (eastern subspecies)	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Merops ornatus	Rainbow Bee-eater	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Neophema pulchella	Turquoise Parrot	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Ninox connivens	Barking Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Ninox strenua	Powerful Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Numenius minutus	Little Curlew	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Oxyura australis	Blue-billed Duck	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Petroica boodang	Scarlet Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Petroica phoenicea	Flame Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Philomachus pugnax	Ruff	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Plegadis falcinellus	Glossy Ibis	Not Listed	Not Sensitive	Not Listed	CAMBA
Animalia	Aves	Pluvialis fulva	Pacific Golden Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Pluvialis squatarola	Grey Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Polytelis swainsonii	Superb Parrot	Vulnerable	Category 3	Vulnerable	
Animalia	Aves	Rostratula australis	Australian Painted Snipe	Endangered	Not Sensitive	Endangered	
Animalia	Aves	Stictonetta naevosa	Freckled Duck	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Tringa glareola	Wood Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Tringa nebularia	Common Greenshank	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Tringa stagnatilis	Marsh Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Tyto longimembris	Eastern Grass Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Tyto tenebricosa	Sooty Owl	Vulnerable	Category 3	Not Listed	
Animalia	Gastropoda	Meridolum corneovirens	Cumberland Plain Land Snail	Endangered	Not Sensitive	Not Listed	
Animalia	Gastropoda	Pommerhelix duralensis	Dural Woodland Snail	Endangered	Not Sensitive	Endangered	
Animalia	Mammalia	Chalinolobus dwyeri	Large-eared Pied Bat	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Dasyurus maculatus	Spotted-tailed Quoll	Vulnerable	Not Sensitive	Endangered	
Animalia	Mammalia	Falsistrellus tasmaniensis	Eastern False Pipistrelle	Vulnerable	Not Sensitive	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Mammalia	Miniopterus australis	Little Bentwing-bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Miniopterus schreibersii oceanensis	Eastern Bentwing-bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Mormopterus norfolkensis	Eastern Freetail-bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Myotis macropus	Southern Myotis	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Petaurus australis	Yellow-bellied Glider	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Petaurus norfolcensis	Squirrel Glider	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Phascolarctos cinereus	Koala	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Saccolaimus flaviventris	Yellow-bellied Sheathtail-bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Scoteanax rueppellii	Greater Broad-nosed Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Vespadelus troughtoni	Eastern Cave Bat	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Acacia bynoeana	Bynoe's Wattle	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Acacia gordonii		Endangered	Not Sensitive	Endangered	
Plantae	Flora	Acacia pubescens	Downy Wattle	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Allocasuarina glareicola		Endangered	Not Sensitive	Endangered	
Plantae	Flora	Dillwynia tenuifolia		Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Eucalyptus nicholii	Narrow-leaved Black Peppermint	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Eucalyptus scoparia	Wallangarra White Gum	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Grevillea juniperina subsp. juniperina	Juniper-leaved Grevillea	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Grevillea parviflora subsp. parviflora	Small-flower Grevillea	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Isotoma fluviatilis subsp. fluviatilis		Not Listed	Not Sensitive	Extinct	
Plantae	Flora	Lasiopetalum joyceae		Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Leucopogon fletcheri subsp. fletcheri		Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Marsdenia viridiflora subsp. viridiflora	Native Pear	Endangered Population	Not Sensitive	Not Listed	
Plantae	Flora	Melaleuca deanei	Deane's Paperbark	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Micromyrtus minutiflora		Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Persoonia hirsuta	Hairy Geebung	Endangered	Category 3	Endangered	
Plantae	Flora	Persoonia nutans	Nodding Geebung	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Pilularia novae-hollandiae	Austral Pillwort	Endangered	Category 3	Not Listed	
Plantae	Flora	Pimelea curviflora subsp. curviflora		Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Pimelea curviflora var. curviflora		Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Pimelea spicata	Spiked Rice-flower	Endangered	Not Sensitive	Endangered	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Plantae	Flora	Pultenaea parviflora		Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Senna acclinis	Rainforest Cassia	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Syzygium paniculatum	Magenta Lilly Pilly	Endangered	Not Sensitive	Vulnerable	

Data does not include NSW category 1 sensitive species.
NSW BioNet: © State of NSW and Office of Environment and Heritage
Data obtained 29/10/2018

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Applicant Details

Your reference LS004477

LOTSEARCH
3/68 ALFRED ST
MILSONS POINT NSW 2061

Certificate Details

Certificate no. PL2018/09283 **Fee: $133.00**

Date issued 26 October 2018 **Urgency fee: N/A**

Receipt no. ePay Ref 20296

Property information

Property ID 382810 **Land ID** 364234

Legal description LOT 111 DP 1190510

Address RICHMOND ROAD MARSDEN PARK NSW 2765

County CUMBERLAND **Parish** ROOTYHILL

PLANNING CERTIFICATE (Section 10.7(2 & 5))

Blacktown City Council prepared this Planning Certificate under Section 10.7 of the *Environmental Planning and Assessment Act 1979*. The form and content of the Certificate is consistent with *Environmental Planning and Assessment Regulation 2000*.

Disclaimer

Blacktown City Council gives notice and points out to all users of the information supplied herein, that the information herein has been compiled by Council from sources outside of Council's control. While the information herein is provided with all due care and in good faith, it is provided on the basis that Council will not accept any responsibility for and will not be liable for its contents or for any consequence arising from its use, and every user of such information is advised to make all necessary enquiries from the appropriate organisations, institutions and the like.

Blacktown City Council also gives notice to all users of the information supplied herein, wherever any particular enquiry herein remains unanswered or has not been elaborated upon, such silence should not be interpreted as meaning or inferring either a negative or a positive response as the case may be.

Section 10.7(2)

The following information is provided under Section 10.7(2) of the *Environmental Planning and Assessment Act 1979*. The information relates to the subject land at the date of this Certificate.

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1. Names of relevant planning instruments and development control plans

1.1 Environmental Planning Instrument

As at the date of this certificate the abovementioned land is not affected by Blacktown Local Environmental Plan 2015.

The land is affected by the *State Environmental Planning Policy (Sydney Region Growth Centres) 2006.*

1.2 Proposed Local Environmental Plans

Not applicable.

1.3 Other Applicable State Environmental Planning Policies

Attachment 1 contains a list of State Environmental Planning Policies that may apply to the carrying out of development on the subject land.

1.4 Proposed State Environmental Planning Policies

Council is not aware of any proposed State Environmental Planning Policy that is or has been the subject of community consultation or on public exhibition under the Act, applying to the subject land.

1.5 Development control plans

As at the date of this certificate the abovementioned land is affected by the NSW Government's *Blacktown City Council Growth Centre Precincts Development Control Plan 2014*.

Blacktown Development Control Plan 2015 generally does not apply to land that a Precinct Plan applies to, except where specifically referred to in the *State Environmental Planning*

Policy (Sydney Region Growth Centres) 2006 or the *Growth Centre Precincts Development Control Plan 2016*.

2. Zoning and land use under relevant environmental planning instruments

The following information will assist in determining how the subject land may be developed. It is recommended that you read this section in conjunction with a full copy of any relevant environmental planning instrument as there may be additional provisions that affect how the land may be developed.

2.1 Zoning

Under *State Environmental Planning Policy (Sydney Region Growth Centres) 2006,* the land is zoned:

Zone R2 Low Density Residential

Below is an extract from the principal Environmental Planning Instrument, outlining the types of development that may or may not be carried out in the above zone.

2 Permitted without consent

Home occupations

3 Permitted with consent

Bed and breakfast accommodation; Boarding houses; Business identification signs; Child care centres; Community facilities; Drainage; Dual occupancies; Dwelling houses; Earthworks; Educational establishments; Environmental protection works; Exhibition homes; Exhibition villages; Group homes; Health consulting rooms; Home-based child care; Home businesses; Home industries; Information and education facilities; Neighbourhood shops; Places of public worship; Roads; Secondary dwellings; Semi-detached dwellings; Seniors housing; Shop top housing; Studio dwellings; Veterinary hospitals

4 Prohibited

Any development not specified in item 2 or 3.

Zone RE1 Public Recreation

Below is an extract from the principal Environmental Planning Instrument, outlining the types of development that may or may not be carried out in the above zone.

2 Permitted without consent

Nil

3 Permitted with consent

Building identification signs; Business identification signs; Community facilities; Drainage; Earthworks; Environmental facilities; Environmental protection works; Flood mitigation works; Kiosks; Recreation areas; Recreation facilities (indoor); Recreation facilities (outdoor); Roads; Sewerage systems; Waterbodies (artificial)

4 Prohibited

Any development not specified in item 2 or 3.

Zone SP2 Infrastructure

Below is an extract from the principal Environmental Planning Instrument, outlining the types of development that may or may not be carried out in the above zone.

2 Permitted without consent

Nil

3 Permitted with consent

The purpose shown on the Land Zoning Map, including any development that is ordinarily incidental or ancillary to development for that purpose; Drainage; Earthworks; Environmental protection works; Flood mitigation works; Roads; Sewerage systems; Water recycling facilities; Waterbodies (artificial)

4 Prohibited
Any development not specified in item 2 or 3.

The SP2 Infrastructure zone applicable to this site is for the purposes of:
SP2 - Infrastructure-Local Drainage
SP2 - INFRASTRUCTURE - CLASSIFIED ROAD

2.2 Minimum land dimensions for the erection of a dwelling house

Not applicable

2.3 Critical habitat

The land does not include or comprise a critical habitat.

Note: Critical habitat registers are kept by the National Parks and Wildlife Service under the *Threatened Species Conservation Act 1995* and the Department of Fisheries under the *Fisheries Management Act 1994*.

2.4 Conservation areas

The land is not within a conservation area.

2.5 Environmental Heritage

The land does not contain an item of environmental heritage under the protection of State Environmental Planning Policy (Sydney Region Growth Centres) 2006

3. Complying development

Complying development may or may not be carried out on the subject land under an Environmental Planning Policy. Council does not have sufficient information to determine the extent to which specific complying development may or may not be carried out.

4. Coastal protection

The subject land is not affected by the operation of Sections 38 or 39 of the *Coastal Protection Act, 1979*.

5. Mine subsidence

The subject land has not been proclaimed to be a mine subsidence district within the meaning of Section 15 of the *Mine Subsidence Compensation Act 1961*.

6. Road widening and road realignment

The land is affected by road widening/road realignment by an environmental planning instrument.

7. Council and other public authority policies on hazard risk restrictions

7.1 Contaminated Lands Policy and Asbestos Policy Schedule 6

Council has adopted a Contaminated Lands Policy and an Asbestos Policy which may restrict development on the subject land.

The Land Contamination Policy applies when zoning or land use changes are proposed on land which has previously been used for certain purposes or has the potential to be affected by such purposes undertaken on nearby lands. The Asbestos Policy applies where land contains, or is likely to have contained in the past, buildings or structures that were erected prior to the banning of asbestos. Both policies should be considered in the context of relevant State legislation and guidelines.

Council's records may not be sufficient to determine all previous uses on the land, or determine activities that may have taken place on this land.

7.2 Other policies on hazard risk restrictions

Council has not adopted any other policies to restrict the development of the subject land by reason of the likelihood of landslip, bushfire, tidal inundation, subsidence or the occurrence of acid sulphate soils.

Note: Although Council has not adopted a specific policy to restrict development bushfire prone land, it is bound by state-wide bushfire legislation that may restrict development on the subject land. Additional information relating to bushfire prone land is provided at point 11 below.

7a. Flood related development controls information

This lot is shown flood prone on mapping provided by the Department of Planning. The investigation for this area has not been completed and all enquiries should be directed to the Department of Planning. Flood related development controls for this lot are provided in the Development Control Plan for this area, prepared by the Department of Planning. Where development is proposed within or adjacent to land that is shown on the Flood Prone Land figure as being affected by the 1% AEP level, Council may require a more detailed flood study to be undertaken by the applicant to confirm the extent on the flood affectation on that land.

Council has adopted a Floodplain Management Policy which may restrict the development of the land subject to this Certificate, including development for the purposes of dwelling houses, dual occupancies, multi-dwelling housing, residential flat buildings and any other purpose that requires the placement or erection of any structure on the land. The Flood Risk Precinct Maps prepared under the policy are based on the results of Engineering Flood Studies commissioned by Government Authorities and Council. These maps indicate that the land subject to this Certificate lies partly or wholly within the Medium Flood Risk Precinct. The term Medium Flood Risk Precinct is defined as land below the 100-year flood level that is not within a High Flood Risk Precinct. This is land that is not subject to a high hydraulic hazard or where there are no significant evacuation difficulties. Further details are provided in the NSW Government's Floodplain Development Manual and are available from Council. Council does not warrant that the information provided or made available to you is complete. Council strongly recommends that, in all cases, you seek independent professional advice to supplement your enquiries.

Council has adopted a Floodplain Management Policy which may restrict the development of the land subject to this Certificate, including development for the purposes of dwelling houses, dual occupancies, multi-dwelling housing, residential flat buildings and any other purpose that requires the placement or erection of any structure on the land. The Flood Risk Precinct Maps prepared under the policy are based on the results of Engineering Flood Studies commissioned by Government Authorities and Council. These maps indicate that the land subject to this Certificate lies partly or wholly within the High Flood Risk Precinct. The term High Flood Risk Precinct is defined as the area of land below the 100-year flood event that is either subject to a high hydraulic hazard or where there are significant evacuation difficulties. Further details are provided in the NSW Government's Floodplain Development Manual and are available from Council. Council does not warrant that the information provided or made available to you is complete. Council strongly recommends that, in all cases, you seek independent professional advice to supplement your enquiries.

8. Land reserved for acquisition

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 makes provision for land included on the Land Reservation Acquisition Map to be acquired by a public authority.

9. Contributions plans

Council currently levies contributions under Section 7.11 of the *Environmental Planning & Assessment Act 1979* for facilities and services. The further development of the subject land may incur such contributions.

Contributions Plan No. 21 - Marsden Park applies to the subject land.

9a. Biodiversity certified land

The land is biodiversity certified land as defined by Part 7AA of the *Threatened Species Conservation Act 1995*.

10. Biobanking agreements

The land is not subject to any biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995*.

11. Bushfire prone land

The Rural Fires and Environmental Assessment Legislation Amendment Act 2002, which came into force on 1 August 2002, introduced development provisions for bush fire prone land as shown on a Bush Fire Prone Land Map. "Bush fire prone land" is land that has been designated by the Commissioner of the NSW Rural Fire Service as being bush fire prone due to characteristics of vegetation and topography. The land the subject of this certificate has been identified on Council's Bush Fire Prone Land Map as being:

Clear of any bush fire prone land

On land that is bush fire prone, certain development may require further consideration under Section 4.14 or Section 4.46 of the *Environmental Planning & Assessment Act 1979* and under Section 100B of the *Rural Fires Act 1997*.

12. Property vegetation plans

The subject land is not affected by a property vegetation plan under the *Native Vegetation Act 2003*. The Blacktown local government area is excluded from the operation of the *Native Vegetation Act 2003* (refer Schedule 1 Part 3 of that Act).

13. Orders under *Trees (Disputes Between Neighbours) Act 2006*

No. Council has not been notified of any order made under the *Trees (Disputes Between Neighbours) Act 2006* in relation to the subject land.

14. Site compatibility certificates and conditions for seniors housing

Land to which this Certificate applies is not subject to the above.

15. Site compatibility certificates for infrastructure

Land to which this Certificate applies is not subject to the above.

16. Site compatibility certificates and conditions for affordable rental housing

Land to which this Certificate applies is not subject to the above.

17. Paper subdivision information

Not applicable

18. Site verification certificates

Council is not aware of any site verification certificate applying to the subject land.

Under the *Contaminated Land Management Act 1997* and *Contaminated Land Management Amendment Act 2008*

(a) The land to which this certificate relates has not been declared to be significantly contaminated land at the date when the certificate was issued

(b) The land to which the certificate relates is not subject to a management order at the date when the certificate was issued

(c) The land to which this certificate relates is not the subject of an approved voluntary management proposal at the date when the certificate was issued

(d) The land to which this certificate relates is not subject to an ongoing maintenance

order as at the date when the certificate was issued

(e) The land to which this certificate relates is not the subject of a site audit statement provided to the Council.

19. Affected building notices and building product rectification orders

19.1 Affected building notices

Council is not aware of any affected building notice in force for the subject land.

19.2 Building product rectification orders

(a) Council is not aware of any building product rectification order in force for the subject land.

(b) Council is not aware of any notice of intention to make a building product rectification order being given for the subject land.

Section 10.7(5)

The following information is provided under Section 10.7(5) of the *Environmental Planning & Assessment Act 1979*. As per section 10.7(6) of the Act, Council shall not incur any liability in respect of any advice provided in good faith under section 10.7(5). The absence of any reference to any matter affecting the land shall not imply that the land is not affected by any matter not referred to in this Certificate.

Planning Instruments and Covenants

The provisions of any covenant, agreement or instrument applying to this land that restrict or prohibit certain development may be inconsistent with the provisions of an environmental planning instrument. In such cases, the provisions of any such covenant, agreement or instrument may be overridden.

Loose-filled Asbestos Insulation

Some residential homes located in the Blacktown Local Government Area may potentially contain loose-fill asbestos insulation, for example in the roof space. NSW Fair Trading maintains a Register of homes that are affected by loose-fill asbestos insulation.

You should make your own enquiries as to the age of the buildings on the land to which this certificate relates and, if it contains a building constructed prior to 1980, the council strongly recommends that any potential purchaser obtain advice from a licensed asbestos assessor to determine whether loose-fill asbestos is present in any building on the land and, if so, the health risks (if any) this may pose for the building's occupants.

Contact NSW Fair Trading for further information

Biodiversity and Threatened Species Conservation

The land is affected by a tree preservation control under Clause 5.9 of the Blacktown Local Environmental Plan 2015. A person shall not ringbark, cut down, lop, top, remove, injure or wilfully destroy any tree, or cause any tree to be ringbarked, cut down, topped, lopped, injured or wilfully destroyed, except with the consent of the Council.

The provisions of any covenant, agreement or instrument applying to this land purporting to restrict or prohibit certain development may be inconsistent with the provisions of a Regional Environmental Plan, State Environmental Planning Policy or Blacktown Local Environmental Plan 2015, in which case the provisions of any such covenant, agreement or instrument may be overridden.

The *Threatened Species Conservation Act 1995* provides for the conservation of threatened species, populations and ecological communities of animals and plants.

☐

The *Environment Protection and Biodiversity Conservation Act 1999* provides protection for items of national significance. Items of national environmental significance include nationally threatened animal and plant species and ecological communities.

The Act requires a separate Commonwealth approval to be obtained where an action is likely to have significant impacts on items of national environmental significance.

For further information on this matter, please contact the Australian Government's Department of the Environment.

Attachment 1 – State Environmental Planning Policies

In addition to the principal environmental planning instrument identified in section 2.1 of this Certificate, the following State Environmental Planning Policies may also affect development on the subject land.

SEPP (Affordable Rental Housing) 2009
Establishes a consistent planning regime for the provision of affordable rental housing. The policy provides incentives for new affordable rental housing, facilitates the retention of existing affordable rentals, and expands the role of not-for-profit providers. It also aims to support local centres by providing housing for workers close to places of work, and facilitate development of housing for the homeless and other disadvantaged people.

SEPP Building Sustainability Index (BASIX) 2004
This SEPP operates in conjunction with *Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004* to ensure the effective introduction of BASIX in NSW. The SEPP ensures consistency in the implementation of BASIX throughout the State by overriding competing provisions in other environmental planning instruments and development control plans, and specifying that SEPP 1 does not apply in relation to any development standard arising under BASIX. The draft SEPP was exhibited together with draft *Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004*.

SEPP (Exempt and Complying Development Codes) 2008
This policy provides exempt and complying development codes that have State-wide application, identifying, in the General Exempt Development Code, types of development that are of minimal environmental impact that may be carried out without the need for development consent and, in the General Housing Code, types of complying development that may be carried out in accordance with a complying development certificate as defined in the *Environmental Planning and Assessment Act 1979*.

SEPP (Sydney Region Growth Centres) 2006
This policy provides for the coordinated release of land for residential, employment and other urban development in Sydney's North West and South West Growth Centres, in conjunction with the precinct planning provisions contained in the *Environmental Planning and Assessment Regulation 2000*.

SEPP (Housing for Seniors and People with a Disability) 2004
This policy encourages the development of high quality accommodation for the state's ageing population and for people who have disabilities, whilst ensuring development is in keeping with the local neighbourhood. Note the name of this policy was changed from *State Environmental Planning Policy (Seniors Living) 2004* to *State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004,* effective 12.10.07.

SEPP (Infrastructure) 2007
The aim of this policy is to facilitate the orderly and economic use and development of rural

lands for rural and related purposes. This SEPP Provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. The SEPP supports greater flexibility in the location of infrastructure and service facilities along with improved regulatory certainty and efficiency.

SEPP (Miscellaneous Consent Provisions) 2007

This SEPP contains provisions for temporary structures, subdivision, the demolition of a building or work, certain change of use and fire alarm link communication works.

SEPP (State Significant Precincts) 2005

The purpose of this Policy is to facilitate the development, redevelopment or protection of important urban, coastal and regional sites of economic, environmental or social significance to the State so as to facilitate the orderly use, development or conservation of those State significant precincts for the benefit of the State. It also aims to facilitate service delivery outcomes for a range of public services and to provide for the development of major sites for a public purpose or redevelopment of major sites no longer appropriate or suitable for public purposes.

SEPP (Mining, Petroleum, Production and Extractive Industries) 2007

This Policy aims to provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the State. The Policy establishes appropriate planning controls to encourage ecologically sustainable development.

SEPP No. 1 - Development Standards

Makes development standards more flexible. It allows councils to approve a development proposal that does not comply with a set standard where this can be shown to be unreasonable or unnecessary.

SEPP No. 19 - Bushland in Urban Areas

Protects and preserves bushland within certain urban areas, as part of the natural heritage or for recreational, educational and scientific purposes. The policy is designed to protect bushland in public open space zones and reservations, and to ensure that bush preservation is given a high priority when local environmental plans for urban development are prepared.

SEPP No. 21 - Caravan Parks

Ensures that where caravan parks or camping grounds are permitted under an environmental planning instrument, movable dwellings, as defined in the *Local Government Act 1993*, are also permitted. The specific kinds of movable dwellings allowed under the Local Government Act in caravan parks and camping grounds are subject to the provisions of the Caravan Parks Regulation. The policy ensures that development consent is required for new caravan parks and camping grounds and for additional long-term sites in existing caravan parks. It also enables, with the council's consent, long-term sites in caravan parks to be subdivided by leases of up to 20 years.

SEPP No. 30 - Intensive Agriculture
Requires development consent for cattle feedlots having a capacity of 50 or more cattle or piggeries having a capacity of 200 or more pigs. The policy sets out information and public notification requirements to ensure there are effective planning control over this export-driven rural industry. The policy does not alter if, and where, such development is permitted, or the functions of the consent authority.

SEPP No. 32 - Urban Consolidation
States the Government's intention to ensure that urban consolidation objectives are met in all urban areas throughout the State. The policy focuses on the redevelopment of urban land that is no longer required for the purpose it is currently zoned or used, and encourages local councils to pursue their own urban consolidation strategies to help implement the aims and objectives of the policy. Councils will continue to be responsible for the majority of rezonings. The policy sets out guidelines for the Minister to follow when considering whether to initiate a regional environmental plan (REP) to make particular sites available for consolidated urban redevelopment. Where a site is rezoned by an REP, the Minister will be the consent authority.

SEPP No. 33 - Hazardous and Offensive Development
Provides new definitions for 'hazardous industry', 'hazardous storage establishment', 'offensive industry' and 'offensive storage establishment'. The definitions apply to all planning instruments, existing and future. The new definitions enable decisions to approve or refuse a development to be based on the merit of proposal. The consent authority must careful consider the specifics the case, the location and the way in which the proposed activity is to be carried out. The policy also requires specified matters to be considered for proposals that are 'potentially hazardous' or 'potentially offensive' as defined in the policy. For example, any application to carry out a potentially hazardous or potentially offensive development is to be advertised for public comment, and applications to carry out potentially hazardous development must be supported by a preliminary hazard analysis (PHA). The policy does not change the role of councils as consent authorities, land zoning, or the designated development provisions of the Environmental Planning and Assessment Act 1979.

SEPP No. 55 - Remediation of Land
Introduces state-wide planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals. To assist councils and developers, the Department, in conjunction with the Environment Protection Authority, has prepared Managing Land Contamination: Planning Guidelines.

SEPP No. 62 - Sustainable Aquaculture
Encourages the sustainable expansion of the industry in NSW. The policy implements the regional strategies already developed by creating a simple approach to identity and

categorise aquaculture development on the basis of its potential environmental impact. The SEPP also identifies aquaculture development as a designated development only where there are potential environmental risks.

SEPP No. 64 - Advertising and Signage
Aims to ensure that outdoor advertising is compatible with the desired amenity and visual character of an area, provides effective communication in suitable locations and is of high quality design and finish. The SEPP was amended in August 2007 to permit and regulate outdoor advertising in transport corridors (e.g. freeways, tollways and rail corridors). The amended SEPP also aims to ensure that public benefits may be derived from advertising along and adjacent to transport corridors. Transport Corridor Outdoor Advertising and Signage Guidelines (DOP July 2007) provides information on design criteria, road safety and public benefit requirements for SEPP 64 development applications.

SEPP No. 65 - Design Quality of Residential Apartment Development
Raises the design quality of residential flat development across the state through the application of a series of design principles. Provides for the establishment of Design Review Panels to provide independent expert advice to councils on the merit of residential flat development. The accompanying regulation requires the involvement of a qualified designer throughout the design, approval and construction stages.

SREP No. 30 - St Marys
Sydney Regional Environmental Plan 30 - St Marys (SREP 30) provides a statutory framework to plan and develop 1538 hectares of land known as the Australian Defence Industries (ADI) site at St Marys. The plan zones the land for particular types of development: urban, regional park, regional open space, drainage, road/road widening, and employment.

SEPP (Western Sydney Employment Area) 2009
This State Environmental Planning Policy promotes economic development and the creation of employment in the Western Sydney Employment Area by providing for development, including major warehousing, distribution, freight transport, industrial, high technology and research facilities. The policy provides for coordinated planning, development and rezoning of land for employment or environmental conservation purposes.This State Environmental Planning Policy promotes economic development and the creation of employment in the Western Sydney Employment Area by providing for development, including major warehousing, distribution, freight transport, industrial, high technology and research facilities. The policy provides for coordinated planning, development and rezoning of land for employment or environmental conservation purposes.

SEPP (Western Sydney Parklands) 2009
The aim of the policy is to put in place planning controls that will enable the Western Sydney Parklands Trust to develop the Western Parklands into multi-use urban parkland for the region of western Sydney.

SEPP (Western Sydney Recreation Area)
This policy enables development to be carried out for recreational, sporting and cultural purposes within the Western Sydney Recreation Area, including the development of a recreation area of state significance.

Authorised by Blacktown City Council
Proforma ID: 554332

End of Certificate

Appendix D

Results of Current and Previous Field Work

BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 19.9 mAHD
EASTING: 297781.3
NORTHING: 6270277
DIP/AZIMUTH: 90°/--

BORE No: 101
PROJECT No: 94522.00
DATE: 21/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Type	Core Rec. %	RQD %	Test Results & Comments
19	0.0	FILLING - brown gravelly clay filling							D/E*			PID< 1
	0.7	SILTY CLAY - very stiff, red and light grey mottled clay							D/E			PID< 1
	1								D			PID< 1
									D/E			PID< 1
									S/E			3,7,10 N = 17
18	2											PID< 1
		2.3m: becoming red-orange grey mottled, with a trace of ironstone gravel							S			6,10,15 N = 25
17	3	- possibly weathered shale from 3.0m depth										PID< 1
16	3.8	SHALE - extremely low to very low strength, dark grey shale							S			11,21,25/80 refusal
	4.15	SHALE - low strength, highly weathered fractured, grey shale						4.25m: J, 70-90°, cu, sm, cln 4.4m: B, 0°, pl, sm, fe, stn 4.56m: B, 5°, ir, ro, cly, vn				PID< 1
15	5							5.07m: B, 0°, pl, sm, cly vn	C	100	100	PL(A) = 0.19
	5.26	SHALE - medium strength, fresh, fractured, grey shale										PL(A) = 0.37
14	6							6.14m: fg, 40mm				PL(A) = 0.44
	6.5	SHALE - low strength, fresh, fractured, grey shale						6.63m: B, 5°, ir, ro, cbs ct				PL(A) = 0.24
13	7								C	100	82	
	7.0	SHALE - medium strength, fresh, fractured, grey shale						7.33m: B, 0°, pl, sm, cly vn				PL(A) = 0.37
	7.57	SHALE - extremely low to very low strength, highly to extremely weathered, fractured, grey shale						7.57m: Ds, 230mm				
12	8.0							8.05m: B, 5°, ir, sm, cly ct 8.08m: B, 5°, ir, cly vn				PL(A) = 0.13
	8.39	SHALE - low strength, fresh, fractured, grey shale, with some extremely low strength clay seams										
11		Bore discontinued at 8.39m										
10	9											
	10											
9	11											
8												

RIG: Explora **DRILLER:** SS **LOGGED:** JJH **CASING:** HW to 4.15m; HQ to 8.39m

TYPE OF BORING: 100mm diameter solid flight auger to 2.5m, rotary (water) to 4.15m, NMLC coring to 8.39m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS: Location coordinates are in MGA94 Zone 56. * BD1/20181121 taken at 0-0.2m

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

BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 23.6 mAHD
EASTING: 297838.8
NORTHING: 6270230.6
DIP/AZIMUTH: 90°/--

BORE No: 102
PROJECT No: 94522.00
DATE: 21/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
23		FILLING - brown gravelly clay filling							D/E			PID< 1
									D/E			PID< 1
									D			PID< 1
1	1.0	1.0m: becoming light brown and grey							D/E			5,12,8 N = 20 PID< 1
22	1.5	SILTY CLAY - very stiff, red and light grey mottled silty clay (possibly filling)										
2		SILTY CLAY - very stiff and light grey silty clay							D/E			PID< 1
21									D/E			PID< 1
3												
20												
4									S			7,10,13 N = 23 PID< 1
19												
5												
18		5.6m: becoming hard							S			9,19,26 N = 45 PID< 1
6												
17		- possibly weathered shale from 6.2m										
	6.8											
7		SHALE - extremely low strength, dark grey shale							D			8,33,30 N = 63 PID< 1
	7.1											
16		SHALE - very low to low strength, highly weathered, fractured, grey shale						7.53m: B, 0-5°, pl, sm, cln	C	100	33	PL(A) = 0.16
8	7.8	SHALE - low strength, fresh, fractured, grey shale						8.17m: B, 0-5°, sl, sm, cln				PL(A) = 0.15
15	8.54	SHALE - low to medium strength, fresh, fractured, grey shale						8.53m: B, 10°, pl, sm, cln 8.68m: fg, 20mm 9.05m: B, 0-5°, pl, sm, cln 9.33m: B, 0°, pl, ro, cly vn				PL(A) = 0.32
9												
14	9.83	9.8m: 30mm clay seam							C	100	58	PL(A) = 0.57
10		SHALE - very low to low strength, fresh, grey shale, with a band of low to medium strength shale										PL(A) = 0.48
13												
11												PL(A) = 0.13
	11.33	Bore discontinued at 11.33m										
12												

RIG: Explora **DRILLER:** SS **LOGGED:** JJH **CASING:** HW to 2.5m; HQ to 11.33m

TYPE OF BORING: 100mm diameter solid flight auger to 2.5m, rotary (water) to 7.1m, NMLC coring to 11.33m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS: Location coordinates are in MGA94 Zone 56.

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
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BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 23.9 mAHD
EASTING: 297789.5
NORTHING: 6270216.3
DIP/AZIMUTH: 90°/--

BORE No: 103
PROJECT No: 94522.00
DATE: 22/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Degree of Weathering	Graphic Log	Rock Strength	Water	Fracture Spacing (m)	Discontinuities (B - Bedding, J - Joint, S - Shear, F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
23	0	FILLING - brown gravelly clay filling							D/E*			PID< 1
									D/E			PID< 1
	1								D			PID< 1
									S/E			5,7,16 N = 23 PID< 1
22	2											
									S/E			8,11,12 N = 23 PID< 1
	2.4	FILLING - red and light grey mottled silty clay filling							D/E			
21	3											
	3.6	SILTY CLAY - stiff, red and light grey mottled dark grey silty clay filling, with some fine gravel and organic fibres (possibly natural)							S/E			2,4,6 N = 10 PID< 1
20	4											
	5.0	SILTY CLAY - hard, red-brown and grey mottled silty clay, with trace of organic fibres (possibly filling)							S			7,15,20 N = 35 PID< 1
19	5											
		- possibly weathered shale from 6m depth										
18	6											
	6.5											
	6.55	SHALE - extremely low strength, dark grey shale										PL(A) = 0.15
17	7	SHALE - very low to low strength, moderately weathered, slightly fractured, grey-brown clay							C	100	0	
								7.63m: B, 0-5°, ir, ro, fe stn				PL(A) = 0.05
16	8											
	8.3	SHALE - medium strength, slightly fractured, slightly weathered, grey shale						8.6m: fg, 30mm				PL(A) = 0.44 PL(A) = 0.71
15	9											
	9.44	SHALE - low strength, fresh, fractured, grey shale							C	100	63	PL(A) = 0.16
14	10											
	10.0	SHALE - medium strength, fresh, slightly fractured, grey shale						10.42m: J, 70-80°, pl, ro, cln				PL(A) = 0.42
	10.7	SHALE - low strength, fresh, slightly fractured, grey shale										
13	11											
	11.22	Bore discontinued at 11.22m										PL(A) = 0.23
12												

RIG: Explora **DRILLER:** SS **LOGGED:** JJH **CASING:** HW to 6.5m; HQ to 11.22m

TYPE OF BORING: 100mm diameter solid flight auger to 2.5m, rotary (water) to 6.5m, NMLC coring to 11.22m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS: Location coordinates are in MGA94 Zone 56. * BD2/20181122 taken at 0-0.2m

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: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 24.8 mAHD
EASTING: 297843.8
NORTHING: 6270172.6

PIT No: 223
PROJECT No: 94522.01
DATE: 11/7/2019
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)
24	0.1	FILL - loose, brown, gravelly clay fill with trace of ripped shale gravel (to 0mm diameter), W<PL		D	0.1				
		- timber post at 0.05 m			0.2				
	1	FILL - apparently well compacted, brown gravelly clay with ripped shale gravel and cobbles (to 150mm diameter) and trace amount of sandstone cobbles, W<PL							
23		- sandstone boulder at 1.6m (to 400mm diameter)							
	2	- layer of ripped shale cobbles and boulders (to 250mm diameter) from 1.9m to 2.2m depth							
22	3	3.0 Pit discontinued at 3.0m							
21	4								
20									

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

RIG: 7 tonne excavator

LOGGED: GRB

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free ground water 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: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 24.8 mAHD
EASTING: 297761.7
NORTHING: 6270180.1

PIT No: 224
PROJECT No: 94522.01
DATE: 11/7/2019
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)
24	0	FILL - loose brown, gravelly clay fill with trace of gravel (to 40mm diameter) and trace surficial vegetation, W<PL		D/E	0.1 0.2				
	0.5	FILL - apparently well compacted, grey-brown gravelly clay fill with ripped shale (cobbles to 150mm diameter), W<PL - orange plastic pipe fragment at 0.7m							
23	1.2	FILL - apparently well compacted, grey, clayey gravel (ripped shale) fill, W<PL							
	1.8	FILL - apparently well compacted, grey-brown, gravelly clay fill with ripped shale gravel, W<PL - sandstone boulder at 2m (approxiumately 400m diameter)							
22	2.5	FILL - apparently well compacted, dark grey clayey gravel (ripped shale) fill with shale cobbles and boulders (up to 400mm in length)							
	2.8	FILL - apparently well compacted, grey brown gravelly clay fill, W<PL							
21	3.0	- concrete brick fragment at 3m Pit discontinued at 3.0m							
20	4								

RIG: 7 tonne excavator

LOGGED: GRB

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free ground water 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: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 23.8 mAHD
EASTING: 297729.6
NORTHING: 6270219

PIT No: 225
PROJECT No: 94522.01
DATE: 11/7/2019
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)
23	0.1	FILL - loose, brown, gravelly clay fill with trace of shale and sandsone gravel and trace of vegetation, W<PL		D/E	0.1 0.2				
		FILL- apparently well compacted, brown, gravelly clay fill with trace ripped sandstone and ripped shale cobbles (up to 150mm diameter), W<PL - fragment of blue, PVC pipe (250mm diameter) at 0.2m							
22	2.7								
21	2.8	CLAY - hard, pale grey mottled pale brown, silty clay with trace rootlets, W<PL Pit discontinued at 2.8m							
20									
19									

RIG: 7 tonne excavator

LOGGED: GRB

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free ground water 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: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 23.5 mAHD
EASTING: 297683.4
NORTHING: 6270208.9

PIT No: 226
PROJECT No: 94522.01
DATE: 11/7/2019
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)
	0.1	FILL - loose, brown, silty clay fill with gravel, W<PL			0.1				
		FILL - apparently well compacted, grey-brown, gravelly clay with trace ripped shale and sandstone cobbles, W<PL		D/E	0.2				
23		- shale boulder at 0.3m (up to 400m diameter)							
		- sandstone boulder at 0.5m (up to 400m diameter)							
	1								1
		- layer of ripped shale cobbles and boulders (to 200mm diameter) from 1.1m to 1.8m depth							
22									
	2								2
21									
	3								3
		- trace of roof tile and PVC pipe fragments at 3m							
	3.4	Pit discontinued at 3.4m							
20									
	4								4
19									

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

RIG: 7 tonne excavator

LOGGED: GRB

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free ground water 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: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 23.2 mAHD
EASTING: 297710.3
NORTHING: 6270232.8

PIT No: 227
PROJECT No: 94522.01
DATE: 11/7/2019
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)
23	0.1	FILL- loose, brown, gravelly clay fill, W<PL			0.1				
		FILL - apparently well compacted, grey-brown, gravelly clay fill with trace ripped sandstone and shale cobbles and boulders (up to 200mm diameter), W<PL		D/E	0.2				
		- sandstone boulder at 0.5m (up to 300mm diameter)							
22	1								1
21	2								2
	2.7	Silty CLAY - very stiff to hard, grey mottled pale brown, silty clay, W<PL							
	2.8	Pit discontinued at 2.8m							
20	3								3
19	4								4

5 10 15 20

RIG: 7 tonne excavator

LOGGED: GRB

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free ground water 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: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 22.5 mAHD
EASTING: 297708.2
NORTHING: 6270259

PIT No: 228
PROJECT No: 94522.01
DATE: 11/7/2019
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)
22	0.1	FILL - loose, brown silty clay filling with gravel, W<PL			0.1				
		FILL - apparently well compacted, grey-brown, gravelly clay fill with trace ripped shale and sandstone cobbles and boulders (up to 200mm diameter), W<PL		D/E	0.2				
		- single, thin (less than 2mm diameter), metal wire at 0.3m							
		- concrete fragment at 0.4m (up to 400m diameter)							
21	2.2	FILL - apparently well compacted, pale grey mottled red silty clay fill with gravel. Trace of sandstone gravel W<PL							
20	2.4	Pit discontinued at 2.4m							
19									
18									

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20; 1, 2, 3, 4

RIG: 7 tonne excavator

LOGGED: GRB

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free ground water 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: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 22.8 mAHD
EASTING: 297742
NORTHING: 6270264.3

PIT No: 229
PROJECT No: 94522.01
DATE: 11/7/2019
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)
22	0.1	FILL - loose, brown, gravelly clay fill, W<PL			0.1				
		FILL - apparently well compacted, grey-brown, gravelly clay fill with trace ripped shale and sandstone cobbles and boulders (up to 200mm diameter), W<PL		D/E	0.2				
	0.4	FILL - apparently well compacted, grey, gravelly clay (ripped shale) fill with shale cobbles and boulders (up to 400mm diameter)							
	0.8	FILL - apparently well compacted, grey-brown, gravelly clay fill with trace ripped shale cobbles and boulders (up to 200mm diameter),W<PL							
21	1	- becoming grey from 2m							
	2	- becoming grey-brown from 2.4m							
20	3								
	3.2	Pit discontinued at 3.2m							
19	4								
18									

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

RIG: 7 tonne excavator

LOGGED: GRB

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free ground water 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: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 22.6 mAHD
EASTING: 297773.5
NORTHING: 6270268.4

PIT No: 230
PROJECT No: 94522.01
DATE: 11/7/2019
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)
22	0.1	FILL - loose, brown, silty clay fill with gravel and trace ripped shale cobbles, W<PL		D/E	0.1				
		FILL - apparently well compacted, grey-brown, gravelly clay fill with trace ripped shale and sandstone cobbles and boulders (up to 200mm diameter), W<PL			0.2				
	1								1
21									
	2	- layer of ripped shale and ripped sandstone cobbles and boulders between 2m-2.2m depth							2
	2.4								
	2.5	Silty CLAY - very stiff, grey mottled brown, silty clay, W<PL							
20		Pit discontinued at 2.5m							
	3								3
19									
	4								4
18									

RIG: 7 tonne excavator

LOGGED: GRB

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free ground water 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: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 22.6 mAHD
EASTING: 297803.2
NORTHING: 6270266.4

PIT No: 231
PROJECT No: 94522.01
DATE: 11/7/2019
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)
22	0.1	FILL - loose, grey-brown, gravelly clay fill with trace ripped shale and sandstone cobbles, W<PL		D/E	0.1				
		FILL - apparently well compacted, brown, gravelly clay with trace ripped shale cobbles and boulders (up to 200mm diameter), W<PL			0.2				
	1								1
	1.1	FILL - apparently well compacted, pale grey mottled red, silty clay fill, W<PL							
	1.4	FILL - apparently well compacted, brown, gravelly clay fill with trace ripped sandstone cobbles and boulders (up to 200mm diameter), W<PL							
21	2								2
	2.4	SILTY CLAY - hard, pale grey mottled red, silty clay with trace ironstone gravel, W<PL							
	2.5	Pit discontinued at 2.5m							
20	3								3
19	4								4
18									

RIG: 7 tonne excavator

LOGGED: GRB

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free ground water 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: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 23.2 mAHD
EASTING: 297837
NORTHING: 6270244.9

PIT No: 232
PROJECT No: 94522.01
DATE: 11/7/2019
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)
23	0.1	FILL - loose, brown gravelly clay fill, W<PL			0.1				
		FILL - apparently well compacted, brown-grey gravelly clay fill with ripped shale gravel and cobbles (to 100mm diameter), W<PL		D/E	0.2				
		- plastic (danger tape) at 0.25m							
22	1	- sandstone boulder at 1.0m (to 300mm diameter)							
		- plastic covered cable ay 1.0m depth							
21	2	- shale boulder at 2.2m (to 400m diameter)							
20	3	3.0 Pit discontinued at 3.0m							
19	4								

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

RIG: 7 tonne excavator

LOGGED: GRB

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free ground water 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

BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 24.1 mAHD
EASTING: 297801
NORTHING: 6270205.3
DIP/AZIMUTH: 90°/--

BORE No: 104
PROJECT No: 94522.00
DATE: 22/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
24	0	FILLING - brown gravelly clay filling		D/E*	0.0		PID< 1		
					0.2				
				D/E	0.5		PID< 1		
					0.6				
23	1			S/E	1.0		4,6,10 N = 16 PID< 1		
					1.45				
22	2			S/E	2.0		3,5,5 N = 10 PID< 1		
					2.45				
21	3	3.0 SILTY CLAY - stiff, red-brown silty clay							
20	4	4.0m: becoming red and light grey mottled		S	4.0		1,4,6 N = 10 PID< 1		
					4.45				
19	5								
		5.5m: becoming very stiff		S	5.5		6,11,18 N = 29 PID< 1		
18	6				5.95				
		6.2 SHALE - extremely low strength, dark grey shale							
17	7	7.0 Bore discontinued at 7.0m							
16	8								
15	9								
14	10								
13	11								

RIG: Explora **DRILLER:** SS **LOGGED:** JJH **CASING:** Uncased

TYPE OF BORING: 100mm diameter solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Location coordinates are in MGA94 Zone 56. * BD4/20181122 taken at 0-0.2m

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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BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 24.2 mAHD
EASTING: 297829.6
NORTHING: 6270201.2
DIP/AZIMUTH: 90°/--

BORE No: 105
PROJECT No: 94522.00
DATE: 22/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
24	0.0	FILLING - brown gravelly clay filling		D/E*	0.0		PID< 1		
	0.2				0.2				
	0.5			D/E	0.5		PID< 1		
	0.6	0.6m: with trace of plastic			0.6				
23	1.0	SILTY CLAY - very stiff, red-brown silty clay (possibly filling)		S/E	1.0		4,11,14 N = 25 PID< 1		
	1.45				1.45				
	1.5	SILTY CLAY - stiff, red and light grey mottled silty clay			1.5				
				D	1.8		PID< 1		
22	2.0			D/E	2.0		PID< 1 3,4,4 N = 8		
				S/E			PID< 1		
	2.45				2.45				
21	3.5	below 3.5m very stiff		D/E	3.5		PID< 1		
	3.7				3.7				
20	4.0	4.0m: with some ironestone gravel bands		S	4.0		10,10,17 N = 27 PID< 1		
	4.45				4.45				
19		- possibly weathered shale from 5m							
	5.5	SHALE - extremely low to very low strength, brown-grey shale		D	5.5		7,25/120mm refusal		
18	5.77	Bore discontinued at 5.77m . Target depth reached			5.77		PID< 1		
17	6								
16	7								
15	8								
14	9								
13	10								
	11								

RIG: Explora **DRILLER:** SS **LOGGED:** JJH **CASING:** Uncased

TYPE OF BORING: 100mm diameter solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Location coordinates are in MGA94 Zone 56. * BD5/20181122 taken at 0-0.2m

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

BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 22.9 mAHD
EASTING: 297710.2
NORTHING: 6270241.7
DIP/AZIMUTH: 90°/--

BORE No: 106
PROJECT No: 94522.00
DATE: 23/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
22	0.0	FILLING - brown gravelly clay filling		D/E	0.0		PID< 1		
					0.2				
				D/E	0.5		PID< 1		
				B	0.6				
	1				1.0		6,11,15		1
				S/E			N = 26		
					1.45		PID< 1		
21	2								2
	2.0	SILTY CLAY - very stiff, red-brown silty clay							
					2.5		7,11,13		
20	2.95			S/E			N = 24		
	3	Bore discontinued at 2.95m . Target depth reached			2.95		PID< 1		3
19	4								4
18	5								5
17	6								6
16	7								7
15	8								8
14	9								9
13	10								10
12	11								11
11									

RIG: Explora **DRILLER:** SS **LOGGED:** JJH **CASING:** Uncased

TYPE OF BORING: 100mm diameter solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Location coordinates are in MGA94 Zone 56.

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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BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 23.5 mAHD
EASTING: 297807.1
NORTHING: 6270231.4
DIP/AZIMUTH: 90°/--

BORE No: 107
PROJECT No: 94522.00
DATE: 27/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
23.5	0.0	FILLING - brown gravelly clay filling		D/E	0.0 - 0.2		PID< 1		
				D/E	0.5 - 0.6		PID< 1		
				D/E	2.0 - 2.2		PID< 1		
21.2	2.3	SILTY CLAY - red-brown silty clay with trace of ironstone gravel		D/E	2.4 - 2.5		PID< 1		
21.0	2.5	Bore discontinued at 2.5m . Target depth reached							

RIG: U35-3 Mini Excavator **DRILLER:** BM **LOGGED:** JJH **CASING:** Uncased
TYPE OF BORING: 150mm diameter solid flight auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Location coordinates are in MGA94 Zone 56.

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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BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 24.9 mAHD
EASTING: 297777.6
NORTHING: 6270175.4
DIP/AZIMUTH: 90°/--

BORE No: 108
PROJECT No: 94522.00
DATE: 27/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
24	0.0	FILLING - brown gravelly clay filling		D/E	0.0 - 0.2		PID< 1		
				D/E	0.5 - 0.6		PID< 1		
	1			D/E	1.0 - 1.2		PID< 1		1
	1.2	SILTY CLAY - red-brown silty clay (possibly filling) 1.3m: with some low strength shale cobbles		D/E	1.4 - 1.5		PID< 1		
23	1.7	SILTY CLAY - red-brown silty clay		D/E	1.7 - 1.8		PID< 1		
	2			D/E	2.2 - 2.3		PID< 1		2
	2.5	Bore discontinued at 2.5m . Target depth reached							
22	3								3
21	4								4
20	5								5
19	6								6
18	7								7
17	8								8
16	9								9
15	10								10
14	11								11
13									

RIG: U35-3 Mini Excavator **DRILLER:** BM **LOGGED:** JJH **CASING:** Uncased
TYPE OF BORING: 150mm diameter solid flight auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Location coordinates are in MGA94 Zone 56.

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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BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 23.6 mAHD
EASTING: 297708.1
NORTHING: 6270212.2
DIP/AZIMUTH: 90°/--

BORE No: 109
PROJECT No: 94522.00
DATE: 27/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
23	0	FILLING - brown gravelly clay filling		D/E	0.0 - 0.2		PID< 1		
		0.5m: with some red-brown and grey clay and trace of organic fibres		D/E	0.5 - 0.6		PID< 1		
	1	0.9m - with trace of low strength sandstone cobbles		D/E	1.0 - 1.2		PID< 1		
22	1.3	SILTY CLAY - red-brown silty clay							
	2			D/E	2.0 - 2.2		PID< 1		
21	2.5	Bore discontinued at 2.5m . Target depth reached							
20	3								
19	4								
18	5								
17	6								
16	7								
15	8								
14	9								
13	10								
12	11								

RIG: U35-3 Mini Excavator **DRILLER:** BM **LOGGED:** JJH **CASING:** Uncased
TYPE OF BORING: 150mm diameter solid flight auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Location coordinates are in MGA94 Zone 56.

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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BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 19.5 mAHD
EASTING: 297710
NORTHING: 6270282.4
DIP/AZIMUTH: 90°/--

BORE No: 110
PROJECT No: 94522.00
DATE: 23/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
19	0.0			D/E	0.0				
		FILLING - brown clay filling with some fine to medium gravel			0.2		PID< 1		
	0.5	FILLING - grey and brown clay with trace of fine gravel		D/E	0.5		PID< 1		
				B	0.6				
	1				1.0				1
				S/E			PID< 1		
18	1.3	SILTY CLAY - very stiff, red-brown silty clay, with some fine to medium ironstone gravel		D/E	1.3		4,13,9		
					1.45		N = 22		
							PID< 1		
	2								2
	2.0	SILTY CLAY - very stiff, red and grey mottled silty clay							
17					2.5				
				S/E			6,11,13		
							N = 24		
	2.95				2.95		PID< 1		
	3	Bore discontinued at 2.95m . Target depth reached							3
16	4								4
15	5								5
14	6								6
13	7								7
12	8								8
11	9								9
10	10								10
9	11								11
8									

RIG: Explora **DRILLER:** SS **LOGGED:** JJH **CASING:** Uncased

TYPE OF BORING: 100mm diameter solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Location coordinates are in MGA94 Zone 56.

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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BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 24.6 mAHD
EASTING: 297710.4
NORTHING: 6270175
DIP/AZIMUTH: 90°/--

BORE No: 111
PROJECT No: 94522.00
DATE: 23/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
24	0.7	FILLING - brown gravelly clay filling		D/E	0.0		PID< 1		
					0.2				
				D/E	0.5		PID< 1		
					0.6				
		SILTY CLAY - stiff, red-brown silty clay (possibly filling)		B					
23	1				1.0		2,7,7 N = 14 PID< 1		
				S/E					
					1.45				
	2	2.0m: with some ironstone gravel							
22		2.5m: hard			2.5		19,17,14 N = 31 PID< 1		
				S/E					
	2.95				2.95				
	3	Bore discontinued at 2.95m . Target depth reached							
21	4								
20	5								
19	6								
18	7								
17	8								
16	9								
15	10								
14	11								
13									

RIG: Explora **DRILLER:** SS **LOGGED:** JJH **CASING:** Uncased
TYPE OF BORING: 100mm diameter solid flight auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Location coordinates are in MGA94 Zone 56.

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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BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 24.5 mAHD
EASTING: 297842.5
NORTHING: 6270179.2
DIP/AZIMUTH: 90°/--

BORE No: 112
PROJECT No: 94522.00
DATE: 23/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
24.5	0.0	FILLING - brown-grey gravelly clay filling, with some fine to medium shale gravel		D/E*	0.0 0.2		PID< 1		
				D/E	0.5 0.6		PID< 1		
23.9	0.6	SILTY CLAY - stiff, red-brown and grey silty clay (possibly filling)		B					
				S/E	1.0 1.45		4,4,8 N = 12 PID< 1		
22.5	2.0	2.3m: very stiff, with some weathered shale bands		S/E	2.5		7,10,12 N = 22 PID< 1		
21.55	2.95	Bore discontinued at 2.95m . Target depth reached			2.95				

RIG: Explora **DRILLER:** SS **LOGGED:** JJH **CASING:** Uncased

TYPE OF BORING: 100mm diameter solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Location coordinates are in MGA94 Zone 56. * BD6/20181123 taken at 0-0.2m

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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BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 19.2 mAHD
EASTING: 297746.8
NORTHING: 6270280.4
DIP/AZIMUTH: 90°/--

BORE No: 113
PROJECT No: 94522.00
DATE: 27/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
19	0.0	FILLING - brown gravelly clay filling		D/E	0.0–0.2		PID< 1		
	0.4	SILTY CLAY - red-brown silty clay, with a trace of fine to medium gravel (possibly filling)		D/E	0.5–0.6		PID< 1		
18	1	0.8m: becoming red-orange and grey mottled		D/E	1.0–1.2		PID< 1		1
	1.2	SILTY CLAY - red and light grey mottled silty clay (possibly filling)		D/E	1.5–1.6		PID< 1		
17	1.6	Bore discontinued at 1.6m . Target depth reached							
16	2								2
15	3								3
14	4								4
13	5								5
12	6								6
11	7								7
10	8								8
9	9								9
8	10								10
	11								11

RIG: U35-3 Mini Excavator **DRILLER:** BM **LOGGED:** JJH **CASING:** Uncased
TYPE OF BORING: 150mm diameter solid flight auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Location coordinates are in MGA94 Zone 56.

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

BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 23.4 mAHD
EASTING: 297776.6
NORTHING: 6270230.6
DIP/AZIMUTH: 90°/--

BORE No: 114
PROJECT No: 94522.00
DATE: 27/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
23	0.0	FILLING - brown gravelly clay filling		D/E	0.0 - 0.2		PID< 1		
	0.5			D/E	0.5 - 0.6		PID< 1		
22	1.0			D/E	1.0 - 1.2		PID< 1		
21	2.0			D/E	2.0 - 2.2		PID< 1		
	2.5	Bore discontinued at 2.5m . Target depth reached							

RIG: U35-3 Mini Excavator **DRILLER:** BM **LOGGED:** JJH **CASING:** Uncased
TYPE OF BORING: 150mm diameter solid flight auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Location coordinates are in MGA94 Zone 56.

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

BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 22.7 mAHD
EASTING: 297697.8
NORTHING: 6270246.7
DIP/AZIMUTH: 90°/--

BORE No: 115
PROJECT No: 94522.00
DATE: 27/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
22	0.0	FILLING - brown gravelly clay filling, with some organic fibres		D/E	0.0 - 0.2		PID< 1		
				D/E	0.5 - 0.6		PID< 1		
	1			D/E	1.0 - 1.2		PID< 1		1
21	1.4	FILLING - brown and red mottled clay, with some fine to medium gravel		D/E	1.5 - 1.6		PID< 1		
	1.9	SILTY CLAY - red and grey mottled silty clay, with trace of fine ironstone gravel		D/E	2.0 - 2.2		PID< 1		2
	2.2	Bore discontinued at 2.2m . Target depth reached							
20	3								3
19	4								4
18	5								5
17	6								6
16	7								7
15	8								8
14	9								9
13	10								10
12	11								11
11									

RIG: U35-3 Mini Excavator **DRILLER:** BM **LOGGED:** JJH **CASING:** Uncased
TYPE OF BORING: 150mm diameter solid flight auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Location coordinates are in MGA94 Zone 56. * BD8/20181127 taken at 0-0.2m

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

BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 22.4 mAHD
EASTING: 297838.3
NORTHING: 6270271.3
DIP/AZIMUTH: 90°/--

BORE No: 116
PROJECT No: 94522.00
DATE: 23/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
22	0.0	FILLING - grey-brown clay filling, with some fine to medium gravel		D/E	0.0 0.2		PID< 1		
		0.4m: becoming red-grey		D/E	0.5		PID< 1		
	0.6	SILTY CLAY - red and grey mottled silty clay		D/E	0.6 0.7		PID< 1		
21	1			U_{50}	1.0 1.45				
		1.6m: with some fine to medium ironstone gravel							
20	2	2.0m: very stiff		S/E	2.0 2.45		4,10,12 N = 22 PID< 1		
19	3								
	4	3.8m: possibly weathered shale		S/E	4.0		14,23,25/110 refusal PID< 1		
18	4.3 4.41	SHALE - extremely low to very low strength, grey shale			4.41				
		Bore discontinued at 4.41m							
17	5								
16	6								
15	7								
14	8								
13	9								
12	10								
11	11								

RIG: Explora **DRILLER:** SS **LOGGED:** JJH **CASING:** Uncased

TYPE OF BORING: 100mm diameter solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Location coordinates are in MGA94 Zone 56.

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

BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 21.2 mAHD
EASTING: 297806
NORTHING: 6270270.9
DIP/AZIMUTH: 90°/--

BORE No: 117
PROJECT No: 94522.00
DATE: 23/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
21	0	FILLING - brown gravelly clay filling		D/E	0.0		PID< 1		
					0.2				
		0.4m: with some crushed light grey-yellow sandstone		D/E	0.5		PID< 1		
					0.6				
20	1				1.0				1
				U_{50}					
	1.4	SILTY CLAY - red-brown and grey silty clay, with trace of organic fibres			1.45				
				D/E	1.5		PID< 1		
					1.6				
19	2	2.0m: very stiff			2.0		6,13,14 N = 27 PID< 1		2
				S/E					
					2.45				
18	3								3
	3.9	SHALE - extremely low to very low strength, grey shale			4.0		20,25 refusal PID< 1		
17	4			S					4
	4.45	Bore discontinued at 4.45m			4.45				
16	5								5
15	6								6
14	7								7
13	8								8
12	9								9
11	10								10
10	11								11

RIG: Explora **DRILLER:** SS **LOGGED:** JJH **CASING:** Uncased

TYPE OF BORING: 100mm diameter solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Location coordinates are in MGA94 Zone 56.

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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BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 23.3 mAHD
EASTING: 297828.7
NORTHING: 6270239.4
DIP/AZIMUTH: 90°/--

BORE No: 118
PROJECT No: 94522.00
DATE: 23/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
23	0.0	FILLING - brown gravelly clay filling		D/E	0.0		PID< 1		
					0.1				
				D/E	0.5		PID< 1		
					0.6				
22	1.0			U_{50}	1.0				
	1.5	SILTY CLAY - very stiff, red-brown silty clay, with trace of organic fibres			1.45				
21	2.0			S/E	2.0		7,8,12 N = 20 PID< 1		
					2.45				
20	4.0			U_{50}	4.0				
19	4.4	SILTY CLAY - brown silty clay, with some extremely low strength shale bands			4.45				
18	5.5	SHALE - extremely low to very low strength, grey shale		S/E	5.5		15,25 refusal PID< 1		
17	5.95	Bore discontinued at 5.95m			5.95				
16									
15									
14									
13									
12									

RIG: Explora **DRILLER:** SS **LOGGED:** JJH **CASING:** Uncased

TYPE OF BORING: 100mm diameter solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Location coordinates are in MGA94 Zone 56.

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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BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 20.3 mAHD
EASTING: 297772.6
NORTHING: 6270270.8
DIP/AZIMUTH: 90°/--

BORE No: 119
PROJECT No: 94522.00
DATE: 23/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
20	0.0	FILLING - brown gravelly clay filling		D/E	0.0		PID< 1		
					0.2				
				D/E	0.5		PID< 1		
					0.6				
19	1.0			U_{50}	1.0				
	1.5	SILTY CLAY - red-brown and grey silty clay, with trace of organic fibres			1.45				
18	2.0	2.0m: very stiff		S/E	2.0		5,9,11 N = 20 PID< 1		
					2.45				
17	3.0	3.7m: with some extremely low strength shale bands							
16	4.0	SHALE - extremely low to very low strength, grey shale		S	4.0		17,23,25 N = 48 PID< 1		
	4.4	Bore discontinued at 4.45m			4.45				
15	5.0								
14	6.0								
13	7.0								
12	8.0								
11	9.0								
10	10.0								
9	11.0								

RIG: Explora **DRILLER:** SS **LOGGED:** JJH **CASING:** Uncased

TYPE OF BORING: 100mm diameter solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Location coordinates are in MGA94 Zone 56.

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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BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 24.1 mAHD
EASTING: 297772
NORTHING: 6270207
DIP/AZIMUTH: 90°/--

BORE No: 120
PROJECT No: 94522.00
DATE: 22/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
24	0	FILLING - brown gravelly clay filling		D/E*	0.0		PID< 1		
					0.2				
				D/E	0.5		PID< 1		
					0.6				
23	1	1.0m: with some organic fibres and fine to medium sandstone gravel		S/E	1.0		5,8,16 N = 24 PID< 1		
					1.45				
22	2			D/E	2.0		PID< 1		
					2.2		4,4,7		
		2.3m: becoming red-brown		D/E	2.3		N = 11		
	2.5	SILTY CLAY - red-brown silty clay			2.45		PID< 1		
21	3								
20	4	4.0 SILTY CLAY - very stiff, red and light-grey mottled silty clay		S/E	4.0		4,10,11 N = 21 PID< 1		
					4.45				
19	5	5.2 SILTY CLAY - red-brown and grey silty clay, with extremely low strength shale bands			5.5		10,15,25/110 refusal		
	5.8			S			PID< 1		
18	6	5.91 SHALE - extremely low strength dark grey shale			5.91				
		Bore discontinued at 5.91m . Target depth reached							
17	7								
16	8								
15	9								
14	10								
13	11								

RIG: Explora **DRILLER:** SS **LOGGED:** JJH **CASING:** Uncased

TYPE OF BORING: 100mm diameter solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Location coordinates are in MGA94 Zone 56. * BD3/20181122 taken at 0-0.2m

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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BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 23.8 mAHD
EASTING: 297817.5
NORTHING: 6270218.1
DIP/AZIMUTH: 90°/--

BORE No: 121
PROJECT No: 94522.00
DATE: 27/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
23	0.0	FILLING - brown gravelly clay filling		D/E*	0.0 - 0.2		PID< 1		
				D/E	0.5 - 0.6		PID< 1		
	1			D/E	1.0 - 1.2		PID< 1		
22	1.9	1.8m: with trace of rubber							
	2	SILTY CLAY - brown and red mottled silty clay, with trace of fine to medium gravel		D/E	2.0 - 2.2		PID< 1		
	2.5	Bore discontinued at 2.5m . Target depth reached							
21	3								
20	4								
19	5								
18	6								
17	7								
16	8								
15	9								
14	10								
13	11								
12									

RIG: U35-3 Mini Excavator **DRILLER:** BM **LOGGED:** JJH **CASING:** Uncased
TYPE OF BORING: 150mm diameter solid flight auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Location coordinates are in MGA94 Zone 56. * BD9/20181127 taken at 0-0.2m

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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BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 23.9 mAHD
EASTING: 297735.9
NORTHING: 6270208.9
DIP/AZIMUTH: 90°/--

BORE No: 122
PROJECT No: 94522.00
DATE: 27/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
23	0.0	FILLING - brown gravelly clay filling		D/E	0.0 - 0.2		PID< 1		
				D/E	0.5 - 0.6		PID< 1		
	1			D/E	1.0 - 1.2		PID< 1		1
22	1.6	SILTY CLAY - brown and red mottled silty clay, with some fine to medium ironstone gravel		D/E	2.0 - 2.2		PID< 1		2
	2			D/E	2.5 - 2.7		PID< 1		
21	2.8	Bore discontinued at 2.8m . Target depth reached							3
20	4								4
19	5								5
18	6								6
17	7								7
16	8								8
15	9								9
14	10								10
13	11								11
12									

RIG: U35-3 Mini Excavator **DRILLER:** BM **LOGGED:** JJH **CASING:** Uncased
TYPE OF BORING: 150mm diameter solid flight auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Location coordinates are in MGA94 Zone 56.

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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BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 23.2 mAHD
EASTING: 297747.3
NORTHING: 6270239.2
DIP/AZIMUTH: 90°/--

BORE No: 123
PROJECT No: 94522.00
DATE: 27/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
23	0	FILLING - brown gravelly clay filling with trace of wood and organic fibres at surface		D/E	0.0 0.2		PID< 1		
				D/E	0.5 0.6		PID< 1		
22	1			D/E	1.0 1.2		PID< 1		
21	2	1.8m: with trace of low strength sandstone cobbles		D/E	2.0 2.2		PID< 1		
	2.5	Bore discontinued at 2.5m . Target depth reached							
20	3								
19	4								
18	5								
17	6								
16	7								
15	8								
14	9								
13	10								
12	11								

RIG: U35-3 Mini Excavator **DRILLER:** BM **LOGGED:** JJH **CASING:** Uncased
TYPE OF BORING: 150mm diameter solid flight auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Location coordinates are in MGA94 Zone 56.

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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BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 24.7 mAHD
EASTING: 297741.3
NORTHING: 6270176.7
DIP/AZIMUTH: 90°/--

BORE No: 124
PROJECT No: 94522.00
DATE: 27/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
24.7	0.0								
	0.3	FILLING - brown gravelly clay filling		D/E	0.1–0.2		PID< 1		
		SILTY CLAY - red-orange and grey mottled clay filling, with some fine to medium gravel		D/E	0.5–0.6		PID< 1		
	0.8	SILTY CLAY - grey and red-brown silty clay (possibly filling)		D/E	1.0–1.2		PID< 1		
	1								1
23	2			D/E	2.0–2.2		PID< 1		2
	2.6	SILTY CLAY - red-brown and dark grey mottled silty clay		D/E	2.6–2.7		PID< 1		
22	2.8	Bore discontinued at 2.8m . Target depth reached							
	3								3
21	4								4
20	5								5
19	6								6
18	7								7
17	8								8
16	9								9
15	10								10
14	11								11
13									

RIG: U35-3 Mini Excavator **DRILLER:** BM **LOGGED:** JJH **CASING:** Uncased
TYPE OF BORING: 150mm diameter solid flight auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Location coordinates are in MGA94 Zone 56.

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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BOREHOLE LOG

CLIENT: Mode Design
PROJECT: Proposed Public School
LOCATION: Northbourne Drive, Marsden Park

SURFACE LEVEL: 24.6 mAHD
EASTING: 297809
NORTHING: 6270181
DIP/AZIMUTH: 90°/--

BORE No: 125
PROJECT No: 94522.00
DATE: 27/11/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
24	0	FILLING - brown gravelly clay filling		D/E*	0.0 - 0.2		PID< 1		
				D/E	0.5 - 0.6		PID< 1		
	1			D/E	1.0 - 1.2		PID< 1		
23	1.2	SILTY CLAY - red-brown silty clay							
	2			D/E	2.0 - 2.2		PID< 1		
22	2.4	Bore discontinued at 2.4m . Target depth reached							
21	3								
20	4								
19	5								
18	6								
17	7								
16	8								
15	9								
14	10								
13	11								

RIG: U35-3 Mini Excavator **DRILLER:** BM **LOGGED:** JJH **CASING:** Uncased
TYPE OF BORING: 150mm diameter solid flight auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Location coordinates are in MGA94 Zone 56. * BD7/20181127 taken at 0-0.2m

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

BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 22.9 mAHD
EASTING: 297846.8
NORTHING: 6270257.1
DIP/AZIMUTH: 90°/--

BORE No: 201
PROJECT No: 94522.01
DATE: 14/6/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
22	0.0	FILL - brown, silty clay fill with some gravel, w<PL		D/E	0.0				
					0.2				
				D/E	0.4				
					0.5				
	0.8	FILL - grey mottled red-brown, silty clay fill, w<PL		D/E	0.9				
	1.0	Bore discontinued at 1.0m			1.0				
21	1								1
	2								2
20	3								3
19	4								4
18									

RIG: 3.5 tonne excavator **DRILLER:** BM **LOGGED:** JY **CASING:** Uncased
TYPE OF BORING: 110mm diameter solid flight auger
WATER OBSERVATIONS: No free ground water observed
REMARKS: BD1/20190614 sampled at 0-0.2m

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

BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 23.1 mAHD
EASTING: 297829.8
NORTHING: 6270247.8
DIP/AZIMUTH: 90°/--

BORE No: 202
PROJECT No: 94522.01
DATE: 14/6/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
23		FILL - brown, silty clay fill with some gravel, w<PL		D/E	0.0				
					0.2				
				D/E	0.4				
					0.5				
					0.9				
	1			D/E	1.0				1
22									
	1.5	FILL - Grey, gravelly clay fill, w<PL		D/E	1.5				
	1.6	- Possible service pipe encountered or trench Bore discontinued at 1.6m			1.6				
	2								2
21									
	3								3
20									
	4								4
19									

RIG: 3.5 tonne excavator **DRILLER:** BM **LOGGED:** JY **CASING:** Uncased
TYPE OF BORING: 110mm diameter solid flight auger
WATER OBSERVATIONS: No free ground water observed
REMARKS: BD2/20190614 sampled at 0-0.2m

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

BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 22.7 mAHD
EASTING: 297816.7
NORTHING: 6270268
DIP/AZIMUTH: 90°/--

BORE No: 203
PROJECT No: 94522.01
DATE: 14/6/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
22	0	FILL - brown, silty clay fill with gravel, w<PL		D/E	0.0				
					0.2				
				D/E	0.4				
					0.5				
	1	- Grey in colouor between 1-1.3m							1
				D/E	1.5				
21					1.6				
	2	FILL - grey mottled brown, silty clay fill with gravel, w<PL							2
	2.0								
20		- Becoming brown mottled grey with a trace of gravel from 2.5m		D/E	2.9				
	3				3.0				3
	3.0	Bore discontinued at 3.0m							
19	4								4
18									

RIG: 3.5 tonne excavator **DRILLER:** BM **LOGGED:** JY **CASING:** Uncased
TYPE OF BORING: 110mm diameter solid flight auger
WATER OBSERVATIONS: No free ground water observed
REMARKS:

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

BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 22.7 mAHD
EASTING: 297796.6
NORTHING: 6270262.8
DIP/AZIMUTH: 90°/--

BORE No: 204
PROJECT No: 94522.01
DATE: 14/6/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
22	0.0	FILL- brown, silty clay fill with gravel, w<PL		D/E	0.0				
					0.2				
				D/E	0.4				
					0.5				
	0.9				0.9				
	1.0	FILL - grey, gravelly clay fill with rippsed shale, w<PL		D/E	1.0				
		Bore discontinued at 1.0m							

RIG: 3.5 tonne excavator **DRILLER:** BM **LOGGED:** JY **CASING:** Uncased
TYPE OF BORING: 110mm diameter solid flight auger
WATER OBSERVATIONS: No free ground water observed
REMARKS:

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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BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 22.2 mAHD
EASTING: 297783.3
NORTHING: 6270281.5
DIP/AZIMUTH: 90°/--

BORE No: 205
PROJECT No: 94522.01
DATE: 14/6/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
22	0.0	FILL - grey-brown, silty clay fill with gravel, w<PL		D/E	0.0				
					0.2				
				D/E	0.4				
					0.5				
				D/E					
				D/E	0.9				
21	1.0	FILL - grey mottled red, silty clay fill, w<PL			1.0				
				D/E	1.5				
					1.6				
				D/E	1.9				
20	2.0	- Becoming grey mottled red with a trace of gravel from 2.3m			2.0				
				D/E	2.9				
19	3.0	Bore discontinued at 3.0m			3.0				
18	4.0								

RIG: 3.5 tonne excavator **DRILLER:** BM **LOGGED:** JY **CASING:** Uncased
TYPE OF BORING: 110mm diameter solid flight auger
WATER OBSERVATIONS: No free ground water observed
REMARKS:

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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BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 22.6 mAHD
EASTING: 297771.1
NORTHING: 6270265.8
DIP/AZIMUTH: 90°/--

BORE No: 206
PROJECT No: 94522.01
DATE: 14/6/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
22	0.0	FILL - brown, silty clay fill with gravel, w<PL		D/E	0.0 - 0.2				
	0.4	FILL - pale brown, sandy clay fill with gravel, w<PL		D/E	0.4 - 0.5				
	0.8	FILL - brown, silty clay fill with gravel, w<PL		D/E	0.9 - 1.0				
21	1								1
				D/E	1.9 - 2.0				
20	2								2
				D/E	2.9 - 3.0				
19	3	3.0 Bore discontinued at 3.0m							3
	4								4
18									

RIG: 3.5 tonne excavator **DRILLER:** BM **LOGGED:** JY **CASING:** Uncased
TYPE OF BORING: 110mm diameter solid flight auger
WATER OBSERVATIONS: No free ground water observed
REMARKS:

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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BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 22.4 mAHD
EASTING: 297755.5
NORTHING: 6270279.5
DIP/AZIMUTH: 90°/--

BORE No: 207
PROJECT No: 94522.01
DATE: 14/6/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
22	0.0	FILL - brown, silty clay fill with gravel, w<PL		D/E	0.0				
					0.2				
				D/E	0.4				
					0.5				
	0.7	FILL - grey, sandy clay fill with gravel and silt, w<PL							
	1			D/E	0.9				1
					1.0				
	1.2	FILL - grey-brown, silty clay fill with a trace of gravel, w<PL							
21									
	2				1.9				2
20		- Becoming grey mottled red at 2.4m		D/E					
	3				2.9				3
	3.0	Bore discontinued at 3.0m							
19									
	4								4
18									

RIG: 3.5 tonne excavator **DRILLER:** BM **LOGGED:** JY **CASING:** Uncased
TYPE OF BORING: 110mm diameter solid flight auger
WATER OBSERVATIONS: No free ground water observed
REMARKS: BD3/20190614 sampled at 0-0.2m

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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BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 22.7 mAHD
EASTING: 297741.9
NORTHING: 6270265.4
DIP/AZIMUTH: 90°/--

BORE No: 208
PROJECT No: 94522.01
DATE: 14/6/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
22	0	FILL - grey-brown, silty clay fill with gravel and sand, w<PL		D/E	0.0				
					0.2				
				D/E	0.4				
					0.5				
	1			D/E	0.9				
					1.0				
21									
	2				1.9				
				D/E					
20									
	3			D/E	2.9				
	3.0	Bore discontinued at 3.0m			3.0				
19	4								
18									

RIG: 3.5 tonne excavator **DRILLER:** BM **LOGGED:** JY **CASING:** Uncased
TYPE OF BORING: 110mm diameter solid flight auger
WATER OBSERVATIONS: No free ground water observed
REMARKS:

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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BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 22.1 mAHD
EASTING: 297721.8
NORTHING: 6270284.8
DIP/AZIMUTH: 90°/--

BORE No: 209
PROJECT No: 94522.01
DATE: 18/6/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
22	0.0	FILL - brown, silty clay fill with gravel, w<PL		D/E	0.0				
					0.2				
				D/E	0.4				
					0.5				
					0.9				
21	1			D/E	1.0				1
	1.3	Fill - grey-brown,silty clay fill with ripped shale gravel, w<PL							
					1.9				
20	2			D/E	2.0				2
		- Becoming grey with some gravel at 2.5m							
					2.9				
19	3			D/E	3.0				3
	3.0	Bore discontinued at 3.0m							
18	4								4

RIG: 3.5 tonne excavator **DRILLER:** BM **LOGGED:** JY **CASING:** Uncased

TYPE OF BORING: 110mm diameter solid flight auger

WATER OBSERVATIONS: No free ground water observed

REMARKS: BD1/20190618 and BD2/20190618 sampled at 0-0.2m

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

BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 22.9 mAHD
EASTING: 297754.9
NORTHING: 6270256.6
DIP/AZIMUTH: 90°/--

BORE No: 210
PROJECT No: 94522.01
DATE: 18/6/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
22	0.0	FILL - brown, silty clay fill with gravel, w<PL		D/E	0.0				
					0.2				
				D/E	0.4				
					0.5				
	1			D/E	0.9				1
					1.0				
21				D/E	1.9				
	2				2.0				2
	2.5	FILL - brown, gravelly clay fill, w<PL							
20	3			D/E	2.9				
	3.0	Bore discontinued at 3.0m			3.0				3
19	4								4
18									

RIG: 3.5 tonne excavator **DRILLER:** BM **LOGGED:** JY **CASING:** Uncased
TYPE OF BORING: 110mm diameter solid flight auger
WATER OBSERVATIONS: No free ground water observed
REMARKS:

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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BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 22.5 mAHD
EASTING: 297714.4
NORTHING: 6270263.4
DIP/AZIMUTH: 90°/--

BORE No: 211
PROJECT No: 94522.01
DATE: 18/6/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
22	0.0	FILL - grey-brown, silty clay fill with sand and fine to medium gravel, w<PL		D/E	0.0 - 0.2				
				D/E	0.4 - 0.5				
	0.8	Silty CLAY - stiff to very stiff, grey mottled brown, silty clay with gravel, w<PL (possibly fill to 1.5 m depth)		D/E	0.9 - 1.0				
21	1	- Becoming grey at 1.2m							
		- Becoming brown at 1.6m		D/E	1.9 - 2.0				
20	2								
				D/E	2.9 - 3.0				
19	3	3.0 Bore discontinued at 3.0m							
18	4								

RIG: 3.5 tonne excavator **DRILLER:** BM **LOGGED:** JY **CASING:** Uncased
TYPE OF BORING: 110mm diameter solid flight auger
WATER OBSERVATIONS: No free ground water observed
REMARKS:

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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BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 22.0 mAHD
EASTING: 297690.6
NORTHING: 6270272.6
DIP/AZIMUTH: 90°/--

BORE No: 212
PROJECT No: 94522.01
DATE: 18/6/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
22	0	FILL - brown, silty clay fill with gravel, w<PL		D/E	0.0				
					0.2				
				D/E	0.4				
					0.5				
					0.9				
21	1			D/E	1.0				1
		- Becoming grey brown at 1.2m							
					1.9				
20	2			D/E	2.0				2
					2.9				
19	3			D/E	3.0				3
	3.0	Bore discontinued at 3.0m							
18	4								4

RIG: 3.5 tonne excavator **DRILLER:** BM **LOGGED:** JY **CASING:** Uncased
TYPE OF BORING: 110mm diameter solid flight auger
WATER OBSERVATIONS: No free ground water observed
REMARKS:

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

BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 22.1 mAHD
EASTING: 297663.6
NORTHING: 6270255.7
DIP/AZIMUTH: 90°/--

BORE No: 213
PROJECT No: 94522.01
DATE: 18/6/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
22	0	FILL - brown, silty clay fill with gravel, w<PL		D/E	0.0				
					0.2				
				D/E	0.4				
					0.5				
					0.9				
21	1			D/E	1.0				1
					1.9				
				D/E	2.0				
20	2								2
					2.9				
	3	3.0		D/E	3.0				3
19		Bore discontinued at 3.0m							
	4								4
18									

RIG: 3.5 tonne excavator **DRILLER:** BM **LOGGED:** JY **CASING:** Uncased
TYPE OF BORING: 110mm diameter solid flight auger
WATER OBSERVATIONS: No free ground water observed
REMARKS:

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

BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 23.2 mAHD
EASTING: 297693.7
NORTHING: 6270227.7
DIP/AZIMUTH: 90°/--

BORE No: 214
PROJECT No: 94522.01
DATE: 18/6/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
23	0.0	FILL - grey-brown, silty clay fill with gravel, w<PL		D/E	0.0				
					0.2				
				D/E	0.4				
		- Becoming pale brown at 0.5m			0.5				
				D/E	0.9				
22	1.0	FILL - grey, sandy gravel fill, w<PL			1.0				1
	1.5	FILL - brown, silty clay fill with gravel, w<PL							
21	2			D/E	1.9				2
					2.0				
	2.9	Silty CLAY- very stiff, grey mottled red, silty clay with gravel, w<PL (possibly fill)		D/E	2.9				
20	3				3.0				3
	3.0	Bore discontinued at 3.0m							
19	4								4

RIG: 3.5 tonne excavator **DRILLER:** BM **LOGGED:** JY **CASING:** Uncased
TYPE OF BORING: 110mm diameter solid flight auger
WATER OBSERVATIONS: No free ground water observed
REMARKS: BD4/20190618 sampled at 0-0.2m

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

BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 23.7 mAHD
EASTING: 297664.9
NORTHING: 6270187.7
DIP/AZIMUTH: 90°/--

BORE No: 215
PROJECT No: 94522.01
DATE: 18/6/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
23	0.0	FILL - grey-brown, sandy gravel fill with clay,		D/E	0.0				
					0.2				
				D/E	0.4				
	0.5	FILL - red-brown, sandy clay fill with gravel, w<PL			0.5				
				D/E	0.9				
22	1.0	FILL - grey-brown, silty clay fill with gravel, w<PL			1.0				
	1.8	Silty CLAY - hard, brown, silty clay, w<PL		D/E	1.9				
21	2.0	Bore discontinued at 2.0m			2.0				
20									
19									

RIG: 3.5 tonne excavator **DRILLER:** BM **LOGGED:** JY **CASING:** Uncased
TYPE OF BORING: 110mm diameter solid flight auger
WATER OBSERVATIONS: No free ground water observed
REMARKS: BD5/20190618 sampled at 0-0.2m

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

BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 24.0 mAHD
EASTING: 297698
NORTHING: 6270191.5
DIP/AZIMUTH: 90°/--

BORE No: 216
PROJECT No: 94522.01
DATE: 18/6/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
24	0.05	FILL - brown, silty clay fill with gravel and a trace of vegetation, w<PL		D/E	0.0				
		FILL- grey-brown, silty clay fill with gravel, w<PL			0.2				
				D/E	0.4				
				B	0.5		0-1.0 = B		
23	1			D/E	0.9				1
					1.0				
22	2								2
	2.5	FILL - grey, gravelly clay fill, w<PL							
21	3	3.0 Bore discontinued at 3.0m							3
20	4								4

RIG: 3.5 tonne excavator **DRILLER:** BM **LOGGED:** JY **CASING:** Uncased
TYPE OF BORING: 110mm diameter solid flight auger
WATER OBSERVATIONS: No free ground water observed
REMARKS:

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

BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 24.0 mAHD
EASTING: 297681.1
NORTHING: 6270175.2
DIP/AZIMUTH: 90°/--

BORE No: 217
PROJECT No: 94522.01
DATE: 18/6/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
24	0.0	FILL - brown, gravelly clay fill, w<PL			0.0				
					0.2				
	0.3	FILL - pale grey, silty clay with gravel, w<PL			0.4				
				B	0.5		0-1.0 = B		
23	1.0	Bore discontinued at 1.0m			1.0				
22	2								
21	3								
20	4								

RIG: 3.5 tonne excavator **DRILLER:** BM **LOGGED:** JY **CASING:** Uncased
TYPE OF BORING: 110mm diameter solid flight auger
WATER OBSERVATIONS: No free ground water observed
REMARKS:

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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BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 22.0 mAHD
EASTING: 297658.4
NORTHING: 6270265.9
DIP/AZIMUTH: 90°/--

BORE No: 218
PROJECT No: 94522.01
DATE: 1/7/2019
SHEET 1 OF 2

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
22		FILL - grey-brown, silty clay fill with gravel, w<PL							
		- becoming brown from 0.5m							
21	1				1.0				1
		- becoming grey-brown with a trace of ripped shale and sandstone between 1-2m		S			6,4,9 N = 13		
					1.45				
20	2	2.0 FILL - grey mottled brown and orange silty clay fill with a trace of gravel, w<PL							2
					2.5				
				S			7,10,8 N = 18		
19	3				2.95				3
		3.5 Silty CLAY - stiff, brown mottled grey, silty clay, w<PL							
18	4	4.0 Silty CLAY - very stiff to hard brown, silty clay with trace of carbonceous material, w<PL			4.0				4
				S			3,6,8 N = 14		
					4.45				
		4.8 Silty CLAY - stiff, brown, silty clay, w<PL							

RIG: Geo-205 **DRILLER:** Terratest **LOGGED:** JY **CASING:** Uncased

TYPE OF BORING: 110mm diameter solid flight auger

WATER OBSERVATIONS: No free ground water observed

REMARKS: Groundwater well installed to 6.9m BGL, 0-3.9m blank and 3.96.9m screen with 1.07m stickup

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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BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 22.0 mAHD
EASTING: 297658.4
NORTHING: 6270265.9
DIP/AZIMUTH: 90°/--

BORE No: 218
PROJECT No: 94522.01
DATE: 1/7/2019
SHEET 2 OF 2

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
17		Silty CLAY - stiff, brown, silty clay, w<PL *(continued)*							
		-becoming firm to stiff and brown mottled grey from 5.2m							
	5.5	Silty CLAY - very stiff, grey mottled brown silty clay, w<PL			5.5				
				S			5,8,14 N = 22		
16	6				5.95				6
15	7	7.0 SHALE - very low strength, grey shale		S	7.0		12,21,30/70 refusal		7
		7.37 Bore discontinued at 7.37m			7.37				
14	8								8
13	9								9

RIG: Geo-205 **DRILLER:** Terratest **LOGGED:** JY **CASING:** Uncased

TYPE OF BORING: 110mm diameter solid flight auger

WATER OBSERVATIONS: No free ground water observed

REMARKS: Groundwater well installed to 6.9m BGL, 0-3.9m blank and 3.96.9m screen with 1.07m stickup

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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BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 24.6 mAHD
EASTING: 297744.3
NORTHING: 6270183.9
DIP/AZIMUTH: 90°/--

BORE No: 219
PROJECT No: 94522.01
DATE: 1/7/2019
SHEET 1 OF 2

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
24		FILL- brown mottled grey, silty clay fill with a trace of sand and gravel, w<PL		D	0.4 0.5				
	1.0	FILL - grey, silty clay fill with gravel, w<PL		S	1.0		6,11,9 N = 20		
23	1.5	FILL - grey, gravelly clay fill, w<PL			1.45				
	2.0	FILL - grey-brown, sily clay fill with gravel and a trace of sand, w<PL		S	2.5		5,7,10 N = 17		
22		-becoming dark grey at 2.7m			2.95				
21	3.5	Silty CLAY - apparently stiff to very stiff, grey, silty clay with a trace of gravel, moist, W<PL							
	4.0	Silty CLAY - very stiff, grey mottled red-brown, silty clay with a trace of gravel, w<PL		S	4.0		7,7,11 N = 18		
20		-becoming red-brown mottled grey at 4.5m			4.45				

RIG: Geo-205 **DRILLER:** Terratest **LOGGED:** JY **CASING:** Uncased

TYPE OF BORING: 110mm diameter solid flight auger

WATER OBSERVATIONS: No free ground water observed

REMARKS: Borehole backfilled to 6m BGL with gravel screening then groundwater well installed to 6m. 0.3m blank and 3-6m screen with 1.11 stickup

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

BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 24.6 mAHD
EASTING: 297744.3
NORTHING: 6270183.9
DIP/AZIMUTH: 90°/--

BORE No: 219
PROJECT No: 94522.01
DATE: 1/7/2019
SHEET 2 OF 2

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
19		Silty CLAY - very stiff, grey mottled red-brown, silty clay with a trace of gravel, w<PL *(continued)*							
					5.5				
	5.7	SHALE - very low strength, grey, shale		S			11,20,25/100 refusal		
	6				5.9				6
	6.5	Bore discontinued at 6.5m							
18									
	7								7
17									
	8								8
16									
	9								9
15									

RIG: Geo-205 **DRILLER:** Terratest **LOGGED:** JY **CASING:** Uncased

TYPE OF BORING: 110mm diameter solid flight auger

WATER OBSERVATIONS: No free ground water observed

REMARKS: Borehole backfilled to 6m BGL with gravel screening then groundwater well installed to 6m. 0.3m blank and 3-6m screen with 1.11 stickup

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

BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 22.6 mAHD
EASTING: 297813.9
NORTHING: 6270244.4
DIP/AZIMUTH: 90°/--

BORE No: 220
PROJECT No: 94522.01
DATE: 1/7/2019
SHEET 1 OF 2

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
22		FILL - brown, silty clay fill with some sand and a trace of gravel, w<PL		D	0.4 0.5				
	1.0	FILL- grey-brown, gravelly sand fill with clay, w<PL		S	1.0 1.45		8,13,10 N = 23		
21	2.0	Silty CLAY - very stiff, brown mottled grey silty clay with a trace of gravel, damp (possibly filling)							
		- some carbonaceous material at 2.6m		S	2.5 2.95		4,5,8 N = 13		
20		-becoming grey mottled red at 2.7m							
	3.5	Silty CLAY - stiff to very stiff, brown, silty clay, w<PL		D	3.8				
19		- becoming pale grey mottled pale brown							
	4.0	Silty CLAY - very stiff to hard, grey speckled red and ornge, silty clay with a trace of carbonaceous material, w<PL		S	4.0 4.45		4,7,8 N = 15		
18									

RIG: Geo-205 **DRILLER:** Terratest **LOGGED:** JY **CASING:** Uncased

TYPE OF BORING: 110mm diameter solid flight auger

WATER OBSERVATIONS: No free ground water observed

REMARKS: Borehole backfilled to 5.9m BGL with gravel screening then groundwater well installed to 5.9m. 0-2.9m blank and 2.9-5.9m screen with 1.04m stickup

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

BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 22.6 mAHD
EASTING: 297813.9
NORTHING: 6270244.4
DIP/AZIMUTH: 90°/--

BORE No: 220
PROJECT No: 94522.01
DATE: 1/7/2019
SHEET 2 OF 2

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
		Silty CLAY - very stiff to hard, grey speckled red and ornge, silty clay with a trace of carbonaceous material, w<PL *(continued)*							
		- with rock structure							
17	5.5	SHALE - very low strength, grey, shale		S	5.5		19,60/150 refusal		
	6				5.95				6
	6.5	Bore discontinued at 6.5m							
16	7								7
15	8								8
14	9								9
13									

RIG: Geo-205 **DRILLER:** Terratest **LOGGED:** JY **CASING:** Uncased

TYPE OF BORING: 110mm diameter solid flight auger

WATER OBSERVATIONS: No free ground water observed

REMARKS: Borehole backfilled to 5.9m BGL with gravel screening then groundwater well installed to 5.9m. 0-2.9m blank and 2.9-5.9m screen with 1.04m stickup

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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BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 23.2 mAHD
EASTING: 297732.6
NORTHING: 6270249.6
DIP/AZIMUTH: 90°/--

BORE No: 221
PROJECT No: 94522.01
DATE: 1/7/2019
SHEET 1 OF 2

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
23		FILL - grey-brown, silty clay fill with a trace of sand, gravel and ripped sandstone, w<PL							
	1			S	1.0		3,6,10 N = 16		1
22					1.45				
		- becoming grey, some gravel from 1.5m							
	2								2
21					2.5				
	2.6	Silty CLAY - stiff, grey mottled brown, silty clay with a trace of gravel, w<PL		S			3,5,5 N = 10		
	3				2.95				3
20		- becoming stiff to very stiff and pale grey mottled red from 3.5m							
	4				4.0				4
19				S			4,6,10 N = 16		
					4.45				

RIG: Geo-205 **DRILLER:** Terratest **LOGGED:** JY **CASING:** Uncased
TYPE OF BORING: 110mm diameter solid flight auger
WATER OBSERVATIONS: No free ground water observed
REMARKS:

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

BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 23.2 mAHD
EASTING: 297732.6
NORTHING: 6270249.6
DIP/AZIMUTH: 90°/--

BORE No: 221
PROJECT No: 94522.01
DATE: 1/7/2019
SHEET 2 OF 2

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
18		Silty CLAY - stiff, grey mottled brown, silty clay with a trace of gravel, w<PL *(continued)*							
				S	5.5		10,12,21 N = 33		
	5.9								
	5.95	SHALE - very low strength, grey, shale			5.95				
	6	Bore discontinued at 5.95m							6
17									
	7								7
16									
	8								8
15									
	9								9
14									

RIG: Geo-205 **DRILLER:** Terratest **LOGGED:** JY **CASING:** Uncased
TYPE OF BORING: 110mm diameter solid flight auger
WATER OBSERVATIONS: No free ground water observed
REMARKS:

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

BOREHOLE LOG

CLIENT: SINSW
PROJECT: Proposed School Development
LOCATION: Northbourne Dr, Marsden Park

SURFACE LEVEL: 22.9 mAHD
EASTING: 297663
NORTHING: 6270223.8
DIP/AZIMUTH: 90°/--

BORE No: 222
PROJECT No: 94522.01
DATE: 1/1/0719
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	VWP Construction Details
22	0	FILL - brown,silty clay fill with a trace of sand gravel, w<PL							
	1	- trace of ripped sandstone at 1m							
	1.5	Bore discontinued at 1.5m							
21	2								
20	3								
19	4								
18									

RIG: Geo-205 **DRILLER:** Terratest **LOGGED:** JY **CASING:** Uncased
TYPE OF BORING: 110mm diameter solid flight auger
WATER OBSERVATIONS: No free ground water observed
REMARKS:

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



Photo 1 - Open Test Pit 223



Photo 2 - Test pit spoil

Douglas Partners Geotechnics / Environment / Groundwater	**Test Pit 223**	PROJECT:	94522.01
	Proposed School Development	PLATE No:	1
	Northbourne Dr, Marsden Park	REV:	A
	CLIENT: SINSW	DATE:	11-Jul-19



Photo 3 - Open Test Pit 224



Photo 4 - Excavated sandstone boulder (approx 400m)

Douglas Partners Geotechnics / Environment / Groundwater	**Test Pit 224**	PROJECT: 94522.01
	Proposed School Development	PLATE No: 2
	Northbourne Dr, Marsden Park	REV: A
	CLIENT: SINSW	DATE: 11-Jul-19



Photo 5 - Open Test Pit 225



Photo 6 - Test pit 225 spoil

Douglas Partners Geotechnics / Environment / Groundwater	**Test Pit 225**	PROJECT:	94522.01
	Proposed School Development	PLATE No:	3
	Northbourne Dr, Marsden Park	REV:	A
	CLIENT: SINSW	DATE:	11-Jul-19



Photo 7 - Open Test Pit 226



Photo 8 - Test Pit 226 Spoil

Douglas Partners Geotechnics / Environment / Groundwater	**Test Pit 226**	PROJECT: 94522.01
	Proposed School Development	PLATE No: 4
	Northbourne Dr, Marsden Park	REV: A
	CLIENT: SINSW	DATE: 11-Jul-19



Photo 9 - Open Test Pit 227



Photo 10 - Sandstone Boulder found in TP227

Douglas Partners Geotechnics / Environment / Groundwater	**Test Pit 227**	PROJECT: 94522.01
	Proposed School Development	PLATE No: 5
	Northbourne Dr, Marsden Park	REV: A
	CLIENT: SINSW	DATE: 11-Jul-19



Photo 11 - Open Test Pit 228



Photo 12 - Test Pit 228 Spoil (some concrete fragments up to 300mm)

Douglas Partners Geotechnics / Environment / Groundwater	**Test Pit 228**	PROJECT: 94522.01
	Proposed School Development	PLATE No: 6
	Northbourne Dr, Marsden Park	REV: A
	CLIENT: SINSW	DATE: 11-Jul-19



Photo 13 - Open Test Pit 229



Photo 14 - Test Pit 229 Spoil

Douglas Partners Geotechnics / Environment / Groundwater	**Test Pit 229**	PROJECT: 94522.01
	Proposed School Development	PLATE No: 7
	Northbourne Dr, Marsden Park	REV: A
	CLIENT: SINSW	DATE: 11-Jul-19



Photo 15 - Open Test Pit 230



Photo 16 - Sandstone boulder in TP230 spoil

Douglas Partners Geotechnics / Environment / Groundwater	**Test Pit 230** **Proposed School Development** **Northbourne Dr, Marsden Park**	PROJECT: 94522.01 PLATE No: 8 REV: A
	CLIENT: SINSW	DATE: 11-Jul-19



Photo 17 - Open Test Pit 231



Photo 18 - Test Pit 231 Spoil

Douglas Partners Geotechnics / Environment / Groundwater	**Test Pit 231**	PROJECT: 94522.01
	Proposed School Development	PLATE No: 9
	Northbourne Dr, Marsden Park	REV: A
	CLIENT: SINSW	DATE: 11-Jul-19



Photo 19 - Open Test Pit 232



Photo 20 - Sandstone boulder



Photo 21 - Test Pit 232 Spoil

Douglas Partners Geotechnics / Environment / Groundwater	**Test Pit 232**	PROJECT: 94522.01
	Proposed School Development	PLATE No: 10
	Northbourne Dr, Marsden Park	REV: A
	CLIENT: SINSW	DATE: 11-Jul-19

Appendix E

Site Assessment Criteria

Appendix F

Laboratory Test Results

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 206600

Client Details

Client	Douglas Partners Pty Ltd
Attention	Gavin Boyd, Joel James-Hall
Address	96 Hermitage Rd, West Ryde, NSW, 2114

Sample Details

Your Reference	**94522.00, Proposed Public School**
Number of Samples	38 Soil
Date samples received	26/11/2018
Date completed instructions received	26/11/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	03/12/2018
Date of Issue	03/12/2018

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Asbestos Approved By
Analysed by Asbestos Approved Identifier: Lucy Zhu
Authorised by Asbestos Approved Signatory: Matt Tang

Results Approved By
Jeremy Faircloth, Organics Supervisor
Long Pham, Team Leader, Metals
Matthew Tang, Asbsestos Analyst
Priya Samarawickrama, Senior Chemist
Steven Luong, Senior Chemist

Authorised By



Jacinta Hurst, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206600-1	206600-2	206600-3	206600-4	206600-5
Your Reference	UNITS	BD1/20181121	BD2/20181122	BD3/20181122	BD4/20181122	BD5/20181122
Depth		-	-	-	-	-
Date Sampled		21/11/2018	22/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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	%	96	94	94	95	93

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206600-6	206600-7	206600-8	206600-9	206600-11
Your Reference	UNITS	TS-1	TB-1	BH101	BH101	BH102
Depth		-	-	0-0.2	0.7-0.8	2.2-2.4
Date Sampled		-	-	21/11/2018	21/11/2018	21/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
TRH C_6 - C_9	mg/kg	[NA]	[NA]	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	[NA]	[NA]	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	[NA]	[NA]	<25	<25	<25
Benzene	mg/kg	98%	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	97%	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	96%	<1	<1	<1	<1
m+p-xylene	mg/kg	99%	<2	<2	<2	<2
o-Xylene	mg/kg	95%	<1	<1	<1	<1
naphthalene	mg/kg	[NA]	[NA]	<1	<1	<1
Total +ve Xylenes	mg/kg	[NA]	[NA]	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	86	95	87	92	90

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206600-12	206600-13	206600-14	206600-15	206600-16
Your Reference	UNITS	BH103	BH103	BH103	BH103	BH104
Depth		0-0.2	2.4-2.5	3.55-4.0	5.05-5.55	0-0.2
Date Sampled		22/11/2018	22/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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	%	95	97	92	93	96

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206600-17	206600-18	206600-19	206600-20	206600-21
Your Reference	UNITS	BH104	BH105	BH105	BH106	BH110
Depth		4.0-4.45	0-0.2	3.5-3.7	0.5-0.6	0.5-0.6
Date Sampled		22/11/2018	22/11/2018	22/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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	%	88	94	94	100	98

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206600-22	206600-23	206600-24	206600-25	206600-26
Your Reference	UNITS	BH110	BH110	BH111	BH112	BH112
Depth		1.0-1.3	1.3-1.45	0.5-0.6	0-0.2	2.5-2.95
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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	%	96	99	93	95	94

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206600-27	206600-28	206600-29	206600-30	206600-31
Your Reference	UNITS	BH116	BH116	BH116	BH117	BH117
Depth		0-0.2	0.5-0.6	0.6-0.7	0.5-0.6	1.5-1.6
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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	%	96	94	94	96	94

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206600-32	206600-33	206600-34	206600-35	206600-36
Your Reference	UNITS	BH118	BH118	BH119	BH119	BH120
Depth		0-0.2	2.0-2.45	0.5-0.6	2.0-2.45	0-0.2
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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	%	93	96	97	98	92

vTRH(C6-C10)/BTEXN in Soil			
Our Reference		206600-37	206600-38
Your Reference	UNITS	BH120	BH120
Depth		2.3-2.45	4.0-4.45
Date Sampled		23/11/2018	232/11/2018
Type of sample		Soil	Soil
Date extracted	-	28/11/2018	28/11/2018
Date analysed	-	30/11/2018	30/11/2018
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	<1	<1
Surrogate aaa-Trifluorotoluene	%	101	97

svTRH (C10-C40) in Soil						
Our Reference		206600-1	206600-2	206600-3	206600-4	206600-5
Your Reference	UNITS	BD1/20181121	BD2/20181122	BD3/20181122	BD4/20181122	BD5/20181122
Depth		-	-	-	-	-
Date Sampled		21/11/2018	22/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
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
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	%	100	88	89	87	86

svTRH (C10-C40) in Soil						
Our Reference		206600-8	206600-9	206600-11	206600-12	206600-13
Your Reference	UNITS	BH101	BH101	BH102	BH103	BH103
Depth		0-0.2	0.7-0.8	2.2-2.4	0-0.2	2.4-2.5
Date Sampled		21/11/2018	21/11/2018	21/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
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
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	%	87	86	86	87	88

svTRH (C10-C40) in Soil						
Our Reference		206600-14	206600-15	206600-16	206600-17	206600-18
Your Reference	UNITS	BH103	BH103	BH104	BH104	BH105
Depth		3.55-4.0	5.05-5.55	0-0.2	4.0-4.45	0-0.2
Date Sampled		22/11/2018	22/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
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
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	%	86	85	86	85	85

svTRH (C10-C40) in Soil						
Our Reference		206600-19	206600-20	206600-21	206600-22	206600-23
Your Reference	UNITS	BH105	BH106	BH110	BH110	BH110
Depth		3.5-3.7	0.5-0.6	0.5-0.6	1.0-1.3	1.3-1.45
Date Sampled		22/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	30/11/2018	30/11/2018	30/11/2018
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
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	85	85	85	88

svTRH (C10-C40) in Soil						
Our Reference		206600-24	206600-25	206600-26	206600-27	206600-28
Your Reference	UNITS	BH111	BH112	BH112	BH116	BH116
Depth		0.5-0.6	0-0.2	2.5-2.95	0-0.2	0.5-0.6
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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
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	86	85	85	84

svTRH (C10-C40) in Soil						
Our Reference		206600-29	206600-30	206600-31	206600-32	206600-33
Your Reference	UNITS	BH116	BH117	BH117	BH118	BH118
Depth		0.6-0.7	0.5-0.6	1.5-1.6	0-0.2	2.0-2.45
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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
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	%	83	83	83	83	83

svTRH (C10-C40) in Soil						
Our Reference		206600-34	206600-35	206600-36	206600-37	206600-38
Your Reference	UNITS	BH119	BH119	BH120	BH120	BH120
Depth		0.5-0.6	2.0-2.45	0-0.2	2.3-2.45	4.0-4.45
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	232/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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
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	82	85	84	83

PAHs in Soil						
Our Reference		206600-1	206600-2	206600-3	206600-4	206600-5
Your Reference	UNITS	BD1/20181121	BD2/20181122	BD3/20181122	BD4/20181122	BD5/20181122
Depth		-	-	-	-	-
Date Sampled		21/11/2018	22/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	104	102	100	101	100

PAHs in Soil						
Our Reference		206600-8	206600-9	206600-11	206600-12	206600-13
Your Reference	UNITS	BH101	BH101	BH102	BH103	BH103
Depth		0-0.2	0.7-0.8	2.2-2.4	0-0.2	2.4-2.5
Date Sampled		21/11/2018	21/11/2018	21/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	100	99	101	96	100

PAHs in Soil						
Our Reference		206600-14	206600-15	206600-16	206600-17	206600-18
Your Reference	UNITS	BH103	BH103	BH104	BH104	BH105
Depth		3.55-4.0	5.05-5.55	0-0.2	4.0-4.45	0-0.2
Date Sampled		22/11/2018	22/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	103	99	102	103	96

PAHs in Soil						
Our Reference		206600-19	206600-20	206600-21	206600-22	206600-23
Your Reference	UNITS	BH105	BH106	BH110	BH110	BH110
Depth		3.5-3.7	0.5-0.6	0.5-0.6	1.0-1.3	1.3-1.45
Date Sampled		22/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	103	100	72	102	99

PAHs in Soil						
Our Reference		206600-24	206600-25	206600-26	206600-27	206600-28
Your Reference	UNITS	BH111	BH112	BH112	BH116	BH116
Depth		0.5-0.6	0-0.2	2.5-2.95	0-0.2	0.5-0.6
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	99	100	97

PAHs in Soil						
Our Reference		206600-29	206600-30	206600-31	206600-32	206600-33
Your Reference	UNITS	BH116	BH117	BH117	BH118	BH118
Depth		0.6-0.7	0.5-0.6	1.5-1.6	0-0.2	2.0-2.45
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	98	99	99	98	100

PAHs in Soil						
Our Reference		206600-34	206600-35	206600-36	206600-37	206600-38
Your Reference	UNITS	BH119	BH119	BH120	BH120	BH120
Depth		0.5-0.6	2.0-2.45	0-0.2	2.3-2.45	4.0-4.45
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	232/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	0.3	<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	%	103	98	99	102	97

Organochlorine Pesticides in soil						
Our Reference		206600-8	206600-11	206600-12	206600-13	206600-14
Your Reference	UNITS	BH101	BH102	BH103	BH103	BH103
Depth		0-0.2	2.2-2.4	0-0.2	2.4-2.5	3.55-4.0
Date Sampled		21/11/2018	21/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	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
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
pp-DDD	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-DDT	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
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	100	96	98

Organochlorine Pesticides in soil						
Our Reference		206600-16	206600-18	206600-20	206600-21	206600-22
Your Reference	UNITS	BH104	BH105	BH106	BH110	BH110
Depth		0-0.2	0-0.2	0.5-0.6	0.5-0.6	1.0-1.3
Date Sampled		22/11/2018	22/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	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
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
pp-DDD	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-DDT	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
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	%	101	95	95	96	100

Organochlorine Pesticides in soil						
Our Reference		206600-24	206600-25	206600-26	206600-27	206600-28
Your Reference	UNITS	BH111	BH112	BH112	BH116	BH116
Depth		0.5-0.6	0-0.2	2.5-2.95	0-0.2	0.5-0.6
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	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
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
pp-DDD	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-DDT	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
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	97	92	95	96

Organochlorine Pesticides in soil						
Our Reference		206600-30	206600-32	206600-33	206600-34	206600-36
Your Reference	UNITS	BH117	BH118	BH118	BH119	BH120
Depth		0.5-0.6	0-0.2	2.0-2.45	0.5-0.6	0-0.2
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	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
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
pp-DDD	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-DDT	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
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	96	91	91	93

Organochlorine Pesticides in soil		
Our Reference		206600-37
Your Reference	UNITS	BH120
Depth		2.3-2.45
Date Sampled		23/11/2018
Type of sample		Soil
Date extracted	-	28/11/2018
Date analysed	-	30/11/2018
HCB	mg/kg	<0.1
alpha-BHC	mg/kg	<0.1
gamma-BHC	mg/kg	<0.1
beta-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
pp-DDD	mg/kg	<0.1
Endosulfan II	mg/kg	<0.1
pp-DDT	mg/kg	<0.1
Endrin Aldehyde	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	%	95

Organophosphorus Pesticides						
Our Reference		206600-8	206600-11	206600-12	206600-13	206600-14
Your Reference	UNITS	BH101	BH102	BH103	BH103	BH103
Depth		0-0.2	2.2-2.4	0-0.2	2.4-2.5	3.55-4.0
Date Sampled		21/11/2018	21/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Azinphos-methyl (Guthion)	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
Chlorpyriphos	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
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Ethion	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
Parathion	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
Surrogate TCMX	%	99	96	100	96	98

Organophosphorus Pesticides						
Our Reference		206600-16	206600-18	206600-20	206600-21	206600-22
Your Reference	UNITS	BH104	BH105	BH106	BH110	BH110
Depth		0-0.2	0-0.2	0.5-0.6	0.5-0.6	1.0-1.3
Date Sampled		22/11/2018	22/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Azinphos-methyl (Guthion)	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
Chlorpyriphos	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
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Ethion	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
Parathion	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
Surrogate TCMX	%	101	95	95	96	100

Organophosphorus Pesticides						
Our Reference		206600-24	206600-25	206600-26	206600-27	206600-28
Your Reference	UNITS	BH111	BH112	BH112	BH116	BH116
Depth		0.5-0.6	0-0.2	2.5-2.95	0-0.2	0.5-0.6
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Azinphos-methyl (Guthion)	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
Chlorpyriphos	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
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Ethion	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
Parathion	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
Surrogate TCMX	%	95	97	92	95	96

Organophosphorus Pesticides						
Our Reference		206600-30	206600-32	206600-33	206600-34	206600-36
Your Reference	UNITS	BH117	BH118	BH118	BH119	BH120
Depth		0.5-0.6	0-0.2	2.0-2.45	0.5-0.6	0-0.2
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Azinphos-methyl (Guthion)	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
Chlorpyriphos	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
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Ethion	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
Parathion	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
Surrogate TCMX	%	97	96	91	91	93

Organophosphorus Pesticides		
Our Reference		206600-37
Your Reference	UNITS	BH120
Depth		2.3-2.45
Date Sampled		23/11/2018
Type of sample		Soil
Date extracted	-	28/11/2018
Date analysed	-	30/11/2018
Azinphos-methyl (Guthion)	mg/kg	<0.1
Bromophos-ethyl	mg/kg	<0.1
Chlorpyriphos	mg/kg	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1
Diazinon	mg/kg	<0.1
Dichlorvos	mg/kg	<0.1
Dimethoate	mg/kg	<0.1
Ethion	mg/kg	<0.1
Fenitrothion	mg/kg	<0.1
Malathion	mg/kg	<0.1
Parathion	mg/kg	<0.1
Ronnel	mg/kg	<0.1
Surrogate TCMX	%	95

PCBs in Soil						
Our Reference		206600-8	206600-11	206600-12	206600-13	206600-14
Your Reference	UNITS	BH101	BH102	BH103	BH103	BH103
Depth		0-0.2	2.2-2.4	0-0.2	2.4-2.5	3.55-4.0
Date Sampled		21/11/2018	21/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
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 TCLMX	%	99	96	100	96	98

PCBs in Soil						
Our Reference		206600-16	206600-18	206600-20	206600-21	206600-22
Your Reference	UNITS	BH104	BH105	BH106	BH110	BH110
Depth		0-0.2	0-0.2	0.5-0.6	0.5-0.6	1.0-1.3
Date Sampled		22/11/2018	22/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
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 TCLMX	%	101	95	95	96	100

PCBs in Soil						
Our Reference		206600-24	206600-25	206600-26	206600-27	206600-28
Your Reference	UNITS	BH111	BH112	BH112	BH116	BH116
Depth		0.5-0.6	0-0.2	2.5-2.95	0-0.2	0.5-0.6
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
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 TCLMX	%	95	97	92	95	96

PCBs in Soil						
Our Reference		206600-30	206600-32	206600-33	206600-34	206600-36
Your Reference	UNITS	BH117	BH118	BH118	BH119	BH120
Depth		0.5-0.6	0-0.2	2.0-2.45	0.5-0.6	0-0.2
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
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 TCLMX	%	97	96	91	91	93

PCBs in Soil		
Our Reference		206600-37
Your Reference	UNITS	BH120
Depth		2.3-2.45
Date Sampled		23/11/2018
Type of sample		Soil
Date extracted	-	28/11/2018
Date analysed	-	30/11/2018
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 TCLMX	%	95

Acid Extractable metals in soil						
Our Reference		206600-1	206600-2	206600-3	206600-4	206600-5
Your Reference	UNITS	BD1/20181121	BD2/20181122	BD3/20181122	BD4/20181122	BD5/20181122
Depth		-	-	-	-	-
Date Sampled		21/11/2018	22/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Arsenic	mg/kg	<4	6	5	5	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	10	10	14	11	11
Copper	mg/kg	19	29	19	22	30
Lead	mg/kg	12	18	14	16	13
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	6	9	10	10	10
Zinc	mg/kg	21	45	47	41	44

Acid Extractable metals in soil						
Our Reference		206600-8	206600-9	206600-11	206600-12	206600-13
Your Reference	UNITS	BH101	BH101	BH102	BH103	BH103
Depth		0-0.2	0.7-0.8	2.2-2.4	0-0.2	2.4-2.5
Date Sampled		21/11/2018	21/11/2018	21/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Arsenic	mg/kg	<4	<4	<4	5	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	8	8	7	10	4
Copper	mg/kg	18	41	14	26	4
Lead	mg/kg	10	12	9	16	3
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	6	5	4	8	<1
Zinc	mg/kg	22	31	17	38	3

Acid Extractable metals in soil						
Our Reference		206600-14	206600-15	206600-16	206600-17	206600-18
Your Reference	UNITS	BH103	BH103	BH104	BH104	BH105
Depth		3.55-4.0	5.05-5.55	0-0.2	4.0-4.45	0-0.2
Date Sampled		22/11/2018	22/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Arsenic	mg/kg	<4	<4	8	7	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	11	10	8	18	11
Copper	mg/kg	18	29	120	23	32
Lead	mg/kg	13	11	11	18	15
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	4	12	8	10	9
Zinc	mg/kg	16	55	39	40	45

Acid Extractable metals in soil						
Our Reference		206600-19	206600-20	206600-21	206600-22	206600-23
Your Reference	UNITS	BH105	BH106	BH110	BH110	BH110
Depth		3.5-3.7	0.5-0.6	0.5-0.6	1.0-1.3	1.3-1.45
Date Sampled		22/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Arsenic	mg/kg	<4	7	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	9	11	10	6	8
Copper	mg/kg	27	21	12	11	42
Lead	mg/kg	9	17	8	6	14
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	8	9	3	3	5
Zinc	mg/kg	39	34	9	10	35

Acid Extractable metals in soil						
Our Reference		206600-24	206600-25	206600-26	206600-27	206600-28
Your Reference	UNITS	BH111	BH112	BH112	BH116	BH116
Depth		0.5-0.6	0-0.2	2.5-2.95	0-0.2	0.5-0.6
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Arsenic	mg/kg	6	6	4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	13	11	6	8	8
Copper	mg/kg	14	21	31	22	24
Lead	mg/kg	18	14	16	13	10
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	12	24	11	6
Zinc	mg/kg	14	37	88	44	25

Acid Extractable metals in soil						
Our Reference		206600-29	206600-30	206600-31	206600-32	206600-33
Your Reference	UNITS	BH116	BH117	BH117	BH118	BH118
Depth		0.6-0.7	0.5-0.6	1.5-1.6	0-0.2	2.0-2.45
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
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	10	15	9
Copper	mg/kg	25	15	34	19	15
Lead	mg/kg	10	11	13	16	8
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	7	7	10	2	7
Zinc	mg/kg	27	23	50	10	20

Acid Extractable metals in soil						
Our Reference		206600-34	206600-35	206600-36	206600-37	206600-38
Your Reference	UNITS	BH119	BH119	BH120	BH120	BH120
Depth		0.5-0.6	2.0-2.45	0-0.2	2.3-2.45	4.0-4.45
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	232/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Arsenic	mg/kg	4	<4	5	5	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	8	3	8	10	8
Copper	mg/kg	20	12	25	11	26
Lead	mg/kg	14	6	15	9	9
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	7	5	17	2	5
Zinc	mg/kg	30	22	83	6	23

Acid Extractable metals in soil				
Our Reference		206600-39	206600-40	206600-41
Your Reference	UNITS	BD1/20181121 - [TRIPLICATE]	BH102 - [TRIPLICATE]	BH110 - [TRIPLICATE]
Depth		-	2.2-2.4	0.5-0.6
Date Sampled		21/11/2018	21/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	28/11/2018	28/11/2018	28/11/2018
Arsenic	mg/kg	6	5	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4
Chromium	mg/kg	13	13	6
Copper	mg/kg	17	21	7
Lead	mg/kg	15	14	4
Mercury	mg/kg	<0.1	<0.1	<0.1
Nickel	mg/kg	7	8	2
Zinc	mg/kg	28	30	5

Misc Soil - Inorg						
Our Reference		206600-8	206600-11	206600-12	206600-13	206600-14
Your Reference	UNITS	BH101	BH102	BH103	BH103	BH103
Depth		0-0.2	2.2-2.4	0-0.2	2.4-2.5	3.55-4.0
Date Sampled		21/11/2018	21/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg						
Our Reference		206600-16	206600-18	206600-20	206600-21	206600-22
Your Reference	UNITS	BH104	BH105	BH106	BH110	BH110
Depth		0-0.2	0-0.2	0.5-0.6	0.5-0.6	1.0-1.3
Date Sampled		22/11/2018	22/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg						
Our Reference		206600-24	206600-25	206600-26	206600-27	206600-28
Your Reference	UNITS	BH111	BH112	BH112	BH116	BH116
Depth		0.5-0.6	0-0.2	2.5-2.95	0-0.2	0.5-0.6
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg						
Our Reference		206600-30	206600-32	206600-33	206600-34	206600-36
Your Reference	UNITS	BH117	BH118	BH118	BH119	BH120
Depth		0.5-0.6	0-0.2	2.0-2.45	0.5-0.6	0-0.2
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg		
Our Reference		206600-37
Your Reference	UNITS	BH120
Depth		2.3-2.45
Date Sampled		23/11/2018
Type of sample		Soil
Date prepared	-	28/11/2018
Date analysed	-	28/11/2018
Total Phenolics (as Phenol)	mg/kg	<5

Misc Inorg - Soil				
Our Reference		206600-8	206600-10	206600-24
Your Reference	UNITS	BH101	BH102	BH111
Depth		0-0.2	0.4-0.5	0.5-0.6
Date Sampled		21/11/2018	21/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil
Date prepared	-	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018
pH 1:5 soil:water	pH Units	5.1	7.8	5.1
Total Organic Carbon (Walkley Black)	mg/kg	8,000	3,800	4,300

Moisture						
Our Reference		206600-1	206600-2	206600-3	206600-4	206600-5
Your Reference	UNITS	BD1/20181121	BD2/20181122	BD3/20181122	BD4/20181122	BD5/20181122
Depth		-	-	-	-	-
Date Sampled		21/11/2018	22/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Moisture	%	6.7	9.1	7.0	9.5	11

Moisture						
Our Reference		206600-8	206600-9	206600-11	206600-12	206600-13
Your Reference	UNITS	BH101	BH101	BH102	BH103	BH103
Depth		0-0.2	0.7-0.8	2.2-2.4	0-0.2	2.4-2.5
Date Sampled		21/11/2018	21/11/2018	21/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Moisture	%	15	17	15	7.9	9.8

Moisture						
Our Reference		206600-14	206600-15	206600-16	206600-17	206600-18
Your Reference	UNITS	BH103	BH103	BH104	BH104	BH105
Depth		3.55-4.0	5.05-5.55	0-0.2	4.0-4.45	0-0.2
Date Sampled		22/11/2018	22/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Moisture	%	20	13	13	15	11

Moisture						
Our Reference		206600-19	206600-20	206600-21	206600-22	206600-23
Your Reference	UNITS	BH105	BH106	BH110	BH110	BH110
Depth		3.5-3.7	0.5-0.6	0.5-0.6	1.0-1.3	1.3-1.45
Date Sampled		22/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Moisture	%	16	7.4	16	14	7.0

Moisture						
Our Reference		206600-24	206600-25	206600-26	206600-27	206600-28
Your Reference	UNITS	BH111	BH112	BH112	BH116	BH116
Depth		0.5-0.6	0-0.2	2.5-2.95	0-0.2	0.5-0.6
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Moisture	%	13	6.9	8.9	9.5	11

Moisture						
Our Reference		206600-29	206600-30	206600-31	206600-32	206600-33
Your Reference	UNITS	BH116	BH117	BH117	BH118	BH118
Depth		0.6-0.7	0.5-0.6	1.5-1.6	0-0.2	2.0-2.45
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Moisture	%	17	9.5	12	14	14

Moisture						
Our Reference		206600-34	206600-35	206600-36	206600-37	206600-38
Your Reference	UNITS	BH119	BH119	BH120	BH120	BH120
Depth		0.5-0.6	2.0-2.45	0-0.2	2.3-2.45	4.0-4.45
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	232/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Moisture	%	12	15	5.8	17	8.3

Asbestos ID - soils						
Our Reference		206600-8	206600-11	206600-12	206600-13	206600-14
Your Reference	UNITS	BH101	BH102	BH103	BH103	BH103
Depth		0-0.2	2.2-2.4	0-0.2	2.4-2.5	3.55-4.0
Date Sampled		21/11/2018	21/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Sample mass tested	g	Approx. 35g	Approx. 35g	Approx. 40g	Approx. 35g	Approx. 35g
Sample Description	-	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference		206600-16	206600-18	206600-20	206600-21	206600-22
Your Reference	UNITS	BH104	BH105	BH106	BH110	BH110
Depth		0-0.2	0-0.2	0.5-0.6	0.5-0.6	1.0-1.3
Date Sampled		22/11/2018	22/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Sample mass tested	g	Approx. 45g	Approx. 35g	Approx. 40g	Approx. 40g	Approx. 45g
Sample Description	-	Brown clayey soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference		206600-24	206600-25	206600-26	206600-27	206600-28
Your Reference	UNITS	BH111	BH112	BH112	BH116	BH116
Depth		0.5-0.6	0-0.2	2.5-2.95	0-0.2	0.5-0.6
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Sample mass tested	g	Approx. 35g	Approx. 40g	Approx. 40g	Approx. 40g	Approx. 35g
Sample Description	-	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference		206600-30	206600-32	206600-33	206600-34	206600-36
Your Reference	UNITS	BH117	BH118	BH118	BH119	BH120
Depth		0.5-0.6	0-0.2	2.0-2.45	0.5-0.6	0-0.2
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Sample mass tested	g	Approx. 40g	Approx. 35g	Approx. 35g	Approx. 40g	Approx. 40g
Sample Description	-	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils		
Our Reference		206600-37
Your Reference	UNITS	BH120
Depth		2.3-2.45
Date Sampled		23/11/2018
Type of sample		Soil
Date analysed	-	29/11/2018
Sample mass tested	g	Approx. 30g
Sample Description	-	Brown clayey soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected

CEC				
Our Reference		206600-8	206600-10	206600-24
Your Reference	UNITS	BH101	BH102	BH111
Depth		0-0.2	0.4-0.5	0.5-0.6
Date Sampled		21/11/2018	21/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil
Date prepared	-	30/11/2018	30/11/2018	30/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018
Exchangeable Ca	meq/100g	1.6	5.2	1.4
Exchangeable K	meq/100g	0.3	0.2	0.2
Exchangeable Mg	meq/100g	9.6	3.8	1.7
Exchangeable Na	meq/100g	2.1	0.47	0.40
Cation Exchange Capacity	meq/100g	14	9.7	3.6

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
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.
Inorg-036	Total Organic Carbon or Matter - A titrimetric method that measures the oxidisable organic content of soils.
Metals-009	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-AES analytical finish.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's. 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-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.

Method ID	Methodology Summary
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-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-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-016	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-10	206600-2
Date extracted	-			28/11/2018	1	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Date analysed	-			30/11/2018	1	30/11/2018	30/11/2018		30/11/2018	30/11/2018
TRH C_6 - C_9	mg/kg	25	Org-016	<25	1	<25	<25	0	88	82
TRH C_6 - C_{10}	mg/kg	25	Org-016	<25	1	<25	<25	0	88	82
Benzene	mg/kg	0.2	Org-016	<0.2	1	<0.2	<0.2	0	91	85
Toluene	mg/kg	0.5	Org-016	<0.5	1	<0.5	<0.5	0	88	83
Ethylbenzene	mg/kg	1	Org-016	<1	1	<1	<1	0	87	81
m+p-xylene	mg/kg	2	Org-016	<2	1	<2	<2	0	87	81
o-Xylene	mg/kg	1	Org-016	<1	1	<1	<1	0	90	84
naphthalene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	106	1	96	94	2	100	93

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	206600-22
Date extracted	-			[NT]	11	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Date analysed	-			[NT]	11	30/11/2018	30/11/2018		30/11/2018	30/11/2018
TRH C_6 - C_9	mg/kg	25	Org-016	[NT]	11	<25	<25	0	89	84
TRH C_6 - C_{10}	mg/kg	25	Org-016	[NT]	11	<25	<25	0	89	84
Benzene	mg/kg	0.2	Org-016	[NT]	11	<0.2	<0.2	0	92	87
Toluene	mg/kg	0.5	Org-016	[NT]	11	<0.5	<0.5	0	89	84
Ethylbenzene	mg/kg	1	Org-016	[NT]	11	<1	<1	0	87	82
m+p-xylene	mg/kg	2	Org-016	[NT]	11	<2	<2	0	88	83
o-Xylene	mg/kg	1	Org-016	[NT]	11	<1	<1	0	91	85
naphthalene	mg/kg	1	Org-014	[NT]	11	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	11	90	93	3	100	94

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]	21	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	30/11/2018	30/11/2018		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-016	[NT]	21	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-016	[NT]	21	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-016	[NT]	21	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-016	[NT]	21	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-016	[NT]	21	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-016	[NT]	21	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-016	[NT]	21	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-014	[NT]	21	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	21	98	98	0	[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]	31	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	31	30/11/2018	30/11/2018		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-016	[NT]	31	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-016	[NT]	31	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-016	[NT]	31	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-016	[NT]	31	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-016	[NT]	31	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-016	[NT]	31	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-016	[NT]	31	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-014	[NT]	31	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	31	94	92	2	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	206600-2
Date extracted	-			28/11/2018	1	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Date analysed	-			29/11/2018	1	29/11/2018	29/11/2018		29/11/2018	29/11/2018
TRH C_{10} - C_{14}	mg/kg	50	Org-003	<50	1	<50	<50	0	124	116
TRH C_{15} - C_{28}	mg/kg	100	Org-003	<100	1	<100	<100	0	119	109
TRH C_{29} - C_{36}	mg/kg	100	Org-003	<100	1	<100	<100	0	130	88
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	<50	1	<50	<50	0	124	116
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	<100	1	<100	<100	0	119	109
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	<100	1	<100	<100	0	130	88
Surrogate o-Terphenyl	%		Org-003	111	1	100	109	9	98	88

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	206600-22
Date extracted	-			[NT]	11	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Date analysed	-			[NT]	11	29/11/2018	29/11/2018		29/11/2018	30/11/2018
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	11	<50	<50	0	105	112
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	11	<100	<100	0	106	108
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	11	<100	<100	0	128	92
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	11	<50	<50	0	105	112
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	11	<100	<100	0	106	108
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	11	<100	<100	0	128	92
Surrogate o-Terphenyl	%		Org-003	[NT]	11	86	86	0	85	85

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	30/11/2018	30/11/2018		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	21	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	21	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	21	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	21	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	21	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	21	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-003	[NT]	21	85	85	0	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	31	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	31	30/11/2018	30/11/2018		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	31	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	31	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	31	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	31	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	31	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	31	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-003	[NT]	31	83	83	0	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	206600-2
Date extracted	-			28/11/2018	1	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Date analysed	-			03/12/2018	1	03/12/2018	03/12/2018		03/12/2018	03/12/2018
Naphthalene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	120	119
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	125	122
Phenanthrene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	126	126
Anthracene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	123	122
Pyrene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	109	109
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	117	115
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	1	<0.05	<0.05	0	115	114
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	107	1	104	103	1	100	99

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	206600-22
Date extracted	-			[NT]	11	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Date analysed	-			[NT]	11	03/12/2018	03/12/2018		03/12/2018	03/12/2018
Naphthalene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	118	116
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	119	119
Phenanthrene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	123	121
Anthracene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	119	119
Pyrene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	107	106
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	113	111
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	11	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	11	<0.05	<0.05	0	113	107
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	11	101	98	3	98	96

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	03/12/2018	03/12/2018		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	21	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	21	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	21	72	97	30	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	31	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	31	03/12/2018	03/12/2018		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	31	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	31	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	31	99	97	2	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	206600-22
Date extracted	-			28/11/2018	11	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Date analysed	-			30/11/2018	11	29/11/2018	29/11/2018		29/11/2018	29/11/2018
HCB	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	100	105
gamma-BHC	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	113	115
Heptachlor	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	102	103
delta-BHC	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	109	110
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	99	100
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	120	122
Dieldrin	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	101	102
Endrin	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	103	104
pp-DDD	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	118	120
Endosulfan II	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	90	94
Methoxychlor	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	94	11	96	109	13	113	112

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	29/11/2018	29/11/2018		[NT]	[NT]
HCB	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	[NT]	21	96	95	1	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	37	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	37	30/11/2018	30/11/2018		[NT]	[NT]
HCB	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	[NT]	37	95	97	2	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	206600-22
Date extracted	-			28/11/2018	11	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Date analysed	-			30/11/2018	11	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-008	<0.1	11	<0.1	<0.1	0	103	104
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	<0.1	11	<0.1	<0.1	0	99	103
Dimethoate	mg/kg	0.1	Org-008	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	<0.1	11	<0.1	<0.1	0	91	93
Fenitrothion	mg/kg	0.1	Org-008	<0.1	11	<0.1	<0.1	0	104	101
Malathion	mg/kg	0.1	Org-008	<0.1	11	<0.1	<0.1	0	77	75
Parathion	mg/kg	0.1	Org-008	<0.1	11	<0.1	<0.1	0	103	104
Ronnel	mg/kg	0.1	Org-008	<0.1	11	<0.1	<0.1	0	77	77
Surrogate TCMX	%		Org-008	94	11	96	109	13	91	94

QUALITY CONTROL: Organophosphorus Pesticides						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	29/11/2018	29/11/2018		[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-008	[NT]	21	96	95	1	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	37	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	37	30/11/2018	30/11/2018		[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-008	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-008	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-008	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-008	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-008	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-008	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-008	[NT]	37	95	97	2	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	206600-22
Date extracted	-			28/11/2018	11	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Date analysed	-			30/11/2018	11	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	11	<0.1	<0.1	0	93	97
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	94	11	96	109	13	91	94

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	29/11/2018	29/11/2018		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	[NT]	21	96	95	1	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	37	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	37	30/11/2018	30/11/2018		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-006	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-006	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	[NT]	37	95	97	2	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	206600-2
Date prepared	-			28/11/2018	1	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Date analysed	-			28/11/2018	1	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Arsenic	mg/kg	4	Metals-020	<4	1	<4	<4	0	107	81
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	97	80
Chromium	mg/kg	1	Metals-020	<1	1	10	6	50	103	84
Copper	mg/kg	1	Metals-020	<1	1	19	13	38	113	108
Lead	mg/kg	1	Metals-020	<1	1	12	8	40	103	84
Mercury	mg/kg	0.1	Metals-021	<0.1	1	<0.1	<0.1	0	112	109
Nickel	mg/kg	1	Metals-020	<1	1	6	5	18	104	85
Zinc	mg/kg	1	Metals-020	<1	1	21	18	15	97	83

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	206600-22
Date prepared	-			[NT]	11	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Date analysed	-			[NT]	11	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Arsenic	mg/kg	4	Metals-020	[NT]	11	<4	<4	0	107	82
Cadmium	mg/kg	0.4	Metals-020	[NT]	11	<0.4	<0.4	0	96	78
Chromium	mg/kg	1	Metals-020	[NT]	11	7	12	53	102	89
Copper	mg/kg	1	Metals-020	[NT]	11	14	23	49	112	100
Lead	mg/kg	1	Metals-020	[NT]	11	9	12	29	101	86
Mercury	mg/kg	0.1	Metals-021	[NT]	11	<0.1	<0.1	0	109	106
Nickel	mg/kg	1	Metals-020	[NT]	11	4	7	55	103	84
Zinc	mg/kg	1	Metals-020	[NT]	11	17	24	34	96	76

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	21	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	28/11/2018	28/11/2018		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	21	<4	<4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	21	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	21	10	6	50	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	21	12	9	29	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	21	8	5	46	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	21	3	2	40	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	21	9	7	25	[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]	31	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	31	28/11/2018	28/11/2018		[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	10	10	0	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	31	34	39	14	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	31	13	15	14	[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	10	12	18	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	31	50	58	15	[NT]	[NT]

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	206600-11
Date prepared	-			28/11/2018	8	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Date analysed	-			28/11/2018	8	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	8	<5	<5	0	103	104

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	[NT]
Date prepared	-			[NT]	22	28/11/2018	28/11/2018		28/11/2018	[NT]
Date analysed	-			[NT]	22	28/11/2018	28/11/2018		28/11/2018	[NT]
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	[NT]	22	<5	<5	0	103	[NT]

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	34	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	34	28/11/2018	28/11/2018		[NT]	[NT]
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	[NT]	34	<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	-			28/11/2018	[NT]	[NT]	[NT]	[NT]	28/11/2018	[NT]
Date analysed	-			28/11/2018	[NT]	[NT]	[NT]	[NT]	28/11/2018	[NT]
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	[NT]	[NT]	[NT]	[NT]	102	[NT]
Total Organic Carbon (Walkley Black)	mg/kg	1000	Inorg-036	<1000	[NT]	[NT]	[NT]	[NT]	97	[NT]

QUALITY CONTROL: CEC					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			30/11/2018	[NT]	[NT]	[NT]	[NT]	30/11/2018	[NT]
Date analysed	-			30/11/2018	[NT]	[NT]	[NT]	[NT]	30/11/2018	[NT]
Exchangeable Ca	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Exchangeable K	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	[NT]	[NT]	109	[NT]
Exchangeable Mg	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Exchangeable Na	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	[NT]	[NT]	107	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-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.

Report Comments

Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 206600-1 for Cr. Therefore a triplicate result has been issued as laboratory sample number 206600-39.

Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 206600-11 for Cr and Ni. Therefore a triplicate result has been issued as laboratory sample number 206600-40.

Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 206600-21 for Cr. Therefore a triplicate result has been issued as laboratory sample number 206600-41.

Asbestos: A portion of the supplied samples were sub-sampled for asbestos analysis according to Envirolab procedures. We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab recommends supplying 40-50g of sample in its own container.
Note: Samples requested for asbestos testing were sub-sampled from jars provided by the client.

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CERTIFICATE OF ANALYSIS 206600

Client Details

Client	Douglas Partners Pty Ltd
Attention	Gavin Boyd, Joel James-Hall
Address	96 Hermitage Rd, West Ryde, NSW, 2114

Sample Details

Your Reference	**94522.00, Proposed Public School**
Number of Samples	38 Soil
Date samples received	26/11/2018
Date completed instructions received	26/11/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	03/12/2018
Date of Issue	03/12/2018

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Asbestos Approved By
Analysed by Asbestos Approved Identifier: Lucy Zhu
Authorised by Asbestos Approved Signatory: Matt Tang

Results Approved By
Jeremy Faircloth, Organics Supervisor
Long Pham, Team Leader, Metals
Matthew Tang, Asbsestos Analyst
Priya Samarawickrama, Senior Chemist
Steven Luong, Senior Chemist

Authorised By



Jacinta Hurst, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206600-1	206600-2	206600-3	206600-4	206600-5
Your Reference	UNITS	BD1/20181121	BD2/20181122	BD3/20181122	BD4/20181122	BD5/20181122
Depth		-	-	-	-	-
Date Sampled		21/11/2018	22/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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	%	96	94	94	95	93

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206600-6	206600-7	206600-8	206600-9	206600-11
Your Reference	UNITS	TS-1	TB-1	BH101	BH101	BH102
Depth		-	-	0-0.2	0.7-0.8	2.2-2.4
Date Sampled		-	-	21/11/2018	21/11/2018	21/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
TRH C_6 - C_9	mg/kg	[NA]	[NA]	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	[NA]	[NA]	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	[NA]	[NA]	<25	<25	<25
Benzene	mg/kg	98%	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	97%	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	96%	<1	<1	<1	<1
m+p-xylene	mg/kg	99%	<2	<2	<2	<2
o-Xylene	mg/kg	95%	<1	<1	<1	<1
naphthalene	mg/kg	[NA]	[NA]	<1	<1	<1
Total +ve Xylenes	mg/kg	[NA]	[NA]	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	86	95	87	92	90

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206600-12	206600-13	206600-14	206600-15	206600-16
Your Reference	UNITS	BH103	BH103	BH103	BH103	BH104
Depth		0-0.2	2.4-2.5	3.55-4.0	5.05-5.55	0-0.2
Date Sampled		22/11/2018	22/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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	%	95	97	92	93	96

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206600-17	206600-18	206600-19	206600-20	206600-21
Your Reference	UNITS	BH104	BH105	BH105	BH106	BH110
Depth		4.0-4.45	0-0.2	3.5-3.7	0.5-0.6	0.5-0.6
Date Sampled		22/11/2018	22/11/2018	22/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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	%	88	94	94	100	98

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206600-22	206600-23	206600-24	206600-25	206600-26
Your Reference	UNITS	BH110	BH110	BH111	BH112	BH112
Depth		1.0-1.3	1.3-1.45	0.5-0.6	0-0.2	2.5-2.95
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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	%	96	99	93	95	94

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206600-27	206600-28	206600-29	206600-30	206600-31
Your Reference	UNITS	BH116	BH116	BH116	BH117	BH117
Depth		0-0.2	0.5-0.6	0.6-0.7	0.5-0.6	1.5-1.6
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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	%	96	94	94	96	94

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206600-32	206600-33	206600-34	206600-35	206600-36
Your Reference	UNITS	BH118	BH118	BH119	BH119	BH120
Depth		0-0.2	2.0-2.45	0.5-0.6	2.0-2.45	0-0.2
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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	%	93	96	97	98	92

vTRH(C6-C10)/BTEXN in Soil			
Our Reference		206600-37	206600-38
Your Reference	UNITS	BH120	BH120
Depth		2.3-2.45	4.0-4.45
Date Sampled		23/11/2018	232/11/2018
Type of sample		Soil	Soil
Date extracted	-	28/11/2018	28/11/2018
Date analysed	-	30/11/2018	30/11/2018
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	<1	<1
Surrogate aaa-Trifluorotoluene	%	101	97

svTRH (C10-C40) in Soil						
Our Reference		206600-1	206600-2	206600-3	206600-4	206600-5
Your Reference	UNITS	BD1/20181121	BD2/20181122	BD3/20181122	BD4/20181122	BD5/20181122
Depth		-	-	-	-	-
Date Sampled		21/11/2018	22/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
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
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	%	100	88	89	87	86

svTRH (C10-C40) in Soil						
Our Reference		206600-8	206600-9	206600-11	206600-12	206600-13
Your Reference	UNITS	BH101	BH101	BH102	BH103	BH103
Depth		0-0.2	0.7-0.8	2.2-2.4	0-0.2	2.4-2.5
Date Sampled		21/11/2018	21/11/2018	21/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
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
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	%	87	86	86	87	88

svTRH (C10-C40) in Soil						
Our Reference		206600-14	206600-15	206600-16	206600-17	206600-18
Your Reference	UNITS	BH103	BH103	BH104	BH104	BH105
Depth		3.55-4.0	5.05-5.55	0-0.2	4.0-4.45	0-0.2
Date Sampled		22/11/2018	22/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
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
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	%	86	85	86	85	85

svTRH (C10-C40) in Soil						
Our Reference		206600-19	206600-20	206600-21	206600-22	206600-23
Your Reference	UNITS	BH105	BH106	BH110	BH110	BH110
Depth		3.5-3.7	0.5-0.6	0.5-0.6	1.0-1.3	1.3-1.45
Date Sampled		22/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	30/11/2018	30/11/2018	30/11/2018
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
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	85	85	85	88

svTRH (C10-C40) in Soil						
Our Reference		206600-24	206600-25	206600-26	206600-27	206600-28
Your Reference	UNITS	BH111	BH112	BH112	BH116	BH116
Depth		0.5-0.6	0-0.2	2.5-2.95	0-0.2	0.5-0.6
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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
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	86	85	85	84

svTRH (C10-C40) in Soil						
Our Reference		206600-29	206600-30	206600-31	206600-32	206600-33
Your Reference	UNITS	BH116	BH117	BH117	BH118	BH118
Depth		0.6-0.7	0.5-0.6	1.5-1.6	0-0.2	2.0-2.45
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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
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	%	83	83	83	83	83

svTRH (C10-C40) in Soil						
Our Reference		206600-34	206600-35	206600-36	206600-37	206600-38
Your Reference	UNITS	BH119	BH119	BH120	BH120	BH120
Depth		0.5-0.6	2.0-2.45	0-0.2	2.3-2.45	4.0-4.45
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	232/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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
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	82	85	84	83

PAHs in Soil						
Our Reference		206600-1	206600-2	206600-3	206600-4	206600-5
Your Reference	UNITS	BD1/20181121	BD2/20181122	BD3/20181122	BD4/20181122	BD5/20181122
Depth		-	-	-	-	-
Date Sampled		21/11/2018	22/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	104	102	100	101	100

PAHs in Soil						
Our Reference		206600-8	206600-9	206600-11	206600-12	206600-13
Your Reference	UNITS	BH101	BH101	BH102	BH103	BH103
Depth		0-0.2	0.7-0.8	2.2-2.4	0-0.2	2.4-2.5
Date Sampled		21/11/2018	21/11/2018	21/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	100	99	101	96	100

PAHs in Soil						
Our Reference		206600-14	206600-15	206600-16	206600-17	206600-18
Your Reference	UNITS	BH103	BH103	BH104	BH104	BH105
Depth		3.55-4.0	5.05-5.55	0-0.2	4.0-4.45	0-0.2
Date Sampled		22/11/2018	22/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	103	99	102	103	96

PAHs in Soil						
Our Reference		206600-19	206600-20	206600-21	206600-22	206600-23
Your Reference	UNITS	BH105	BH106	BH110	BH110	BH110
Depth		3.5-3.7	0.5-0.6	0.5-0.6	1.0-1.3	1.3-1.45
Date Sampled		22/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	103	100	72	102	99

PAHs in Soil						
Our Reference		206600-24	206600-25	206600-26	206600-27	206600-28
Your Reference	UNITS	BH111	BH112	BH112	BH116	BH116
Depth		0.5-0.6	0-0.2	2.5-2.95	0-0.2	0.5-0.6
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	99	100	97

PAHs in Soil						
Our Reference		206600-29	206600-30	206600-31	206600-32	206600-33
Your Reference	UNITS	BH116	BH117	BH117	BH118	BH118
Depth		0.6-0.7	0.5-0.6	1.5-1.6	0-0.2	2.0-2.45
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	98	99	99	98	100

PAHs in Soil						
Our Reference		206600-34	206600-35	206600-36	206600-37	206600-38
Your Reference	UNITS	BH119	BH119	BH120	BH120	BH120
Depth		0.5-0.6	2.0-2.45	0-0.2	2.3-2.45	4.0-4.45
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	232/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	0.3	<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	%	103	98	99	102	97

Organochlorine Pesticides in soil						
Our Reference		206600-8	206600-11	206600-12	206600-13	206600-14
Your Reference	UNITS	BH101	BH102	BH103	BH103	BH103
Depth		0-0.2	2.2-2.4	0-0.2	2.4-2.5	3.55-4.0
Date Sampled		21/11/2018	21/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	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
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
pp-DDD	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-DDT	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
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	100	96	98

Organochlorine Pesticides in soil						
Our Reference		206600-16	206600-18	206600-20	206600-21	206600-22
Your Reference	UNITS	BH104	BH105	BH106	BH110	BH110
Depth		0-0.2	0-0.2	0.5-0.6	0.5-0.6	1.0-1.3
Date Sampled		22/11/2018	22/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	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
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
pp-DDD	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-DDT	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
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	%	101	95	95	96	100

Organochlorine Pesticides in soil						
Our Reference		206600-24	206600-25	206600-26	206600-27	206600-28
Your Reference	UNITS	BH111	BH112	BH112	BH116	BH116
Depth		0.5-0.6	0-0.2	2.5-2.95	0-0.2	0.5-0.6
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	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
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
pp-DDD	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-DDT	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
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	97	92	95	96

Organochlorine Pesticides in soil						
Our Reference		206600-30	206600-32	206600-33	206600-34	206600-36
Your Reference	UNITS	BH117	BH118	BH118	BH119	BH120
Depth		0.5-0.6	0-0.2	2.0-2.45	0.5-0.6	0-0.2
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	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
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
pp-DDD	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-DDT	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
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	96	91	91	93

Organochlorine Pesticides in soil		
Our Reference		206600-37
Your Reference	UNITS	BH120
Depth		2.3-2.45
Date Sampled		23/11/2018
Type of sample		Soil
Date extracted	-	28/11/2018
Date analysed	-	30/11/2018
HCB	mg/kg	<0.1
alpha-BHC	mg/kg	<0.1
gamma-BHC	mg/kg	<0.1
beta-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
pp-DDD	mg/kg	<0.1
Endosulfan II	mg/kg	<0.1
pp-DDT	mg/kg	<0.1
Endrin Aldehyde	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	%	95

Organophosphorus Pesticides						
Our Reference		206600-8	206600-11	206600-12	206600-13	206600-14
Your Reference	UNITS	BH101	BH102	BH103	BH103	BH103
Depth		0-0.2	2.2-2.4	0-0.2	2.4-2.5	3.55-4.0
Date Sampled		21/11/2018	21/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Azinphos-methyl (Guthion)	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
Chlorpyriphos	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
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Ethion	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
Parathion	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
Surrogate TCMX	%	99	96	100	96	98

Organophosphorus Pesticides						
Our Reference		206600-16	206600-18	206600-20	206600-21	206600-22
Your Reference	UNITS	BH104	BH105	BH106	BH110	BH110
Depth		0-0.2	0-0.2	0.5-0.6	0.5-0.6	1.0-1.3
Date Sampled		22/11/2018	22/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Azinphos-methyl (Guthion)	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
Chlorpyriphos	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
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Ethion	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
Parathion	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
Surrogate TCMX	%	101	95	95	96	100

Organophosphorus Pesticides						
Our Reference		206600-24	206600-25	206600-26	206600-27	206600-28
Your Reference	UNITS	BH111	BH112	BH112	BH116	BH116
Depth		0.5-0.6	0-0.2	2.5-2.95	0-0.2	0.5-0.6
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Azinphos-methyl (Guthion)	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
Chlorpyriphos	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
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Ethion	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
Parathion	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
Surrogate TCMX	%	95	97	92	95	96

Organophosphorus Pesticides						
Our Reference		206600-30	206600-32	206600-33	206600-34	206600-36
Your Reference	UNITS	BH117	BH118	BH118	BH119	BH120
Depth		0.5-0.6	0-0.2	2.0-2.45	0.5-0.6	0-0.2
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Azinphos-methyl (Guthion)	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
Chlorpyriphos	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
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Ethion	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
Parathion	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
Surrogate TCMX	%	97	96	91	91	93

Organophosphorus Pesticides		
Our Reference		206600-37
Your Reference	UNITS	BH120
Depth		2.3-2.45
Date Sampled		23/11/2018
Type of sample		Soil
Date extracted	-	28/11/2018
Date analysed	-	30/11/2018
Azinphos-methyl (Guthion)	mg/kg	<0.1
Bromophos-ethyl	mg/kg	<0.1
Chlorpyriphos	mg/kg	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1
Diazinon	mg/kg	<0.1
Dichlorvos	mg/kg	<0.1
Dimethoate	mg/kg	<0.1
Ethion	mg/kg	<0.1
Fenitrothion	mg/kg	<0.1
Malathion	mg/kg	<0.1
Parathion	mg/kg	<0.1
Ronnel	mg/kg	<0.1
Surrogate TCMX	%	95

PCBs in Soil						
Our Reference		206600-8	206600-11	206600-12	206600-13	206600-14
Your Reference	UNITS	BH101	BH102	BH103	BH103	BH103
Depth		0-0.2	2.2-2.4	0-0.2	2.4-2.5	3.55-4.0
Date Sampled		21/11/2018	21/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
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 TCLMX	%	99	96	100	96	98

PCBs in Soil						
Our Reference		206600-16	206600-18	206600-20	206600-21	206600-22
Your Reference	UNITS	BH104	BH105	BH106	BH110	BH110
Depth		0-0.2	0-0.2	0.5-0.6	0.5-0.6	1.0-1.3
Date Sampled		22/11/2018	22/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
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 TCLMX	%	101	95	95	96	100

PCBs in Soil						
Our Reference		206600-24	206600-25	206600-26	206600-27	206600-28
Your Reference	UNITS	BH111	BH112	BH112	BH116	BH116
Depth		0.5-0.6	0-0.2	2.5-2.95	0-0.2	0.5-0.6
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
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 TCLMX	%	95	97	92	95	96

PCBs in Soil						
Our Reference		206600-30	206600-32	206600-33	206600-34	206600-36
Your Reference	UNITS	BH117	BH118	BH118	BH119	BH120
Depth		0.5-0.6	0-0.2	2.0-2.45	0.5-0.6	0-0.2
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
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 TCLMX	%	97	96	91	91	93

PCBs in Soil		
Our Reference		206600-37
Your Reference	UNITS	BH120
Depth		2.3-2.45
Date Sampled		23/11/2018
Type of sample		Soil
Date extracted	-	28/11/2018
Date analysed	-	30/11/2018
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 TCLMX	%	95

Acid Extractable metals in soil						
Our Reference		206600-1	206600-2	206600-3	206600-4	206600-5
Your Reference	UNITS	BD1/20181121	BD2/20181122	BD3/20181122	BD4/20181122	BD5/20181122
Depth		-	-	-	-	-
Date Sampled		21/11/2018	22/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Arsenic	mg/kg	<4	6	5	5	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	10	10	14	11	11
Copper	mg/kg	19	29	19	22	30
Lead	mg/kg	12	18	14	16	13
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	6	9	10	10	10
Zinc	mg/kg	21	45	47	41	44

Acid Extractable metals in soil						
Our Reference		206600-8	206600-9	206600-11	206600-12	206600-13
Your Reference	UNITS	BH101	BH101	BH102	BH103	BH103
Depth		0-0.2	0.7-0.8	2.2-2.4	0-0.2	2.4-2.5
Date Sampled		21/11/2018	21/11/2018	21/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Arsenic	mg/kg	<4	<4	<4	5	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	8	8	7	10	4
Copper	mg/kg	18	41	14	26	4
Lead	mg/kg	10	12	9	16	3
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	6	5	4	8	<1
Zinc	mg/kg	22	31	17	38	3

Acid Extractable metals in soil						
Our Reference		206600-14	206600-15	206600-16	206600-17	206600-18
Your Reference	UNITS	BH103	BH103	BH104	BH104	BH105
Depth		3.55-4.0	5.05-5.55	0-0.2	4.0-4.45	0-0.2
Date Sampled		22/11/2018	22/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Arsenic	mg/kg	<4	<4	8	7	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	11	10	8	18	11
Copper	mg/kg	18	29	120	23	32
Lead	mg/kg	13	11	11	18	15
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	4	12	8	10	9
Zinc	mg/kg	16	55	39	40	45

Acid Extractable metals in soil						
Our Reference		206600-19	206600-20	206600-21	206600-22	206600-23
Your Reference	UNITS	BH105	BH106	BH110	BH110	BH110
Depth		3.5-3.7	0.5-0.6	0.5-0.6	1.0-1.3	1.3-1.45
Date Sampled		22/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Arsenic	mg/kg	<4	7	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	9	11	10	6	8
Copper	mg/kg	27	21	12	11	42
Lead	mg/kg	9	17	8	6	14
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	8	9	3	3	5
Zinc	mg/kg	39	34	9	10	35

Acid Extractable metals in soil						
Our Reference		206600-24	206600-25	206600-26	206600-27	206600-28
Your Reference	UNITS	BH111	BH112	BH112	BH116	BH116
Depth		0.5-0.6	0-0.2	2.5-2.95	0-0.2	0.5-0.6
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Arsenic	mg/kg	6	6	4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	13	11	6	8	8
Copper	mg/kg	14	21	31	22	24
Lead	mg/kg	18	14	16	13	10
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	12	24	11	6
Zinc	mg/kg	14	37	88	44	25

Acid Extractable metals in soil						
Our Reference		206600-29	206600-30	206600-31	206600-32	206600-33
Your Reference	UNITS	BH116	BH117	BH117	BH118	BH118
Depth		0.6-0.7	0.5-0.6	1.5-1.6	0-0.2	2.0-2.45
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
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	10	15	9
Copper	mg/kg	25	15	34	19	15
Lead	mg/kg	10	11	13	16	8
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	7	7	10	2	7
Zinc	mg/kg	27	23	50	10	20

Acid Extractable metals in soil						
Our Reference		206600-34	206600-35	206600-36	206600-37	206600-38
Your Reference	UNITS	BH119	BH119	BH120	BH120	BH120
Depth		0.5-0.6	2.0-2.45	0-0.2	2.3-2.45	4.0-4.45
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	232/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Arsenic	mg/kg	4	<4	5	5	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	8	3	8	10	8
Copper	mg/kg	20	12	25	11	26
Lead	mg/kg	14	6	15	9	9
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	7	5	17	2	5
Zinc	mg/kg	30	22	83	6	23

Acid Extractable metals in soil				
Our Reference		206600-39	206600-40	206600-41
Your Reference	UNITS	BD1/20181121 - [TRIPLICATE]	BH102 - [TRIPLICATE]	BH110 - [TRIPLICATE]
Depth		-	2.2-2.4	0.5-0.6
Date Sampled		21/11/2018	21/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	28/11/2018	28/11/2018	28/11/2018
Arsenic	mg/kg	6	5	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4
Chromium	mg/kg	13	13	6
Copper	mg/kg	17	21	7
Lead	mg/kg	15	14	4
Mercury	mg/kg	<0.1	<0.1	<0.1
Nickel	mg/kg	7	8	2
Zinc	mg/kg	28	30	5

Misc Soil - Inorg						
Our Reference		206600-8	206600-11	206600-12	206600-13	206600-14
Your Reference	UNITS	BH101	BH102	BH103	BH103	BH103
Depth		0-0.2	2.2-2.4	0-0.2	2.4-2.5	3.55-4.0
Date Sampled		21/11/2018	21/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg						
Our Reference		206600-16	206600-18	206600-20	206600-21	206600-22
Your Reference	UNITS	BH104	BH105	BH106	BH110	BH110
Depth		0-0.2	0-0.2	0.5-0.6	0.5-0.6	1.0-1.3
Date Sampled		22/11/2018	22/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg						
Our Reference		206600-24	206600-25	206600-26	206600-27	206600-28
Your Reference	UNITS	BH111	BH112	BH112	BH116	BH116
Depth		0.5-0.6	0-0.2	2.5-2.95	0-0.2	0.5-0.6
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg						
Our Reference		206600-30	206600-32	206600-33	206600-34	206600-36
Your Reference	UNITS	BH117	BH118	BH118	BH119	BH120
Depth		0.5-0.6	0-0.2	2.0-2.45	0.5-0.6	0-0.2
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg		
Our Reference		206600-37
Your Reference	UNITS	BH120
Depth		2.3-2.45
Date Sampled		23/11/2018
Type of sample		Soil
Date prepared	-	28/11/2018
Date analysed	-	28/11/2018
Total Phenolics (as Phenol)	mg/kg	<5

Misc Inorg - Soil				
Our Reference		206600-8	206600-10	206600-24
Your Reference	UNITS	BH101	BH102	BH111
Depth		0-0.2	0.4-0.5	0.5-0.6
Date Sampled		21/11/2018	21/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil
Date prepared	-	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018
pH 1:5 soil:water	pH Units	5.1	7.8	5.1
Total Organic Carbon (Walkley Black)	mg/kg	8,000	3,800	4,300

Moisture						
Our Reference		206600-1	206600-2	206600-3	206600-4	206600-5
Your Reference	UNITS	BD1/20181121	BD2/20181122	BD3/20181122	BD4/20181122	BD5/20181122
Depth		-	-	-	-	-
Date Sampled		21/11/2018	22/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Moisture	%	6.7	9.1	7.0	9.5	11

Moisture						
Our Reference		206600-8	206600-9	206600-11	206600-12	206600-13
Your Reference	UNITS	BH101	BH101	BH102	BH103	BH103
Depth		0-0.2	0.7-0.8	2.2-2.4	0-0.2	2.4-2.5
Date Sampled		21/11/2018	21/11/2018	21/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Moisture	%	15	17	15	7.9	9.8

Moisture						
Our Reference		206600-14	206600-15	206600-16	206600-17	206600-18
Your Reference	UNITS	BH103	BH103	BH104	BH104	BH105
Depth		3.55-4.0	5.05-5.55	0-0.2	4.0-4.45	0-0.2
Date Sampled		22/11/2018	22/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Moisture	%	20	13	13	15	11

Moisture						
Our Reference		206600-19	206600-20	206600-21	206600-22	206600-23
Your Reference	UNITS	BH105	BH106	BH110	BH110	BH110
Depth		3.5-3.7	0.5-0.6	0.5-0.6	1.0-1.3	1.3-1.45
Date Sampled		22/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Moisture	%	16	7.4	16	14	7.0

Moisture						
Our Reference		206600-24	206600-25	206600-26	206600-27	206600-28
Your Reference	UNITS	BH111	BH112	BH112	BH116	BH116
Depth		0.5-0.6	0-0.2	2.5-2.95	0-0.2	0.5-0.6
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Moisture	%	13	6.9	8.9	9.5	11

Moisture						
Our Reference		206600-29	206600-30	206600-31	206600-32	206600-33
Your Reference	UNITS	BH116	BH117	BH117	BH118	BH118
Depth		0.6-0.7	0.5-0.6	1.5-1.6	0-0.2	2.0-2.45
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Moisture	%	17	9.5	12	14	14

Moisture						
Our Reference		206600-34	206600-35	206600-36	206600-37	206600-38
Your Reference	UNITS	BH119	BH119	BH120	BH120	BH120
Depth		0.5-0.6	2.0-2.45	0-0.2	2.3-2.45	4.0-4.45
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	232/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/11/2018	28/11/2018	28/11/2018	28/11/2018	28/11/2018
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Moisture	%	12	15	5.8	17	8.3

Asbestos ID - soils						
Our Reference		206600-8	206600-11	206600-12	206600-13	206600-14
Your Reference	UNITS	BH101	BH102	BH103	BH103	BH103
Depth		0-0.2	2.2-2.4	0-0.2	2.4-2.5	3.55-4.0
Date Sampled		21/11/2018	21/11/2018	22/11/2018	22/11/2018	22/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Sample mass tested	g	Approx. 35g	Approx. 35g	Approx. 40g	Approx. 35g	Approx. 35g
Sample Description	-	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference		206600-16	206600-18	206600-20	206600-21	206600-22
Your Reference	UNITS	BH104	BH105	BH106	BH110	BH110
Depth		0-0.2	0-0.2	0.5-0.6	0.5-0.6	1.0-1.3
Date Sampled		22/11/2018	22/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Sample mass tested	g	Approx. 45g	Approx. 35g	Approx. 40g	Approx. 40g	Approx. 45g
Sample Description	-	Brown clayey soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference		206600-24	206600-25	206600-26	206600-27	206600-28
Your Reference	UNITS	BH111	BH112	BH112	BH116	BH116
Depth		0.5-0.6	0-0.2	2.5-2.95	0-0.2	0.5-0.6
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Sample mass tested	g	Approx. 35g	Approx. 40g	Approx. 40g	Approx. 40g	Approx. 35g
Sample Description	-	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference		206600-30	206600-32	206600-33	206600-34	206600-36
Your Reference	UNITS	BH117	BH118	BH118	BH119	BH120
Depth		0.5-0.6	0-0.2	2.0-2.45	0.5-0.6	0-0.2
Date Sampled		23/11/2018	23/11/2018	23/11/2018	23/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Sample mass tested	g	Approx. 40g	Approx. 35g	Approx. 35g	Approx. 40g	Approx. 40g
Sample Description	-	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils		
Our Reference		206600-37
Your Reference	UNITS	BH120
Depth		2.3-2.45
Date Sampled		23/11/2018
Type of sample		Soil
Date analysed	-	29/11/2018
Sample mass tested	g	Approx. 30g
Sample Description	-	Brown clayey soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected

CEC				
Our Reference		206600-8	206600-10	206600-24
Your Reference	UNITS	BH101	BH102	BH111
Depth		0-0.2	0.4-0.5	0.5-0.6
Date Sampled		21/11/2018	21/11/2018	23/11/2018
Type of sample		Soil	Soil	Soil
Date prepared	-	30/11/2018	30/11/2018	30/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018
Exchangeable Ca	meq/100g	1.6	5.2	1.4
Exchangeable K	meq/100g	0.3	0.2	0.2
Exchangeable Mg	meq/100g	9.6	3.8	1.7
Exchangeable Na	meq/100g	2.1	0.47	0.40
Cation Exchange Capacity	meq/100g	14	9.7	3.6

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
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.
Inorg-036	Total Organic Carbon or Matter - A titrimetric method that measures the oxidisable organic content of soils.
Metals-009	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-AES analytical finish.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's. 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-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.

Method ID	Methodology Summary
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-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-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-016	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-10	206600-2
Date extracted	-			28/11/2018	1	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Date analysed	-			30/11/2018	1	30/11/2018	30/11/2018		30/11/2018	30/11/2018
TRH C_6 - C_9	mg/kg	25	Org-016	<25	1	<25	<25	0	88	82
TRH C_6 - C_{10}	mg/kg	25	Org-016	<25	1	<25	<25	0	88	82
Benzene	mg/kg	0.2	Org-016	<0.2	1	<0.2	<0.2	0	91	85
Toluene	mg/kg	0.5	Org-016	<0.5	1	<0.5	<0.5	0	88	83
Ethylbenzene	mg/kg	1	Org-016	<1	1	<1	<1	0	87	81
m+p-xylene	mg/kg	2	Org-016	<2	1	<2	<2	0	87	81
o-Xylene	mg/kg	1	Org-016	<1	1	<1	<1	0	90	84
naphthalene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	106	1	96	94	2	100	93

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	206600-22
Date extracted	-			[NT]	11	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Date analysed	-			[NT]	11	30/11/2018	30/11/2018		30/11/2018	30/11/2018
TRH C_6 - C_9	mg/kg	25	Org-016	[NT]	11	<25	<25	0	89	84
TRH C_6 - C_{10}	mg/kg	25	Org-016	[NT]	11	<25	<25	0	89	84
Benzene	mg/kg	0.2	Org-016	[NT]	11	<0.2	<0.2	0	92	87
Toluene	mg/kg	0.5	Org-016	[NT]	11	<0.5	<0.5	0	89	84
Ethylbenzene	mg/kg	1	Org-016	[NT]	11	<1	<1	0	87	82
m+p-xylene	mg/kg	2	Org-016	[NT]	11	<2	<2	0	88	83
o-Xylene	mg/kg	1	Org-016	[NT]	11	<1	<1	0	91	85
naphthalene	mg/kg	1	Org-014	[NT]	11	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	11	90	93	3	100	94

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]	21	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	30/11/2018	30/11/2018		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-016	[NT]	21	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-016	[NT]	21	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-016	[NT]	21	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-016	[NT]	21	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-016	[NT]	21	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-016	[NT]	21	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-016	[NT]	21	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-014	[NT]	21	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	21	98	98	0	[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]	31	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	31	30/11/2018	30/11/2018		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-016	[NT]	31	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-016	[NT]	31	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-016	[NT]	31	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-016	[NT]	31	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-016	[NT]	31	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-016	[NT]	31	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-016	[NT]	31	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-014	[NT]	31	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	31	94	92	2	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	206600-2
Date extracted	-			28/11/2018	1	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Date analysed	-			29/11/2018	1	29/11/2018	29/11/2018		29/11/2018	29/11/2018
TRH C_{10} - C_{14}	mg/kg	50	Org-003	<50	1	<50	<50	0	124	116
TRH C_{15} - C_{28}	mg/kg	100	Org-003	<100	1	<100	<100	0	119	109
TRH C_{29} - C_{36}	mg/kg	100	Org-003	<100	1	<100	<100	0	130	88
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	<50	1	<50	<50	0	124	116
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	<100	1	<100	<100	0	119	109
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	<100	1	<100	<100	0	130	88
Surrogate o-Terphenyl	%		Org-003	111	1	100	109	9	98	88

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	206600-22
Date extracted	-			[NT]	11	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Date analysed	-			[NT]	11	29/11/2018	29/11/2018		29/11/2018	30/11/2018
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	11	<50	<50	0	105	112
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	11	<100	<100	0	106	108
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	11	<100	<100	0	128	92
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	11	<50	<50	0	105	112
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	11	<100	<100	0	106	108
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	11	<100	<100	0	128	92
Surrogate o-Terphenyl	%		Org-003	[NT]	11	86	86	0	85	85

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	30/11/2018	30/11/2018		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	21	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	21	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	21	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	21	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	21	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	21	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-003	[NT]	21	85	85	0	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	31	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	31	30/11/2018	30/11/2018		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	31	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	31	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	31	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	31	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	31	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	31	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-003	[NT]	31	83	83	0	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	206600-2
Date extracted	-			28/11/2018	1	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Date analysed	-			03/12/2018	1	03/12/2018	03/12/2018		03/12/2018	03/12/2018
Naphthalene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	120	119
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	125	122
Phenanthrene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	126	126
Anthracene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	123	122
Pyrene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	109	109
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	117	115
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	1	<0.05	<0.05	0	115	114
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	107	1	104	103	1	100	99

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	206600-22
Date extracted	-			[NT]	11	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Date analysed	-			[NT]	11	03/12/2018	03/12/2018		03/12/2018	03/12/2018
Naphthalene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	118	116
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	119	119
Phenanthrene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	123	121
Anthracene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	119	119
Pyrene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	107	106
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	113	111
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	11	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	11	<0.05	<0.05	0	113	107
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	11	101	98	3	98	96

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	03/12/2018	03/12/2018		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	21	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	21	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	21	72	97	30	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	31	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	31	03/12/2018	03/12/2018		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	31	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	31	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	31	99	97	2	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	206600-22
Date extracted	-			28/11/2018	11	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Date analysed	-			30/11/2018	11	29/11/2018	29/11/2018		29/11/2018	29/11/2018
HCB	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	100	105
gamma-BHC	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	113	115
Heptachlor	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	102	103
delta-BHC	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	109	110
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	99	100
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	120	122
Dieldrin	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	101	102
Endrin	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	103	104
pp-DDD	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	118	120
Endosulfan II	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	90	94
Methoxychlor	mg/kg	0.1	Org-005	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	94	11	96	109	13	113	112

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	29/11/2018	29/11/2018		[NT]	[NT]
HCB	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	[NT]	21	96	95	1	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	37	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	37	30/11/2018	30/11/2018		[NT]	[NT]
HCB	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-005	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	[NT]	37	95	97	2	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	206600-22
Date extracted	-			28/11/2018	11	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Date analysed	-			30/11/2018	11	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-008	<0.1	11	<0.1	<0.1	0	103	104
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	<0.1	11	<0.1	<0.1	0	99	103
Dimethoate	mg/kg	0.1	Org-008	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	<0.1	11	<0.1	<0.1	0	91	93
Fenitrothion	mg/kg	0.1	Org-008	<0.1	11	<0.1	<0.1	0	104	101
Malathion	mg/kg	0.1	Org-008	<0.1	11	<0.1	<0.1	0	77	75
Parathion	mg/kg	0.1	Org-008	<0.1	11	<0.1	<0.1	0	103	104
Ronnel	mg/kg	0.1	Org-008	<0.1	11	<0.1	<0.1	0	77	77
Surrogate TCMX	%		Org-008	94	11	96	109	13	91	94

QUALITY CONTROL: Organophosphorus Pesticides						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	29/11/2018	29/11/2018		[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-008	[NT]	21	96	95	1	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	37	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	37	30/11/2018	30/11/2018		[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-008	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-008	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-008	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-008	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-008	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-008	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-008	[NT]	37	95	97	2	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	206600-22
Date extracted	-			28/11/2018	11	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Date analysed	-			30/11/2018	11	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	11	<0.1	<0.1	0	93	97
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	11	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	94	11	96	109	13	91	94

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	29/11/2018	29/11/2018		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	[NT]	21	96	95	1	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	37	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	37	30/11/2018	30/11/2018		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-006	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-006	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	[NT]	37	95	97	2	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	206600-2
Date prepared	-			28/11/2018	1	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Date analysed	-			28/11/2018	1	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Arsenic	mg/kg	4	Metals-020	<4	1	<4	<4	0	107	81
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	97	80
Chromium	mg/kg	1	Metals-020	<1	1	10	6	50	103	84
Copper	mg/kg	1	Metals-020	<1	1	19	13	38	113	108
Lead	mg/kg	1	Metals-020	<1	1	12	8	40	103	84
Mercury	mg/kg	0.1	Metals-021	<0.1	1	<0.1	<0.1	0	112	109
Nickel	mg/kg	1	Metals-020	<1	1	6	5	18	104	85
Zinc	mg/kg	1	Metals-020	<1	1	21	18	15	97	83

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	206600-22
Date prepared	-			[NT]	11	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Date analysed	-			[NT]	11	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Arsenic	mg/kg	4	Metals-020	[NT]	11	<4	<4	0	107	82
Cadmium	mg/kg	0.4	Metals-020	[NT]	11	<0.4	<0.4	0	96	78
Chromium	mg/kg	1	Metals-020	[NT]	11	7	12	53	102	89
Copper	mg/kg	1	Metals-020	[NT]	11	14	23	49	112	100
Lead	mg/kg	1	Metals-020	[NT]	11	9	12	29	101	86
Mercury	mg/kg	0.1	Metals-021	[NT]	11	<0.1	<0.1	0	109	106
Nickel	mg/kg	1	Metals-020	[NT]	11	4	7	55	103	84
Zinc	mg/kg	1	Metals-020	[NT]	11	17	24	34	96	76

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	21	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	28/11/2018	28/11/2018		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	21	<4	<4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	21	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	21	10	6	50	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	21	12	9	29	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	21	8	5	46	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	21	3	2	40	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	21	9	7	25	[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]	31	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	31	28/11/2018	28/11/2018		[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	10	10	0	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	31	34	39	14	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	31	13	15	14	[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	10	12	18	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	31	50	58	15	[NT]	[NT]

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	206600-11
Date prepared	-			28/11/2018	8	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Date analysed	-			28/11/2018	8	28/11/2018	28/11/2018		28/11/2018	28/11/2018
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	8	<5	<5	0	103	104

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	[NT]
Date prepared	-			[NT]	22	28/11/2018	28/11/2018		28/11/2018	[NT]
Date analysed	-			[NT]	22	28/11/2018	28/11/2018		28/11/2018	[NT]
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	[NT]	22	<5	<5	0	103	[NT]

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	34	28/11/2018	28/11/2018		[NT]	[NT]
Date analysed	-			[NT]	34	28/11/2018	28/11/2018		[NT]	[NT]
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	[NT]	34	<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	-			28/11/2018	[NT]	[NT]	[NT]	[NT]	28/11/2018	[NT]
Date analysed	-			28/11/2018	[NT]	[NT]	[NT]	[NT]	28/11/2018	[NT]
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	[NT]	[NT]	[NT]	[NT]	102	[NT]
Total Organic Carbon (Walkley Black)	mg/kg	1000	Inorg-036	<1000	[NT]	[NT]	[NT]	[NT]	97	[NT]

QUALITY CONTROL: CEC					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			30/11/2018	[NT]	[NT]	[NT]	[NT]	30/11/2018	[NT]
Date analysed	-			30/11/2018	[NT]	[NT]	[NT]	[NT]	30/11/2018	[NT]
Exchangeable Ca	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Exchangeable K	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	[NT]	[NT]	109	[NT]
Exchangeable Mg	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Exchangeable Na	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	[NT]	[NT]	107	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-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.

Report Comments

Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 206600-1 for Cr. Therefore a triplicate result has been issued as laboratory sample number 206600-39.

Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 206600-11 for Cr and Ni. Therefore a triplicate result has been issued as laboratory sample number 206600-40.

Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 206600-21 for Cr. Therefore a triplicate result has been issued as laboratory sample number 206600-41.

Asbestos: A portion of the supplied samples were sub-sampled for asbestos analysis according to Envirolab procedures. We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab recommends supplying 40-50g of sample in its own container.
Note: Samples requested for asbestos testing were sub-sampled from jars provided by the client.

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CERTIFICATE OF ANALYSIS 206810

Client Details

Client	Douglas Partners Pty Ltd (Riverstone)
Attention	Gavin Boyd
Address	43 Hobart St, Riverstone, NSW, 2765

Sample Details

Your Reference	**94522.00, Proposed Public School, Marsden Park**
Number of Samples	41 SOIL
Date samples received	28/11/2018
Date completed instructions received	29/11/2018

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	05/12/2018
Date of Issue	05/12/2018

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Asbestos Approved By
Analysed by Asbestos Approved Identifier: Matt Tang
Authorised by Asbestos Approved Signatory: Matt Tang

Results Approved By
Jeremy Faircloth, Organics Supervisor
Long Pham, Team Leader, Metals
Matthew Tang, Asbsestos Analyst
Nancy Zhang, Assistant Lab Manager
Priya Samarawickrama, Senior Chemist
Steven Luong, Senior Chemist

Authorised By



Jacinta Hurst, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206810-1	206810-2	206810-3	206810-4	206810-5
Your Reference	UNITS	BD7/20181127	BD8/20181127	BH107/0-0.2	BH107/2/2.0-2.2	BH107/2.4-2.5
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	89	85	75	80	79

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206810-6	206810-7	206810-8	206810-9	206810-10
Your Reference	UNITS	BH108/0.5-0.6	BH108/1.7-1.8	BH109/0-0.2	BH109/1.0-1.2	BH109/2.0-2.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	81	80	79	80	82

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206810-11	206810-12	206810-13	206810-14	206810-15
Your Reference	UNITS	BH113/0.5-0.6	BH113/1.5-1.6	BH114/0.5-0.6	BH115/0-0.2	BH115/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	79	77	76	77	81

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206810-16	206810-17	206810-18	206810-19	206810-20
Your Reference	UNITS	BH115/2.0-2.2	BH121/0-0.2	BH121/1.0-1.2	BH121/2.0-2.2	BH122/0-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	76	85	82	78	84

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206810-21	206810-22	206810-23	206810-24	206810-25
Your Reference	UNITS	BH122/1.0-1.2	BH122/2.5-2.7	BH123/0.5-0.6	BH123/2.0-2.2	BH124/0.1-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	05/12/2018	05/12/2018	05/12/2018	03/12/2018	03/12/2018
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	%	75	78	76	73	72

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206810-26	206810-27	206810-28	206810-29	206810-30
Your Reference	UNITS	BH124/0.5-0.6	BH124/1.0-1.2	BH124/2.6-2.7	BH125/0-0.2	BH125/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	74	71	72	72	70

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206810-31	206810-32	206810-33	206810-34	206810-39
Your Reference	UNITS	BH106/1.0-1.45	TS-2	TB-2	BH108/2.2/2.3	TP1
Date Sampled		23/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
TRH C_6 - C_9	mg/kg	<25	[NA]	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	[NA]	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	[NA]	<25	<25	<25
Benzene	mg/kg	<0.2	99%	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	99%	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	100%	<1	<1	<1
m+p-xylene	mg/kg	<2	99%	<2	<2	<2
o-Xylene	mg/kg	<1	99%	<1	<1	<1
naphthalene	mg/kg	<1	[NA]	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	[NA]	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	72	70	75	71	73

vTRH(C6-C10)/BTEXN in Soil			
Our Reference		206810-40	206810-41
Your Reference	UNITS	TP2	TP3
Date Sampled		27/11/2018	27/11/2018
Type of sample		SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018
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	<1	<1
Surrogate aaa-Trifluorotoluene	%	73	73

svTRH (C10-C40) in Soil						
Our Reference		206810-1	206810-2	206810-3	206810-4	206810-5
Your Reference	UNITS	BD7/20181127	BD8/20181127	BH107/0-0.2	BH107/2/2.0-2.2	BH107/2.4-2.5
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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
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	%	109	78	87	89	86

svTRH (C10-C40) in Soil						
Our Reference		206810-6	206810-7	206810-8	206810-9	206810-10
Your Reference	UNITS	BH108/0.5-0.6	BH108/1.7-1.8	BH109/0-0.2	BH109/1.0-1.2	BH109/2.0-2.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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
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	%	76	88	77	77	75

svTRH (C10-C40) in Soil						
Our Reference		206810-11	206810-12	206810-13	206810-14	206810-15
Your Reference	UNITS	BH113/0.5-0.6	BH113/1.5-1.6	BH114/0.5-0.6	BH115/0-0.2	BH115/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	01/12/2018
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
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	%	77	81	75	88	82

svTRH (C10-C40) in Soil						
Our Reference		206810-16	206810-17	206810-18	206810-19	206810-20
Your Reference	UNITS	BH115/2.0-2.2	BH121/0-0.2	BH121/1.0-1.2	BH121/2.0-2.2	BH122/0-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	01/12/2018	01/12/2018	01/12/2018	01/12/2018	01/12/2018
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
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	%	76	88	88	76	87

svTRH (C10-C40) in Soil						
Our Reference		206810-21	206810-22	206810-23	206810-24	206810-25
Your Reference	UNITS	BH122/1.0-1.2	BH122/2.5-2.7	BH123/0.5-0.6	BH123/2.0-2.2	BH124/0.1-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	01/12/2018	01/12/2018	01/12/2018	01/12/2018	01/12/2018
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
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	81	81	74	74

svTRH (C10-C40) in Soil						
Our Reference		206810-26	206810-27	206810-28	206810-29	206810-30
Your Reference	UNITS	BH124/0.5-0.6	BH124/1.0-1.2	BH124/2.6-2.7	BH125/0-0.2	BH125/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	01/12/2018	01/12/2018	01/12/2018	01/12/2018	01/12/2018
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
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	83	73	74	75

svTRH (C10-C40) in Soil						
Our Reference		206810-31	206810-34	206810-39	206810-40	206810-41
Your Reference	UNITS	BH106/1.0-1.45	BH108/2.2/2.3	TP1	TP2	TP3
Date Sampled		23/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	01/12/2018	01/12/2018	01/12/2018	01/12/2018	01/12/2018
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
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	85	73	86	86

PAHs in Soil						
Our Reference		206810-1	206810-2	206810-3	206810-4	206810-5
Your Reference	UNITS	BD7/20181127	BD8/20181127	BH107/0-0.2	BH107/2/2.0-2.2	BH107/2.4-2.5
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	126	95	95	98	93

PAHs in Soil						
Our Reference		206810-6	206810-7	206810-8	206810-9	206810-10
Your Reference	UNITS	BH108/0.5-0.6	BH108/1.7-1.8	BH109/0-0.2	BH109/1.0-1.2	BH109/2.0-2.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	94	92	95	94

PAHs in Soil						
Our Reference		206810-11	206810-12	206810-13	206810-14	206810-15
Your Reference	UNITS	BH113/0.5-0.6	BH113/1.5-1.6	BH114/0.5-0.6	BH115/0-0.2	BH115/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	93	94	92	99	93

PAHs in Soil						
Our Reference		206810-16	206810-17	206810-18	206810-19	206810-20
Your Reference	UNITS	BH115/2.0-2.2	BH121/0-0.2	BH121/1.0-1.2	BH121/2.0-2.2	BH122/0-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	0.3
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.3
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2
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	0.06
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	0.85
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	99	89	98	92

PAHs in Soil						
Our Reference		206810-21	206810-22	206810-23	206810-24	206810-25
Your Reference	UNITS	BH122/1.0-1.2	BH122/2.5-2.7	BH123/0.5-0.6	BH123/2.0-2.2	BH124/0.1-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	91	99	90	97

PAHs in Soil						
Our Reference		206810-26	206810-27	206810-28	206810-29	206810-30
Your Reference	UNITS	BH124/0.5-0.6	BH124/1.0-1.2	BH124/2.6-2.7	BH125/0-0.2	BH125/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	93	92	91	92

PAHs in Soil						
Our Reference		206810-31	206810-34	206810-39	206810-40	206810-41
Your Reference	UNITS	BH106/1.0-1.45	BH108/2.2/2.3	TP1	TP2	TP3
Date Sampled		23/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	95	92	95	96	96

Organochlorine Pesticides in soil						
Our Reference		206810-3	206810-4	206810-6	206810-8	206810-9
Your Reference	UNITS	BH107/0-0.2	BH107/2/2.0-2.2	BH108/0.5-0.6	BH109/0-0.2	BH109/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	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
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
pp-DDD	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-DDT	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
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	%	94	100	96	98	110

Organochlorine Pesticides in soil						
Our Reference		206810-11	206810-13	206810-14	206810-15	206810-17
Your Reference	UNITS	BH113/0.5-0.6	BH114/0.5-0.6	BH115/0-0.2	BH115/1.0-1.2	BH121/0-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	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
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
pp-DDD	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-DDT	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
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	102	106	112	106

Organochlorine Pesticides in soil						
Our Reference		206810-18	206810-20	206810-21	206810-23	206810-25
Your Reference	UNITS	BH121/1.0-1.2	BH122/0-0.2	BH122/1.0-1.2	BH123/0.5-0.6	BH124/0.1-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	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
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
pp-DDD	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-DDT	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
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	%	94	102	108	86	92

Organochlorine Pesticides in soil					
Our Reference		206810-26	206810-27	206810-29	206810-40
Your Reference	UNITS	BH124/0.5-0.6	BH124/1.0-1.2	BH125/0-0.2	TP2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	96	102	106	112

Organophosphorus Pesticides						
Our Reference		206810-3	206810-4	206810-6	206810-8	206810-9
Your Reference	UNITS	BH107/0-0.2	BH107/2/2.0-2.2	BH108/0.5-0.6	BH109/0-0.2	BH109/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Azinphos-methyl (Guthion)	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
Chlorpyriphos	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
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Ethion	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
Parathion	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
Surrogate TCMX	%	94	100	96	98	110

Organophosphorus Pesticides						
Our Reference		206810-11	206810-13	206810-14	206810-15	206810-17
Your Reference	UNITS	BH113/0.5-0.6	BH114/0.5-0.6	BH115/0-0.2	BH115/1.0-1.2	BH121/0-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Azinphos-methyl (Guthion)	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
Chlorpyriphos	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
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Ethion	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
Parathion	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
Surrogate TCMX	%	98	102	106	112	106

Organophosphorus Pesticides						
Our Reference		206810-18	206810-20	206810-21	206810-23	206810-25
Your Reference	UNITS	BH121/1.0-1.2	BH122/0-0.2	BH122/1.0-1.2	BH123/0.5-0.6	BH124/0.1-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Azinphos-methyl (Guthion)	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
Chlorpyriphos	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
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Ethion	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
Parathion	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
Surrogate TCMX	%	94	102	108	86	92

Organophosphorus Pesticides					
Our Reference		206810-26	206810-27	206810-29	206810-40
Your Reference	UNITS	BH124/0.5-0.6	BH124/1.0-1.2	BH125/0-0.2	TP2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	96	102	106	112

PCBs in Soil						
Our Reference		206810-3	206810-4	206810-6	206810-8	206810-9
Your Reference	UNITS	BH107/0-0.2	BH107/2/2.0-2.2	BH108/0.5-0.6	BH109/0-0.2	BH109/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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 TCLMX	%	94	100	96	98	110

PCBs in Soil						
Our Reference		206810-11	206810-13	206810-14	206810-15	206810-17
Your Reference	UNITS	BH113/0.5-0.6	BH114/0.5-0.6	BH115/0-0.2	BH115/1.0-1.2	BH121/0-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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 TCLMX	%	98	102	106	112	106

PCBs in Soil						
Our Reference		206810-18	206810-20	206810-21	206810-23	206810-25
Your Reference	UNITS	BH121/1.0-1.2	BH122/0-0.2	BH122/1.0-1.2	BH123/0.5-0.6	BH124/0.1-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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 TCLMX	%	94	102	108	86	92

PCBs in Soil					
Our Reference		206810-26	206810-27	206810-29	206810-40
Your Reference	UNITS	BH124/0.5-0.6	BH124/1.0-1.2	BH125/0-0.2	TP2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	96	102	106	112

Acid Extractable metals in soil						
Our Reference		206810-1	206810-2	206810-3	206810-4	206810-5
Your Reference	UNITS	BD7/20181127	BD8/20181127	BH107/0-0.2	BH107/2/2.0-2.2	BH107/2.4-2.5
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Arsenic	mg/kg	5	6	9	6	4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	11	11	8	11	8
Copper	mg/kg	24	22	27	19	10
Lead	mg/kg	16	16	18	14	8
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	10	8	25	7	2
Zinc	mg/kg	41	33	110	32	8

Acid Extractable metals in soil						
Our Reference		206810-6	206810-7	206810-8	206810-9	206810-10
Your Reference	UNITS	BH108/0.5-0.6	BH108/1.7-1.8	BH109/0-0.2	BH109/1.0-1.2	BH109/2.0-2.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Arsenic	mg/kg	7	4	7	7	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	8	10	13	14	9
Copper	mg/kg	27	23	19	13	21
Lead	mg/kg	17	10	16	14	16
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	18	4	7	6	10
Zinc	mg/kg	66	16	31	27	45

Acid Extractable metals in soil						
Our Reference		206810-11	206810-12	206810-13	206810-14	206810-15
Your Reference	UNITS	BH113/0.5-0.6	BH113/1.5-1.6	BH114/0.5-0.6	BH115/0-0.2	BH115/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Arsenic	mg/kg	5	<4	6	6	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	11	5	12	11	8
Copper	mg/kg	21	21	22	21	16
Lead	mg/kg	11	8	16	17	13
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	5	5	9	8	8
Zinc	mg/kg	21	27	39	37	35

Acid Extractable metals in soil						
Our Reference		206810-16	206810-17	206810-18	206810-19	206810-20
Your Reference	UNITS	BH115/2.0-2.2	BH121/0-0.2	BH121/1.0-1.2	BH121/2.0-2.2	BH122/0-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Arsenic	mg/kg	7	7	5	4	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	11	10	8	10	6
Copper	mg/kg	31	25	24	25	16
Lead	mg/kg	18	16	15	18	11
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	12	9	11	4	19
Zinc	mg/kg	51	45	49	21	32

Acid Extractable metals in soil						
Our Reference		206810-21	206810-22	206810-23	206810-24	206810-25
Your Reference	UNITS	BH122/1.0-1.2	BH122/2.5-2.7	BH123/0.5-0.6	BH123/2.0-2.2	BH124/0.1-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Arsenic	mg/kg	7	5	6	5	6
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	11	10	11	10	5
Copper	mg/kg	24	12	20	24	7
Lead	mg/kg	17	8	16	15	16
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	9	4	10	7	<1
Zinc	mg/kg	37	12	40	31	2

Acid Extractable metals in soil						
Our Reference		206810-26	206810-27	206810-28	206810-29	206810-30
Your Reference	UNITS	BH124/0.5-0.6	BH124/1.0-1.2	BH124/2.6-2.7	BH125/0-0.2	BH125/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Arsenic	mg/kg	7	9	6	5	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	12	7	11	11	9
Copper	mg/kg	5	30	24	24	20
Lead	mg/kg	17	17	16	17	13
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	<1	12	10	8	9
Zinc	mg/kg	1	51	38	38	35

Acid Extractable metals in soil						
Our Reference		206810-31	206810-34	206810-39	206810-40	206810-41
Your Reference	UNITS	BH106/1.0-1.45	BH108/2.2/2.3	TP1	TP2	TP3
Date Sampled		23/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Arsenic	mg/kg	5	5	6	9	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	9	9	12	29	10
Copper	mg/kg	19	26	17	5	25
Lead	mg/kg	11	29	15	19	18
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	8	10	6	3	9
Zinc	mg/kg	27	50	25	11	36

Misc Soil - Inorg						
Our Reference		206810-3	206810-4	206810-6	206810-8	206810-9
Your Reference	UNITS	BH107/0-0.2	BH107/2/2.0-2.2	BH108/0.5-0.6	BH109/0-0.2	BH109/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	04/12/2018	04/12/2018	04/12/2018	04/12/2018	04/12/2018
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg						
Our Reference		206810-11	206810-13	206810-14	206810-15	206810-17
Your Reference	UNITS	BH113/0.5-0.6	BH114/0.5-0.6	BH115/0-0.2	BH115/1.0-1.2	BH121/0-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	04/12/2018	04/12/2018	04/12/2018	04/12/2018	04/12/2018
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg						
Our Reference		206810-18	206810-20	206810-21	206810-23	206810-25
Your Reference	UNITS	BH121/1.0-1.2	BH122/0-0.2	BH122/1.0-1.2	BH123/0.5-0.6	BH124/0.1-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	04/12/2018	04/12/2018	04/12/2018	04/12/2018	04/12/2018
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg					
Our Reference		206810-26	206810-27	206810-29	206810-40
Your Reference	UNITS	BH124/0.5-0.6	BH124/1.0-1.2	BH125/0-0.2	TP2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	04/12/2018	04/12/2018	04/12/2018	04/12/2018
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5

Moisture						
Our Reference		206810-1	206810-2	206810-3	206810-4	206810-5
Your Reference	UNITS	BD7/20181127	BD8/20181127	BH107/0-0.2	BH107/2/2.0-2.2	BH107/2.4-2.5
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Moisture	%	6.2	6.1	7.3	10	16

Moisture						
Our Reference		206810-6	206810-7	206810-8	206810-9	206810-10
Your Reference	UNITS	BH108/0.5-0.6	BH108/1.7-1.8	BH109/0-0.2	BH109/1.0-1.2	BH109/2.0-2.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Moisture	%	7.4	16	9.9	7.3	9.0

Moisture						
Our Reference		206810-11	206810-12	206810-13	206810-14	206810-15
Your Reference	UNITS	BH113/0.5-0.6	BH113/1.5-1.6	BH114/0.5-0.6	BH115/0-0.2	BH115/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Moisture	%	16	15	13	6.4	16

Moisture						
Our Reference		206810-16	206810-17	206810-18	206810-19	206810-20
Your Reference	UNITS	BH115/2.0-2.2	BH121/0-0.2	BH121/1.0-1.2	BH121/2.0-2.2	BH122/0-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Moisture	%	9.3	7.8	10	9.9	7.5

Moisture						
Our Reference		206810-21	206810-22	206810-23	206810-24	206810-25
Your Reference	UNITS	BH122/1.0-1.2	BH122/2.5-2.7	BH123/0.5-0.6	BH123/2.0-2.2	BH124/0.1-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Moisture	%	13	14	12	11	9.7

Moisture						
Our Reference		206810-26	206810-27	206810-28	206810-29	206810-30
Your Reference	UNITS	BH124/0.5-0.6	BH124/1.0-1.2	BH124/2.6-2.7	BH125/0-0.2	BH125/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Moisture	%	12	9.7	14	5.5	9.4

Moisture						
Our Reference		206810-31	206810-34	206810-39	206810-40	206810-41
Your Reference	UNITS	BH106/1.0-1.45	BH108/2.2/2.3	TP1	TP2	TP3
Date Sampled		23/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Moisture	%	12	10	6.0	2.5	4.7

Asbestos ID - soils						
Our Reference		206810-3	206810-4	206810-6	206810-8	206810-9
Your Reference	UNITS	BH107/0-0.2	BH107/2/2.0-2.2	BH108/0.5-0.6	BH109/0-0.2	BH109/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
Sample mass tested	g	Approx. 40g	Approx. 35g	Approx. 35g	Approx. 35g	Approx. 35g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference		206810-11	206810-13	206810-14	206810-15	206810-17
Your Reference	UNITS	BH113/0.5-0.6	BH114/0.5-0.6	BH115/0-0.2	BH115/1.0-1.2	BH121/0-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
Sample mass tested	g	Approx. 35g	Approx. 35g	Approx. 40g	Approx. 35g	Approx. 40g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference		206810-18	206810-20	206810-21	206810-23	206810-25
Your Reference	UNITS	BH121/1.0-1.2	BH122/0-0.2	BH122/1.0-1.2	BH123/0.5-0.6	BH124/0.1-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
Sample mass tested	g	Approx. 40g	Approx. 35g	Approx. 25g	Approx. 30g	Approx. 40g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Beige coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils					
Our Reference		206810-26	206810-27	206810-29	206810-40
Your Reference	UNITS	BH124/0.5-0.6	BH124/1.0-1.2	BH125/0-0.2	TP2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018
Sample mass tested	g	Approx. 35g	Approx. 35g	Approx. 35g	Approx. 55g
Sample Description	-	Peach coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Misc Inorg - Soil					
Our Reference		206810-35	206810-36	206810-37	206810-38
Your Reference	UNITS	BH119/0.5-0.6	BH102/0.5-1.0	BH105/1.5-2	BH117/1.5-1.6
Date Sampled		23/11/2018	21/11/2018	22/11/2018	23/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL
Date prepared	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018
pH 1:5 soil:water	pH Units	8.6	8.7	7.2	5.5
Chloride, Cl 1:5 soil:water	mg/kg	200	410	420	590
Sulphate, SO4 1:5 soil:water	mg/kg	280	610	580	430
Resistivity in soil*	ohm m	30	15	16	16

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
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 25oC in accordance with APHA 22nd ED 2510 and Rayment & Lyons. Resistivity is calculated from Conductivity.
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.
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Alternatively determined by colourimetry/turbidity using Discrete Analyer.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's. 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-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.

Method ID	Methodology Summary
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-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-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-016	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	206810-4
Date extracted	-			29/11/2018	3	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Date analysed	-			03/12/2018	3	03/12/2018	03/12/2018		03/12/2018	03/12/2018
TRH C_6 - C_9	mg/kg	25	Org-016	<25	3	<25	<25	0	104	88
TRH C_6 - C_{10}	mg/kg	25	Org-016	<25	3	<25	<25	0	104	88
Benzene	mg/kg	0.2	Org-016	<0.2	3	<0.2	<0.2	0	108	95
Toluene	mg/kg	0.5	Org-016	<0.5	3	<0.5	<0.5	0	98	86
Ethylbenzene	mg/kg	1	Org-016	<1	3	<1	<1	0	104	87
m+p-xylene	mg/kg	2	Org-016	<2	3	<2	<2	0	104	86
o-Xylene	mg/kg	1	Org-016	<1	3	<1	<1	0	107	88
naphthalene	mg/kg	1	Org-014	<1	3	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	78	3	75	81	8	86	80

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	206810-22
Date extracted	-			[NT]	12	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Date analysed	-			[NT]	12	03/12/2018	03/12/2018		03/12/2018	03/12/2018
TRH C_6 - C_9	mg/kg	25	Org-016	[NT]	12	<25	<25	0	105	94
TRH C_6 - C_{10}	mg/kg	25	Org-016	[NT]	12	<25	<25	0	105	94
Benzene	mg/kg	0.2	Org-016	[NT]	12	<0.2	<0.2	0	112	97
Toluene	mg/kg	0.5	Org-016	[NT]	12	<0.5	<0.5	0	100	88
Ethylbenzene	mg/kg	1	Org-016	[NT]	12	<1	<1	0	105	96
m+p-xylene	mg/kg	2	Org-016	[NT]	12	<2	<2	0	103	94
o-Xylene	mg/kg	1	Org-016	[NT]	12	<1	<1	0	108	96
naphthalene	mg/kg	1	Org-014	[NT]	12	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	12	77	79	3	86	75

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]	21	29/11/2018	29/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	05/12/2018	05/12/2018		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-016	[NT]	21	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-016	[NT]	21	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-016	[NT]	21	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-016	[NT]	21	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-016	[NT]	21	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-016	[NT]	21	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-016	[NT]	21	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-014	[NT]	21	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	21	75	76	1	[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]	31	29/11/2018	29/11/2018		[NT]	[NT]
Date analysed	-			[NT]	31	03/12/2018	03/12/2018		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-016	[NT]	31	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-016	[NT]	31	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-016	[NT]	31	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-016	[NT]	31	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-016	[NT]	31	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-016	[NT]	31	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-016	[NT]	31	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-014	[NT]	31	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	31	72	72	0	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	206810-4
Date extracted	-			29/11/2018	3	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Date analysed	-			01/12/2018	3	30/11/2018	30/11/2018		30/11/2018	30/11/2018
TRH C_{10} - C_{14}	mg/kg	50	Org-003	<50	3	<50	<50	0	101	94
TRH C_{15} - C_{28}	mg/kg	100	Org-003	<100	3	<100	<100	0	100	99
TRH C_{29} - C_{36}	mg/kg	100	Org-003	<100	3	<100	<100	0	116	102
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	<50	3	<50	<50	0	101	94
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	<100	3	<100	<100	0	100	99
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	<100	3	<100	<100	0	116	102
Surrogate o-Terphenyl	%		Org-003	75	3	87	76	13	97	89

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	206810-22
Date extracted	-			[NT]	12	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Date analysed	-			[NT]	12	30/11/2018	30/11/2018		01/12/2018	01/12/2018
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	12	<50	<50	0	102	89
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	12	<100	<100	0	110	93
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	12	<100	<100	0	122	76
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	12	<50	<50	0	102	89
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	12	<100	<100	0	110	93
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	12	<100	<100	0	122	76
Surrogate o-Terphenyl	%		Org-003	[NT]	12	81	87	7	89	81

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	29/11/2018	29/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	01/12/2018	01/12/2018		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	21	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	21	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	21	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	21	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	21	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	21	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-003	[NT]	21	74	87	16	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	31	29/11/2018	29/11/2018		[NT]	[NT]
Date analysed	-			[NT]	31	01/12/2018	01/12/2018		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	31	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	31	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	31	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	31	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	31	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	31	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-003	[NT]	31	73	74	1	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	206810-4
Date extracted	-			29/11/2018	3	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Date analysed	-			03/12/2018	3	03/12/2018	03/12/2018		03/12/2018	03/12/2018
Naphthalene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	112	106
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	118	112
Phenanthrene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	125	118
Anthracene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	118	111
Pyrene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	105	98
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	95	91
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	<0.2	3	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	3	<0.05	<0.05	0	109	105
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	92	3	95	95	0	94	88

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	206810-22
Date extracted	-			[NT]	12	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Date analysed	-			[NT]	12	03/12/2018	03/12/2018		03/12/2018	03/12/2018
Naphthalene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	116	109
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	124	117
Phenanthrene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	131	122
Anthracene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	123	116
Pyrene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	108	102
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	97	92
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	12	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	12	<0.05	<0.05	0	113	107
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	12	94	92	2	96	90

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	29/11/2018	29/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	03/12/2018	03/12/2018		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	21	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	21	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	21	91	97	6	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	31	29/11/2018	29/11/2018		[NT]	[NT]
Date analysed	-			[NT]	31	03/12/2018	03/12/2018		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	31	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	31	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	31	95	93	2	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	206810-4
Date extracted	-			29/11/2018	3	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Date analysed	-			30/11/2018	3	30/11/2018	30/11/2018		30/11/2018	30/11/2018
HCB	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	119	118
gamma-BHC	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	107	96
Heptachlor	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	115	112
delta-BHC	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	101	97
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	106	93
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	107	104
Dieldrin	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	119	116
Endrin	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	106	87
pp-DDD	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	124	100
Endosulfan II	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	116	114
Methoxychlor	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	113	3	94	98	4	115	114

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	29/11/2018	29/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	30/11/2018	30/11/2018		[NT]	[NT]
HCB	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	[NT]	21	108	86	23	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	206810-4
Date extracted	-			29/11/2018	3	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Date analysed	-			30/11/2018	3	30/11/2018	30/11/2018		30/11/2018	30/11/2018
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-008	<0.1	3	<0.1	<0.1	0	97	95
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	<0.1	3	<0.1	<0.1	0	97	105
Dimethoate	mg/kg	0.1	Org-008	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	<0.1	3	<0.1	<0.1	0	105	104
Fenitrothion	mg/kg	0.1	Org-008	<0.1	3	<0.1	<0.1	0	101	103
Malathion	mg/kg	0.1	Org-008	<0.1	3	<0.1	<0.1	0	91	87
Parathion	mg/kg	0.1	Org-008	<0.1	3	<0.1	<0.1	0	101	104
Ronnel	mg/kg	0.1	Org-008	<0.1	3	<0.1	<0.1	0	124	118
Surrogate TCMX	%		Org-008	113	3	94	98	4	100	105

QUALITY CONTROL: Organophosphorus Pesticides						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	29/11/2018	29/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	30/11/2018	30/11/2018		[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-008	[NT]	21	108	86	23	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	206810-4
Date extracted	-			29/11/2018	3	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Date analysed	-			30/11/2018	3	30/11/2018	30/11/2018		30/11/2018	30/11/2018
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	3	<0.1	<0.1	0	100	107
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	113	3	94	98	4	100	105

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	29/11/2018	29/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	30/11/2018	30/11/2018		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	[NT]	21	108	86	23	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	206810-4
Date prepared	-			29/11/2018	3	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Date analysed	-			30/11/2018	3	30/11/2018	30/11/2018		30/11/2018	30/11/2018
Arsenic	mg/kg	4	Metals-020	<4	3	9	6	40	105	81
Cadmium	mg/kg	0.4	Metals-020	<0.4	3	<0.4	<0.4	0	95	79
Chromium	mg/kg	1	Metals-020	<1	3	8	8	0	102	85
Copper	mg/kg	1	Metals-020	<1	3	27	29	7	111	104
Lead	mg/kg	1	Metals-020	<1	3	18	18	0	101	84
Mercury	mg/kg	0.1	Metals-021	<0.1	3	<0.1	<0.1	0	112	109
Nickel	mg/kg	1	Metals-020	<1	3	25	22	13	99	82
Zinc	mg/kg	1	Metals-020	<1	3	110	100	10	97	80

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	206810-22
Date prepared	-			[NT]	12	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Date analysed	-			[NT]	12	30/11/2018	30/11/2018		30/11/2018	30/11/2018
Arsenic	mg/kg	4	Metals-020	[NT]	12	<4	<4	0	105	82
Cadmium	mg/kg	0.4	Metals-020	[NT]	12	<0.4	<0.4	0	97	79
Chromium	mg/kg	1	Metals-020	[NT]	12	5	3	50	103	90
Copper	mg/kg	1	Metals-020	[NT]	12	21	25	17	111	107
Lead	mg/kg	1	Metals-020	[NT]	12	8	10	22	102	86
Mercury	mg/kg	0.1	Metals-021	[NT]	12	<0.1	<0.1	0	99	92
Nickel	mg/kg	1	Metals-020	[NT]	12	5	3	50	100	82
Zinc	mg/kg	1	Metals-020	[NT]	12	27	19	35	97	81

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	21	29/11/2018	29/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	30/11/2018	30/11/2018		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	21	7	6	15	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	21	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	21	11	11	0	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	21	24	22	9	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	21	17	15	12	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	21	9	9	0	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	21	37	35	6	[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]	31	29/11/2018	29/11/2018		[NT]	[NT]
Date analysed	-			[NT]	31	30/11/2018	30/11/2018		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	31	5	6	18	[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	9	10	11	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	31	19	23	19	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	31	11	14	24	[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	8	8	0	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	31	27	33	20	[NT]	[NT]

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	206810-4
Date prepared	-			04/12/2018	3	29/11/2018	29/11/2018		04/12/2018	04/12/2018
Date analysed	-			04/12/2018	3	04/12/2018	04/12/2018		04/12/2018	04/12/2018
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	3	<5	<5	0	103	102

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	21	29/11/2018	29/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	04/12/2018	04/12/2018		[NT]	[NT]
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	[NT]	21	<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	-			30/11/2018	[NT]	[NT]	[NT]	[NT]	30/11/2018	[NT]
Date analysed	-			30/11/2018	[NT]	[NT]	[NT]	[NT]	30/11/2018	[NT]
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	[NT]	[NT]	[NT]	[NT]	102	[NT]
Chloride, Cl 1:5 soil:water	mg/kg	10	Inorg-081	<10	[NT]	[NT]	[NT]	[NT]	100	[NT]
Sulphate, SO4 1:5 soil:water	mg/kg	10	Inorg-081	<10	[NT]	[NT]	[NT]	[NT]	96	[NT]
Resistivity in soil*	ohm m	1	Inorg-002	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-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.

Report Comments

Asbestos: A portion of the supplied samples were sub-sampled for asbestos analysis according to Envirolab procedures.
We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab recommends supplying
40-50g of sample in its own container.
Note: Samples requested for asbestos testing were sub-sampled from jars provided by the client.

Douglas Partners
Geotechnics / Environment / Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No:	94522.00	**Suburb:**	Marsden Park	**To:**	EnviroLab
Project Name:	Proposed Public School	**Order Number**			12 Ashley Street, Chatswood 2067
Project Manager:	Gavin Boyd	**Sampler:**	Joel J-H	**Attn:**	Aileen Hie
Emails:	gavin.boyd@douglaspartners.com.au; joel.james-hall@douglaspartners.com.a			**Phone:**	(02) 9910 6200
Date Required:	Same day ☐ 24 hours ☐ 48 hours ☐ 72 hours ☐ Standard ☑			**Email:**	Ahie@envirolab.com.au
Prior Storage:	☑ Esky ☑ Fridge ☐ Shelved	Do samples contain 'potential' HBM?	Yes ☐ No ☑ (If YES, then handle, transport and store in accordance with FPM HAZID)		

Sample ID	Lab ID	Date Sampled	Sample Type (S - soil, W - water)	Container Type (G - Glass, P - Plastic)	Analytes: Combo 8a	Combo 3	BTEX	CEC	TOC	pH				Notes/preservation
BD1/20181121	1	21/11/18	S	G		x								
BD2/20181122	2	22/11/18	S	G		x								
BD3/20181122	3	22/11/18	S	G		x								
BD4/20181122	4	22/11/18	S	G		x								
BD5/20181122	5	22/11/18	S	G		x								
TS-1	6						x							
TB-1	7						x							
BH101/0-0.2	8	21/11/18	S	G	x			x	x	x				
BH101/0.7-0.8	9	21/11/18	S	G		x								
BH102/0.4-0.5	10	21/11/18	S	G				x	x	x				
BH102/2.2-2.4	11	21/11/18	S	G	x									
BH103/0-0.2	12	22/11/18	S	G	x									
BH103/2.4-2.5	13	22/11/18	S	G	x									
BH103/3.55-4.0	14	22/11/18	S	G	x									
BH103/5.05-5.55	15	22/11/18	S	G		x								
														ANZECC PQLs req'd for all water analytes ☐

ENVIROLAB

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 206680
Date Received: 26/11
Time Received: 16:45
Received By: AZ
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Metals to Analyse: 8HM unless specified here:

Lab Report/Reference No:

Total number of samples in container: **Relinquished by:** **Transported to laboratory by:**

Send Results to: Douglas Partners Pty Ltd **Address** **Phone:** **Fax:**

Signed: AZ **Received by:** EBS **Date & Time:** 26/11 16:45

Douglas Partners
Geotechnics | Environment | Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No:	94522.00	**Suburb:**	Marsden Park	**To:**	EnviroLab
Project Name:	Proposed Public School	**Order Number**			12 Ashley Street, Chatswood 2067
Project Manager:	Gavin Boyd	**Sampler:**	Joel J-H	**Attn:**	Aileen Hie
Emails:	gavin.boyd@douglaspartners.com.au; joel.james-hall@douglaspartners.com.au			**Phone:**	(02) 9910 6200
Date Required:	Same day ☐ 24 hours ☐ 48 hours ☐ 72 hours ☐ Standard ☑			**Email:**	Ahie@envirolab.com.au
Prior Storage:	☑ Esky ☑ Fridge ☐ Shelved	Do samples contain 'potential' HBM?	Yes ☐ No ☑ (If YES, then handle, transport and store in accordance with FPM HAZID)		

Sample ID 206600	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - Glass, P - Plastic)	Analytes: Combo 8a	Combo 3	BTEX	CEC	TOC	pH				Notes/preservation
BH104/0-0.2	16	22/11/18	S	G	x									
BH104/4.0-4.45	17	22/11/18	S	G		x								
BH105/0-0.2	18	22/11/18	S	G	x									
BH105/3.5-3.7	19	22/11/18	S	G		x								
BH106/0.5-0.6	20	23/11/18	S	G	x									
BH106/1.0-1.45	NR.	23/11/18	S	G		x								
BH110/0.5-0.6	21	23/11/18	S	G	x									
BH110/1.0-1.3	22	23/11/18	S	G	x									
BH110/1.3-1.45	23	23/11/18	S	G		x								
BH111/0.5-0.6	24	23/11/18	S	G	x			x	x	x				
BH112/0-0.2	25	23/11/18	S	G	x									
BH112/2.5-2.95	26	23/11/18	S	G	x									
BH116/0-0.2	27	23/11/18	S	G	x									
BH116/0.5-0.6	28	23/11/18	S	G	x									
BH116/0.6-0.7	29	23/11/18	S	G		x								
														ANZECC PQLs req'd for all water analytes ☐

PQL (S) mg/kg

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Lab Report/Reference No:

Metals to Analyse: 8HM unless specified here:

Total number of samples in container:	**Relinquished by:**	**Transported to laboratory by:**
Send Results to: Douglas Partners Pty Ltd	**Address**	**Phone:** **Fax:**
Signed:	**Received by:** FCS Andy Zhang	**Date & Time:** 26/11 16:45

Douglas Partners
Geotechnics | Environment | Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No:	94522.00	**Suburb:**	Marsden Park	**To:**	EnviroLab
Project Name:	Proposed Public School	**Order Number**			12 Ashley Street, Chatswood 2067
Project Manager:	Gavin Boyd	**Sampler:**	Joel J-H	**Attn:**	Aileen Hie
Emails:	gavin.boyd@douglaspartners.com.au; joel.james-hall@douglaspartners.com.a			**Phone:**	(02) 9910 6200
Date Required:	Same day ☐ 24 hours ☐ 48 hours ☐ 72 hours ☐ Standard ☑			**Email:**	Ahie@envirolab.com.au
Prior Storage:	☑ Esky ☑ Fridge ☐ Shelved	Do samples contain 'potential' HBM?	Yes ☐	No ☑	(If YES, then handle, transport and store in accordance with FPM HAZID)

Sample ID 206600	Lab ID	Sampling Date	Sample Type (S - soil W - water)	Container Type (G - Glass P - Plastic)	Analytes: Combo 8a	Combo 3	BTEX	CEC	TOC	pH				Notes/preservation
BH117/0.5-0.6	30	23/11/18	S	G	x									
BH117/1.5-1.6	31	23/11/18	S	G		x								
BH118/0-0.2	32	23/11/18	S	G	x									
BH118/2.0-2.45	33	23/11/18	S	G	x									
~~BH118/3.5-3.95~~ 2.0-2.45		~~23/11/18~~	~~S~~	~~G~~		x								
BH119/0.5-0.6	34	23/11/18	S	G	x									
BH119/2.0-2.45	35	23/11/18	S	G		x								
BH120/0-0.2	36	22/11/18	S	G	x									
BH120/2.3-2.45	37	22/11/18	S	G	x									
BH120/4.0-4.45	38	22/11/18	S	G		x								
														ANZECC PQLs req'd for all water analytes ☐

PQL (S) mg/kg

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Lab Report/Reference No:

Metals to Analyse: 8HM unless specified here:

Total number of samples in container:	**Relinquished by:**	**Transported to laboratory by:**
Send Results to: Douglas Partners Pty Ltd	**Address**	**Phone:** **Fax:**
Signed:	**Received by:** BLB Andy Zhang	**Date & Time:** 16/11 16:45

Douglas Partners
Geotechnics / Environment / Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No:	94522.00	**Suburb:**	Marsden Park	**To:**	EnviroLab
Project Name:	Proposed Public School	**Order Number**			12 Ashley Street, Chatswood 2067
Project Manager:	Gavin Boyd	**Sampler:**	Joel J-H	**Attn:**	Aileen Hie
Emails:	gavin.boyd@douglaspartners.com.au; joel.james-hall@douglaspartners.com.au			**Phone:**	(02) 9910 6200
Date Required:	Same day ☐ 24 hours ☐ 48 hours ☐ 72 hours ☐ Standard ☑			**Email:**	Ahie@envirolab.com.au
Prior Storage:	☑ Esky ☑ Fridge ☐ Shelved	Do samples contain 'potential' HBM?	Yes ☐ No ☑ (If YES, then handle, transport and store in accordance with FPM HAZID)		

Sample ID	Lab ID	Date Sampled	Sample Type (S - soil, W - water)	Container Type (G - Glass, P - Plastic)	Analytes: Combo 8a	Combo 3	BTEX							Notes/preservation
BD7/20181127	1	27/11/18	S	G		x								
BD8/20181127	2	27/11/18	S	G		x								
BH107/0-0.2	3	27/11/18	S	G	x									
BH107/2/2.0-2.2	4	27/11/18	S	G	x									
BH107/2.4-2.5	5	27/11/18	S	G		x								
BH108/0.5-0.6	6	27/11/18	S	G	x									
BH108/1.7-1.8	7	27/11/18	S	G		x								
BH109/0-0.2	8	27/11/18	S	G	x									
BH109/1.0-1.2	9	27/11/18	S	G	x									
BH109/2.0-2.2	10	27/11/18	S	G		x								
BH113/0.5-0.6	11	27/11/18	S	G	x									
BH113/1.5-1.6	12	27/11/18	S	G		x								
BH114/0.5-0.6	13	27/11/18	S	G	x									
BH114/2.0-2.2	NR	27/11/18	S	G		x								
BH115/0-0.2	14	27/11/18	S	G	x									
														ANZECC PQLs req'd for all water analytes ☐

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200
Job No: 206810
Date Received: 28/11
Time Received: 17:16
Received By: AZ
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Metals to Analyse: 8HM unless specified here:

Lab Report/Reference No:

Total number of samples in container: | **Relinquished by:** | **Transported to laboratory by:**

Send Results to: Douglas Partners Pty Ltd | **Address:** | **Phone:** | **Fax:**

Signed: AZ | **Received by:** AZ Andy Zheng DPS | **Date & Time:** 28/11 17:16

Douglas Partners
Geotechnics / Environment / Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No:	94522.00	**Suburb:**	Marsden Park	**To:**	EnviroLab
Project Name:	Proposed Public School	**Order Number**			12 Ashley Street, Chatswood 2067
Project Manager:	Gavin Boyd	**Sampler:**	Joel J-H	**Attn:**	Aileen Hie
Emails:	gavin.boyd@douglaspartners.com.au; joel.james-hall@douglaspartners.com.a			**Phone:**	(02) 9910 6200
Date Required:	Same day ☐ 24 hours ☐ 48 hours ☐ 72 hours ☐ Standard ☑			**Email:**	Ahie@envirolab.com.au
Prior Storage:	☑ Esky ☑ Fridge ☐ Shelved	Do samples contain 'potential' HBM?	Yes ☐	No ☑	(If YES, then handle, transport and store in accordance with FPM HAZID)

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - Glass, P - Plastic)	Analytes: Combo 8a	Combo 3	BTEX							Notes/preservation
BH115/1.0-1.2	15	27/11/18	S	G	x									
BH115/2.0-2.2	16	27/11/18	S	G		x								
BH121/0-0.2	17	27/11/18	S	G	x									
BH121/1.0-1.2	18	27/11/18	S	G	x									
BH121/2.0-2.2	19	27/11/18	S	G		x								
BH122/0-0.2	20	27/11/18	S	G	x									
BH122/1.0-1.2	21	27/11/18	S	G	x									
BH122/2.5-2.7	22	27/11/18	S	G		x								
BH123/0.5-0.6	23	27/11/18	S	G	x									
BH123/2.0-2.2	24	27/11/18	S	G		x								
BH124/~~0-0.1~~ 0.1-0.2	25	27/11/18	S	G	x									
BH124/0.5-0.6	26	27/11/18	S	G	x									
BH124/1.0-1.2	27	27/11/18	S	G	x									
BH124/2.6-2.7	28	27/11/18	S	G		x								
BH125/0-0.2	29	27/11/18	S	G	x									
														ANZECC PQLs req'd for all water analytes ☐

PQL (S) mg/kg

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Lab Report/Reference No:

Metals to Analyse: 8HM unless specified here:

Total number of samples in container: **Relinquished by:** **Transported to laboratory by:**

Send Results to: Douglas Partners Pty Ltd **Address** **Phone:** **Fax:**

Signed: **Received by:** Andy Zhang PCS **Date & Time:** 28/11 17:16

Douglas Partners
Geotechnics | Environment | Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No:	94522.00	**Suburb:**	Marsden Park	**To:**	EnviroLab
Project Name:	Proposed Public School	**Order Number**			12 Ashley Street, Chatswood 2067
Project Manager:	Gavin Boyd	**Sampler:**	Joel J-H	**Attn:**	Aileen Hie
Emails:	gavin.boyd@douglaspartners.com.au; joel.james-hall@douglaspartners.com.a			**Phone:**	(02) 9910 6200
Date Required:	Same day ☐ 24 hours ☐ 48 hours ☐ 72 hours ☐ Standard ☐			**Email:**	Ahie@envirolab.com.au
Prior Storage:	☐ Esky ☐ Fridge ☐ Shelved	Do samples contain 'potential' HBM?	Yes ☐	No ☐	(If YES, then handle, transport and store in accordance with FPM HAZID)

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - Glass, P - Plastic)	Analytes: Combo 8a	Combo 3	BTEX	pH, SO4, Cl, Resistivity						Notes/preservation
BH125/1.0-1.2	30	27/11/18	S	G		x								
BH106/1.0-1.45	31	23/11/18	S	G		x								
TS-2	32						x							
TB-2	33						x							
BH108/2.2/2.3	34	27/11/18	S	G		x								
BH119/0.5-0.6	34VR	23/11/18	S	G/P				x						Sent jar with previous batch
BH102/0.5-1.0	36VR	21/11/18	S	P				x						
BH105/1.5-2	37VR	22/11/18	S	G				x						
BH117/1.5-1.6	38VR	23/11/18	S	G/P				x						Sent jar with previous batch
TP1	3439	27/11/18	S	G		x								
TP2	3640	27/11/18	S	G	x									
TP3	3741	27/11/18	S	G		x								
~~Extra:~~														
~~BH115/0.2-0.3~~	~~3842~~													
														ANZECC PQLs req'd for all water analytes ☐

PQL (S) mg/kg

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Lab Report/Reference No:

Metals to Analyse: 8HM unless specified here:

Total number of samples in container: **Relinquished by:** **Transported to laboratory by:**

Send Results to: Douglas Partners Pty Ltd **Address** **Phone:** **Fax:**

Signed: AZ **Received by:** Andy Zhang ELS **Date & Time:** 28/11 17:16

Douglas Partners
Geotechnics / Environment / Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No:	94522.00	**Suburb:**	Marsden Park	**To:**	EnviroLab
Project Name:	Proposed Public School	**Order Number**			12 Ashley Street, Chatswood 2067
Project Manager:	Gavin Boyd	**Sampler:**	Joel J-H	**Attn:**	Aileen Hie
Emails:	gavin.boyd@douglaspartners.com.au; joel.james-hall@douglaspartners.com.a			**Phone:**	(02) 9910 6200
Date Required:	Same day ☐ 24 hours ☐ 48 hours ☐ 72 hours ☐ Standard ☑			**Email:**	Ahie@envirolab.com.au
Prior Storage:	☑ Esky ☑ Fridge ☐ Shelved	Do samples contain 'potential' HBM?	Yes ☐ No ☑ (If YES, then handle, transport and store in accordance with FPM HAZID)		

Sample ID	Lab ID	Date Sampled	Sample Type (S - soil, W - water)	Container Type (G - Glass, P - Plastic)	Analytes: Combo 8a	Combo 3	BTEX	CEC	TOC	pH				Notes/preservation
BD1/20181121	1	21/11/18	S	G		x								
BD2/20181122	2	22/11/18	S	G		x								
BD3/20181122	3	22/11/18	S	G		x								
BD4/20181122	4	22/11/18	S	G		x								
BD5/20181122	5	22/11/18	S	G		x								
TS-1	6						x							
TB-1	7						x							
BH101/0-0.2	8	21/11/18	S	G	x			x	x	x				
BH101/0.7-0.8	9	21/11/18	S	G		x								
BH102/0.4-0.5	10	21/11/18	S	G				x	x	x				
BH102/2.2-2.4	11	21/11/18	S	G	x									
BH103/0-0.2	12	22/11/18	S	G	x									
BH103/2.4-2.5	13	22/11/18	S	G	x									
BH103/3.55-4.0	14	22/11/18	S	G	x									
BH103/5.05-5.55	15	22/11/18	S	G		x								
														ANZECC PQLs req'd for all water analytes ☐

ENVIROLAB

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 206680
Date Received: 26/11
Time Received: 16:45
Received By: AZ
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Metals to Analyse: 8HM unless specified here:

Lab Report/Reference No:

Total number of samples in container: **Relinquished by:** **Transported to laboratory by:**

Send Results to: Douglas Partners Pty Ltd **Address** **Phone:** **Fax:**

Signed: AZ **Received by:** EBS **Date & Time:** 26/11 16:45

Douglas Partners
Geotechnics | Environment | Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No:	94522.00	**Suburb:**	Marsden Park	**To:**	EnviroLab
Project Name:	Proposed Public School	**Order Number**			12 Ashley Street, Chatswood 2067
Project Manager:	Gavin Boyd	**Sampler:**	Joel J-H	**Attn:**	Aileen Hie
Emails:	gavin.boyd@douglaspartners.com.au; joel.james-hall@douglaspartners.com.au			**Phone:**	(02) 9910 6200
Date Required:	Same day ☐ 24 hours ☐ 48 hours ☐ 72 hours ☐ Standard ☑			**Email:**	Ahie@envirolab.com.au
Prior Storage:	☑ Esky ☑ Fridge ☐ Shelved	Do samples contain 'potential' HBM?	Yes ☐ No ☑ (If YES, then handle, transport and store in accordance with FPM HAZID)		

Sample ID 206600	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - Glass, P - Plastic)	Analytes: Combo 8a	Combo 3	BTEX	CEC	TOC	pH				Notes/preservation
BH104/0-0.2	16	22/11/18	S	G	x									
BH104/4.0-4.45	17	22/11/18	S	G		x								
BH105/0-0.2	18	22/11/18	S	G	x									
BH105/3.5-3.7	19	22/11/18	S	G		x								
BH106/0.5-0.6	20	23/11/18	S	G	x									
BH106/1.0-1.45	NR.	23/11/18	S	G		x								
BH110/0.5-0.6	21	23/11/18	S	G	x									
BH110/1.0-1.3	22	23/11/18	S	G	x									
BH110/1.3-1.45	23	23/11/18	S	G		x								
BH111/0.5-0.6	24	23/11/18	S	G	x			x	x	x				
BH112/0-0.2	25	23/11/18	S	G	x									
BH112/2.5-2.95	26	23/11/18	S	G	x									
BH116/0-0.2	27	23/11/18	S	G	x									
BH116/0.5-0.6	28	23/11/18	S	G	x									
BH116/0.6-0.7	29	23/11/18	S	G		x								
														ANZECC PQLs req'd for all water analytes ☐

PQL (S) mg/kg

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Lab Report/Reference No:

Metals to Analyse: 8HM unless specified here:

Total number of samples in container:	**Relinquished by:**	**Transported to laboratory by:**
Send Results to: Douglas Partners Pty Ltd	**Address**	**Phone:** **Fax:**
Signed:	**Received by:** FCS Andy Zhang	**Date & Time:** 26/11 16:45

Douglas Partners
Geotechnics | Environment | Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No:	94522.00	**Suburb:**	Marsden Park	**To:**	EnviroLab
Project Name:	Proposed Public School	**Order Number**			12 Ashley Street, Chatswood 2067
Project Manager:	Gavin Boyd	**Sampler:**	Joel J-H	**Attn:**	Aileen Hie
Emails:	gavin.boyd@douglaspartners.com.au; joel.james-hall@douglaspartners.com.a			**Phone:**	(02) 9910 6200
Date Required:	Same day ☐ 24 hours ☐ 48 hours ☐ 72 hours ☐ Standard ☑			**Email:**	Ahie@envirolab.com.au
Prior Storage:	☑ Esky ☑ Fridge ☐ Shelved	Do samples contain 'potential' HBM?	Yes ☐	No ☑	(If YES, then handle, transport and store in accordance with FPM HAZID)

Sample ID 206600	Lab ID	Sampling Date	Sample Type (S - soil W - water)	Container Type (G - Glass P - Plastic)	Analytes: Combo 8a	Combo 3	BTEX	CEC	TOC	pH				Notes/preservation
BH117/0.5-0.6	30	23/11/18	S	G	x									
BH117/1.5-1.6	31	23/11/18	S	G		x								
BH118/0-0.2	32	23/11/18	S	G	x									
BH118/2.0-2.45	33	23/11/18	S	G	x									
~~BH118/3.5-3.95~~ 2.0-2.45		~~23/11/18~~	~~S~~	~~G~~		x								
BH119/0.5-0.6	34	23/11/18	S	G	x									
BH119/2.0-2.45	35	23/11/18	S	G		x								
BH120/0-0.2	36	22/11/18	S	G	x									
BH120/2.3-2.45	37	22/11/18	S	G	x									
BH120/4.0-4.45	38	22/11/18	S	G		x								
														ANZECC PQLs req'd for all water analytes ☐

PQL (S) mg/kg

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Lab Report/Reference No:

Metals to Analyse: 8HM unless specified here:

Total number of samples in container:	**Relinquished by:**	**Transported to laboratory by:**
Send Results to: Douglas Partners Pty Ltd	**Address**	**Phone:** **Fax:**
Signed:	**Received by:** BLB Andy Zhang	**Date & Time:** 16/11 16:45

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 206810

Client Details

Client	Douglas Partners Pty Ltd (Riverstone)
Attention	Gavin Boyd
Address	43 Hobart St, Riverstone, NSW, 2765

Sample Details

Your Reference	**94522.00, Proposed Public School, Marsden Park**
Number of Samples	41 SOIL
Date samples received	28/11/2018
Date completed instructions received	29/11/2018

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	05/12/2018
Date of Issue	05/12/2018

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Asbestos Approved By
Analysed by Asbestos Approved Identifier: Matt Tang
Authorised by Asbestos Approved Signatory: Matt Tang

Results Approved By
Jeremy Faircloth, Organics Supervisor
Long Pham, Team Leader, Metals
Matthew Tang, Asbsestos Analyst
Nancy Zhang, Assistant Lab Manager
Priya Samarawickrama, Senior Chemist
Steven Luong, Senior Chemist

Authorised By



Jacinta Hurst, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206810-1	206810-2	206810-3	206810-4	206810-5
Your Reference	UNITS	BD7/20181127	BD8/20181127	BH107/0-0.2	BH107/2/2.0-2.2	BH107/2.4-2.5
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	89	85	75	80	79

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206810-6	206810-7	206810-8	206810-9	206810-10
Your Reference	UNITS	BH108/0.5-0.6	BH108/1.7-1.8	BH109/0-0.2	BH109/1.0-1.2	BH109/2.0-2.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	81	80	79	80	82

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206810-11	206810-12	206810-13	206810-14	206810-15
Your Reference	UNITS	BH113/0.5-0.6	BH113/1.5-1.6	BH114/0.5-0.6	BH115/0-0.2	BH115/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	79	77	76	77	81

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206810-16	206810-17	206810-18	206810-19	206810-20
Your Reference	UNITS	BH115/2.0-2.2	BH121/0-0.2	BH121/1.0-1.2	BH121/2.0-2.2	BH122/0-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	76	85	82	78	84

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206810-21	206810-22	206810-23	206810-24	206810-25
Your Reference	UNITS	BH122/1.0-1.2	BH122/2.5-2.7	BH123/0.5-0.6	BH123/2.0-2.2	BH124/0.1-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	05/12/2018	05/12/2018	05/12/2018	03/12/2018	03/12/2018
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	%	75	78	76	73	72

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206810-26	206810-27	206810-28	206810-29	206810-30
Your Reference	UNITS	BH124/0.5-0.6	BH124/1.0-1.2	BH124/2.6-2.7	BH125/0-0.2	BH125/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	74	71	72	72	70

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		206810-31	206810-32	206810-33	206810-34	206810-39
Your Reference	UNITS	BH106/1.0-1.45	TS-2	TB-2	BH108/2.2/2.3	TP1
Date Sampled		23/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
TRH C_6 - C_9	mg/kg	<25	[NA]	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	[NA]	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	[NA]	<25	<25	<25
Benzene	mg/kg	<0.2	99%	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	99%	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	100%	<1	<1	<1
m+p-xylene	mg/kg	<2	99%	<2	<2	<2
o-Xylene	mg/kg	<1	99%	<1	<1	<1
naphthalene	mg/kg	<1	[NA]	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	[NA]	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	72	70	75	71	73

vTRH(C6-C10)/BTEXN in Soil			
Our Reference		206810-40	206810-41
Your Reference	UNITS	TP2	TP3
Date Sampled		27/11/2018	27/11/2018
Type of sample		SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018
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	<1	<1
Surrogate aaa-Trifluorotoluene	%	73	73

svTRH (C10-C40) in Soil						
Our Reference		206810-1	206810-2	206810-3	206810-4	206810-5
Your Reference	UNITS	BD7/20181127	BD8/20181127	BH107/0-0.2	BH107/2/2.0-2.2	BH107/2.4-2.5
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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
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	%	109	78	87	89	86

svTRH (C10-C40) in Soil						
Our Reference		206810-6	206810-7	206810-8	206810-9	206810-10
Your Reference	UNITS	BH108/0.5-0.6	BH108/1.7-1.8	BH109/0-0.2	BH109/1.0-1.2	BH109/2.0-2.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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
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	%	76	88	77	77	75

svTRH (C10-C40) in Soil						
Our Reference		206810-11	206810-12	206810-13	206810-14	206810-15
Your Reference	UNITS	BH113/0.5-0.6	BH113/1.5-1.6	BH114/0.5-0.6	BH115/0-0.2	BH115/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	01/12/2018
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
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	%	77	81	75	88	82

svTRH (C10-C40) in Soil						
Our Reference		206810-16	206810-17	206810-18	206810-19	206810-20
Your Reference	UNITS	BH115/2.0-2.2	BH121/0-0.2	BH121/1.0-1.2	BH121/2.0-2.2	BH122/0-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	01/12/2018	01/12/2018	01/12/2018	01/12/2018	01/12/2018
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
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	%	76	88	88	76	87

svTRH (C10-C40) in Soil						
Our Reference		206810-21	206810-22	206810-23	206810-24	206810-25
Your Reference	UNITS	BH122/1.0-1.2	BH122/2.5-2.7	BH123/0.5-0.6	BH123/2.0-2.2	BH124/0.1-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	01/12/2018	01/12/2018	01/12/2018	01/12/2018	01/12/2018
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
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	81	81	74	74

svTRH (C10-C40) in Soil						
Our Reference		206810-26	206810-27	206810-28	206810-29	206810-30
Your Reference	UNITS	BH124/0.5-0.6	BH124/1.0-1.2	BH124/2.6-2.7	BH125/0-0.2	BH125/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	01/12/2018	01/12/2018	01/12/2018	01/12/2018	01/12/2018
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
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	83	73	74	75

svTRH (C10-C40) in Soil						
Our Reference		206810-31	206810-34	206810-39	206810-40	206810-41
Your Reference	UNITS	BH106/1.0-1.45	BH108/2.2/2.3	TP1	TP2	TP3
Date Sampled		23/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	01/12/2018	01/12/2018	01/12/2018	01/12/2018	01/12/2018
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
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	85	73	86	86

PAHs in Soil						
Our Reference		206810-1	206810-2	206810-3	206810-4	206810-5
Your Reference	UNITS	BD7/20181127	BD8/20181127	BH107/0-0.2	BH107/2/2.0-2.2	BH107/2.4-2.5
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	126	95	95	98	93

PAHs in Soil						
Our Reference		206810-6	206810-7	206810-8	206810-9	206810-10
Your Reference	UNITS	BH108/0.5-0.6	BH108/1.7-1.8	BH109/0-0.2	BH109/1.0-1.2	BH109/2.0-2.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	94	92	95	94

PAHs in Soil						
Our Reference		206810-11	206810-12	206810-13	206810-14	206810-15
Your Reference	UNITS	BH113/0.5-0.6	BH113/1.5-1.6	BH114/0.5-0.6	BH115/0-0.2	BH115/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	93	94	92	99	93

PAHs in Soil						
Our Reference		206810-16	206810-17	206810-18	206810-19	206810-20
Your Reference	UNITS	BH115/2.0-2.2	BH121/0-0.2	BH121/1.0-1.2	BH121/2.0-2.2	BH122/0-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	0.3
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.3
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2
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	0.06
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	0.85
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	99	89	98	92

PAHs in Soil						
Our Reference		206810-21	206810-22	206810-23	206810-24	206810-25
Your Reference	UNITS	BH122/1.0-1.2	BH122/2.5-2.7	BH123/0.5-0.6	BH123/2.0-2.2	BH124/0.1-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	91	99	90	97

PAHs in Soil						
Our Reference		206810-26	206810-27	206810-28	206810-29	206810-30
Your Reference	UNITS	BH124/0.5-0.6	BH124/1.0-1.2	BH124/2.6-2.7	BH125/0-0.2	BH125/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	93	92	91	92

PAHs in Soil						
Our Reference		206810-31	206810-34	206810-39	206810-40	206810-41
Your Reference	UNITS	BH106/1.0-1.45	BH108/2.2/2.3	TP1	TP2	TP3
Date Sampled		23/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
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	%	95	92	95	96	96

Organochlorine Pesticides in soil						
Our Reference		206810-3	206810-4	206810-6	206810-8	206810-9
Your Reference	UNITS	BH107/0-0.2	BH107/2/2.0-2.2	BH108/0.5-0.6	BH109/0-0.2	BH109/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	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
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
pp-DDD	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-DDT	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
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	%	94	100	96	98	110

Organochlorine Pesticides in soil						
Our Reference		206810-11	206810-13	206810-14	206810-15	206810-17
Your Reference	UNITS	BH113/0.5-0.6	BH114/0.5-0.6	BH115/0-0.2	BH115/1.0-1.2	BH121/0-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	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
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
pp-DDD	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-DDT	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
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	102	106	112	106

Organochlorine Pesticides in soil						
Our Reference		206810-18	206810-20	206810-21	206810-23	206810-25
Your Reference	UNITS	BH121/1.0-1.2	BH122/0-0.2	BH122/1.0-1.2	BH123/0.5-0.6	BH124/0.1-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	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
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
pp-DDD	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-DDT	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
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	%	94	102	108	86	92

Organochlorine Pesticides in soil					
Our Reference		206810-26	206810-27	206810-29	206810-40
Your Reference	UNITS	BH124/0.5-0.6	BH124/1.0-1.2	BH125/0-0.2	TP2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	96	102	106	112

Organophosphorus Pesticides						
Our Reference		206810-3	206810-4	206810-6	206810-8	206810-9
Your Reference	UNITS	BH107/0-0.2	BH107/2/2.0-2.2	BH108/0.5-0.6	BH109/0-0.2	BH109/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Azinphos-methyl (Guthion)	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
Chlorpyriphos	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
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Ethion	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
Parathion	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
Surrogate TCMX	%	94	100	96	98	110

Organophosphorus Pesticides						
Our Reference		206810-11	206810-13	206810-14	206810-15	206810-17
Your Reference	UNITS	BH113/0.5-0.6	BH114/0.5-0.6	BH115/0-0.2	BH115/1.0-1.2	BH121/0-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Azinphos-methyl (Guthion)	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
Chlorpyriphos	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
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Ethion	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
Parathion	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
Surrogate TCMX	%	98	102	106	112	106

Organophosphorus Pesticides						
Our Reference		206810-18	206810-20	206810-21	206810-23	206810-25
Your Reference	UNITS	BH121/1.0-1.2	BH122/0-0.2	BH122/1.0-1.2	BH123/0.5-0.6	BH124/0.1-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Azinphos-methyl (Guthion)	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
Chlorpyriphos	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
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Ethion	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
Parathion	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
Surrogate TCMX	%	94	102	108	86	92

Organophosphorus Pesticides					
Our Reference		206810-26	206810-27	206810-29	206810-40
Your Reference	UNITS	BH124/0.5-0.6	BH124/1.0-1.2	BH125/0-0.2	TP2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	96	102	106	112

PCBs in Soil						
Our Reference		206810-3	206810-4	206810-6	206810-8	206810-9
Your Reference	UNITS	BH107/0-0.2	BH107/2/2.0-2.2	BH108/0.5-0.6	BH109/0-0.2	BH109/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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 TCLMX	%	94	100	96	98	110

PCBs in Soil						
Our Reference		206810-11	206810-13	206810-14	206810-15	206810-17
Your Reference	UNITS	BH113/0.5-0.6	BH114/0.5-0.6	BH115/0-0.2	BH115/1.0-1.2	BH121/0-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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 TCLMX	%	98	102	106	112	106

PCBs in Soil						
Our Reference		206810-18	206810-20	206810-21	206810-23	206810-25
Your Reference	UNITS	BH121/1.0-1.2	BH122/0-0.2	BH122/1.0-1.2	BH123/0.5-0.6	BH124/0.1-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
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 TCLMX	%	94	102	108	86	92

PCBs in Soil					
Our Reference		206810-26	206810-27	206810-29	206810-40
Your Reference	UNITS	BH124/0.5-0.6	BH124/1.0-1.2	BH125/0-0.2	TP2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL
Date extracted	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	96	102	106	112

Acid Extractable metals in soil						
Our Reference		206810-1	206810-2	206810-3	206810-4	206810-5
Your Reference	UNITS	BD7/20181127	BD8/20181127	BH107/0-0.2	BH107/2/2.0-2.2	BH107/2.4-2.5
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Arsenic	mg/kg	5	6	9	6	4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	11	11	8	11	8
Copper	mg/kg	24	22	27	19	10
Lead	mg/kg	16	16	18	14	8
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	10	8	25	7	2
Zinc	mg/kg	41	33	110	32	8

Acid Extractable metals in soil						
Our Reference		206810-6	206810-7	206810-8	206810-9	206810-10
Your Reference	UNITS	BH108/0.5-0.6	BH108/1.7-1.8	BH109/0-0.2	BH109/1.0-1.2	BH109/2.0-2.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Arsenic	mg/kg	7	4	7	7	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	8	10	13	14	9
Copper	mg/kg	27	23	19	13	21
Lead	mg/kg	17	10	16	14	16
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	18	4	7	6	10
Zinc	mg/kg	66	16	31	27	45

Acid Extractable metals in soil						
Our Reference		206810-11	206810-12	206810-13	206810-14	206810-15
Your Reference	UNITS	BH113/0.5-0.6	BH113/1.5-1.6	BH114/0.5-0.6	BH115/0-0.2	BH115/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Arsenic	mg/kg	5	<4	6	6	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	11	5	12	11	8
Copper	mg/kg	21	21	22	21	16
Lead	mg/kg	11	8	16	17	13
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	5	5	9	8	8
Zinc	mg/kg	21	27	39	37	35

Acid Extractable metals in soil						
Our Reference		206810-16	206810-17	206810-18	206810-19	206810-20
Your Reference	UNITS	BH115/2.0-2.2	BH121/0-0.2	BH121/1.0-1.2	BH121/2.0-2.2	BH122/0-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Arsenic	mg/kg	7	7	5	4	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	11	10	8	10	6
Copper	mg/kg	31	25	24	25	16
Lead	mg/kg	18	16	15	18	11
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	12	9	11	4	19
Zinc	mg/kg	51	45	49	21	32

Acid Extractable metals in soil						
Our Reference		206810-21	206810-22	206810-23	206810-24	206810-25
Your Reference	UNITS	BH122/1.0-1.2	BH122/2.5-2.7	BH123/0.5-0.6	BH123/2.0-2.2	BH124/0.1-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Arsenic	mg/kg	7	5	6	5	6
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	11	10	11	10	5
Copper	mg/kg	24	12	20	24	7
Lead	mg/kg	17	8	16	15	16
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	9	4	10	7	<1
Zinc	mg/kg	37	12	40	31	2

Acid Extractable metals in soil						
Our Reference		206810-26	206810-27	206810-28	206810-29	206810-30
Your Reference	UNITS	BH124/0.5-0.6	BH124/1.0-1.2	BH124/2.6-2.7	BH125/0-0.2	BH125/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Arsenic	mg/kg	7	9	6	5	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	12	7	11	11	9
Copper	mg/kg	5	30	24	24	20
Lead	mg/kg	17	17	16	17	13
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	<1	12	10	8	9
Zinc	mg/kg	1	51	38	38	35

Acid Extractable metals in soil						
Our Reference		206810-31	206810-34	206810-39	206810-40	206810-41
Your Reference	UNITS	BH106/1.0-1.45	BH108/2.2/2.3	TP1	TP2	TP3
Date Sampled		23/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Arsenic	mg/kg	5	5	6	9	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	9	9	12	29	10
Copper	mg/kg	19	26	17	5	25
Lead	mg/kg	11	29	15	19	18
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	8	10	6	3	9
Zinc	mg/kg	27	50	25	11	36

Misc Soil - Inorg						
Our Reference		206810-3	206810-4	206810-6	206810-8	206810-9
Your Reference	UNITS	BH107/0-0.2	BH107/2/2.0-2.2	BH108/0.5-0.6	BH109/0-0.2	BH109/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	04/12/2018	04/12/2018	04/12/2018	04/12/2018	04/12/2018
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg						
Our Reference		206810-11	206810-13	206810-14	206810-15	206810-17
Your Reference	UNITS	BH113/0.5-0.6	BH114/0.5-0.6	BH115/0-0.2	BH115/1.0-1.2	BH121/0-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	04/12/2018	04/12/2018	04/12/2018	04/12/2018	04/12/2018
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg						
Our Reference		206810-18	206810-20	206810-21	206810-23	206810-25
Your Reference	UNITS	BH121/1.0-1.2	BH122/0-0.2	BH122/1.0-1.2	BH123/0.5-0.6	BH124/0.1-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	04/12/2018	04/12/2018	04/12/2018	04/12/2018	04/12/2018
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg					
Our Reference		206810-26	206810-27	206810-29	206810-40
Your Reference	UNITS	BH124/0.5-0.6	BH124/1.0-1.2	BH125/0-0.2	TP2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	04/12/2018	04/12/2018	04/12/2018	04/12/2018
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5

Moisture						
Our Reference		206810-1	206810-2	206810-3	206810-4	206810-5
Your Reference	UNITS	BD7/20181127	BD8/20181127	BH107/0-0.2	BH107/2/2.0-2.2	BH107/2.4-2.5
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Moisture	%	6.2	6.1	7.3	10	16

Moisture						
Our Reference		206810-6	206810-7	206810-8	206810-9	206810-10
Your Reference	UNITS	BH108/0.5-0.6	BH108/1.7-1.8	BH109/0-0.2	BH109/1.0-1.2	BH109/2.0-2.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Moisture	%	7.4	16	9.9	7.3	9.0

Moisture						
Our Reference		206810-11	206810-12	206810-13	206810-14	206810-15
Your Reference	UNITS	BH113/0.5-0.6	BH113/1.5-1.6	BH114/0.5-0.6	BH115/0-0.2	BH115/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Moisture	%	16	15	13	6.4	16

Moisture						
Our Reference		206810-16	206810-17	206810-18	206810-19	206810-20
Your Reference	UNITS	BH115/2.0-2.2	BH121/0-0.2	BH121/1.0-1.2	BH121/2.0-2.2	BH122/0-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Moisture	%	9.3	7.8	10	9.9	7.5

Moisture						
Our Reference		206810-21	206810-22	206810-23	206810-24	206810-25
Your Reference	UNITS	BH122/1.0-1.2	BH122/2.5-2.7	BH123/0.5-0.6	BH123/2.0-2.2	BH124/0.1-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Moisture	%	13	14	12	11	9.7

Moisture						
Our Reference		206810-26	206810-27	206810-28	206810-29	206810-30
Your Reference	UNITS	BH124/0.5-0.6	BH124/1.0-1.2	BH124/2.6-2.7	BH125/0-0.2	BH125/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Moisture	%	12	9.7	14	5.5	9.4

Moisture						
Our Reference		206810-31	206810-34	206810-39	206810-40	206810-41
Your Reference	UNITS	BH106/1.0-1.45	BH108/2.2/2.3	TP1	TP2	TP3
Date Sampled		23/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	29/11/2018	29/11/2018	29/11/2018	29/11/2018	29/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Moisture	%	12	10	6.0	2.5	4.7

Asbestos ID - soils						
Our Reference		206810-3	206810-4	206810-6	206810-8	206810-9
Your Reference	UNITS	BH107/0-0.2	BH107/2/2.0-2.2	BH108/0.5-0.6	BH109/0-0.2	BH109/1.0-1.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
Sample mass tested	g	Approx. 40g	Approx. 35g	Approx. 35g	Approx. 35g	Approx. 35g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference		206810-11	206810-13	206810-14	206810-15	206810-17
Your Reference	UNITS	BH113/0.5-0.6	BH114/0.5-0.6	BH115/0-0.2	BH115/1.0-1.2	BH121/0-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
Sample mass tested	g	Approx. 35g	Approx. 35g	Approx. 40g	Approx. 35g	Approx. 40g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference		206810-18	206810-20	206810-21	206810-23	206810-25
Your Reference	UNITS	BH121/1.0-1.2	BH122/0-0.2	BH122/1.0-1.2	BH123/0.5-0.6	BH124/0.1-0.2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018	03/12/2018
Sample mass tested	g	Approx. 40g	Approx. 35g	Approx. 25g	Approx. 30g	Approx. 40g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Beige coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils					
Our Reference		206810-26	206810-27	206810-29	206810-40
Your Reference	UNITS	BH124/0.5-0.6	BH124/1.0-1.2	BH125/0-0.2	TP2
Date Sampled		27/11/2018	27/11/2018	27/11/2018	27/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL
Date analysed	-	03/12/2018	03/12/2018	03/12/2018	03/12/2018
Sample mass tested	g	Approx. 35g	Approx. 35g	Approx. 35g	Approx. 55g
Sample Description	-	Peach coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Misc Inorg - Soil					
Our Reference		206810-35	206810-36	206810-37	206810-38
Your Reference	UNITS	BH119/0.5-0.6	BH102/0.5-1.0	BH105/1.5-2	BH117/1.5-1.6
Date Sampled		23/11/2018	21/11/2018	22/11/2018	23/11/2018
Type of sample		SOIL	SOIL	SOIL	SOIL
Date prepared	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018
Date analysed	-	30/11/2018	30/11/2018	30/11/2018	30/11/2018
pH 1:5 soil:water	pH Units	8.6	8.7	7.2	5.5
Chloride, Cl 1:5 soil:water	mg/kg	200	410	420	590
Sulphate, SO4 1:5 soil:water	mg/kg	280	610	580	430
Resistivity in soil*	ohm m	30	15	16	16

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
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 25oC in accordance with APHA 22nd ED 2510 and Rayment & Lyons. Resistivity is calculated from Conductivity.
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.
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Alternatively determined by colourimetry/turbidity using Discrete Analyer.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's. 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-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.

Method ID	Methodology Summary
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-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-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-016	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	206810-4
Date extracted	-			29/11/2018	3	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Date analysed	-			03/12/2018	3	03/12/2018	03/12/2018		03/12/2018	03/12/2018
TRH C_6 - C_9	mg/kg	25	Org-016	<25	3	<25	<25	0	104	88
TRH C_6 - C_{10}	mg/kg	25	Org-016	<25	3	<25	<25	0	104	88
Benzene	mg/kg	0.2	Org-016	<0.2	3	<0.2	<0.2	0	108	95
Toluene	mg/kg	0.5	Org-016	<0.5	3	<0.5	<0.5	0	98	86
Ethylbenzene	mg/kg	1	Org-016	<1	3	<1	<1	0	104	87
m+p-xylene	mg/kg	2	Org-016	<2	3	<2	<2	0	104	86
o-Xylene	mg/kg	1	Org-016	<1	3	<1	<1	0	107	88
naphthalene	mg/kg	1	Org-014	<1	3	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	78	3	75	81	8	86	80

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	206810-22
Date extracted	-			[NT]	12	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Date analysed	-			[NT]	12	03/12/2018	03/12/2018		03/12/2018	03/12/2018
TRH C_6 - C_9	mg/kg	25	Org-016	[NT]	12	<25	<25	0	105	94
TRH C_6 - C_{10}	mg/kg	25	Org-016	[NT]	12	<25	<25	0	105	94
Benzene	mg/kg	0.2	Org-016	[NT]	12	<0.2	<0.2	0	112	97
Toluene	mg/kg	0.5	Org-016	[NT]	12	<0.5	<0.5	0	100	88
Ethylbenzene	mg/kg	1	Org-016	[NT]	12	<1	<1	0	105	96
m+p-xylene	mg/kg	2	Org-016	[NT]	12	<2	<2	0	103	94
o-Xylene	mg/kg	1	Org-016	[NT]	12	<1	<1	0	108	96
naphthalene	mg/kg	1	Org-014	[NT]	12	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	12	77	79	3	86	75

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]	21	29/11/2018	29/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	05/12/2018	05/12/2018		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-016	[NT]	21	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-016	[NT]	21	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-016	[NT]	21	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-016	[NT]	21	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-016	[NT]	21	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-016	[NT]	21	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-016	[NT]	21	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-014	[NT]	21	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	21	75	76	1	[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]	31	29/11/2018	29/11/2018		[NT]	[NT]
Date analysed	-			[NT]	31	03/12/2018	03/12/2018		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-016	[NT]	31	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-016	[NT]	31	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-016	[NT]	31	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-016	[NT]	31	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-016	[NT]	31	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-016	[NT]	31	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-016	[NT]	31	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-014	[NT]	31	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	31	72	72	0	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	206810-4
Date extracted	-			29/11/2018	3	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Date analysed	-			01/12/2018	3	30/11/2018	30/11/2018		30/11/2018	30/11/2018
TRH C_{10} - C_{14}	mg/kg	50	Org-003	<50	3	<50	<50	0	101	94
TRH C_{15} - C_{28}	mg/kg	100	Org-003	<100	3	<100	<100	0	100	99
TRH C_{29} - C_{36}	mg/kg	100	Org-003	<100	3	<100	<100	0	116	102
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	<50	3	<50	<50	0	101	94
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	<100	3	<100	<100	0	100	99
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	<100	3	<100	<100	0	116	102
Surrogate o-Terphenyl	%		Org-003	75	3	87	76	13	97	89

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	206810-22
Date extracted	-			[NT]	12	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Date analysed	-			[NT]	12	30/11/2018	30/11/2018		01/12/2018	01/12/2018
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	12	<50	<50	0	102	89
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	12	<100	<100	0	110	93
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	12	<100	<100	0	122	76
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	12	<50	<50	0	102	89
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	12	<100	<100	0	110	93
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	12	<100	<100	0	122	76
Surrogate o-Terphenyl	%		Org-003	[NT]	12	81	87	7	89	81

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	29/11/2018	29/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	01/12/2018	01/12/2018		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	21	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	21	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	21	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	21	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	21	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	21	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-003	[NT]	21	74	87	16	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	31	29/11/2018	29/11/2018		[NT]	[NT]
Date analysed	-			[NT]	31	01/12/2018	01/12/2018		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	31	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	31	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	31	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	31	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	31	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	31	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-003	[NT]	31	73	74	1	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	206810-4
Date extracted	-			29/11/2018	3	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Date analysed	-			03/12/2018	3	03/12/2018	03/12/2018		03/12/2018	03/12/2018
Naphthalene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	112	106
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	118	112
Phenanthrene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	125	118
Anthracene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	118	111
Pyrene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	105	98
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	95	91
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	<0.2	3	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	3	<0.05	<0.05	0	109	105
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	92	3	95	95	0	94	88

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	206810-22
Date extracted	-			[NT]	12	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Date analysed	-			[NT]	12	03/12/2018	03/12/2018		03/12/2018	03/12/2018
Naphthalene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	116	109
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	124	117
Phenanthrene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	131	122
Anthracene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	123	116
Pyrene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	108	102
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	97	92
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	12	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	12	<0.05	<0.05	0	113	107
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	12	94	92	2	96	90

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	29/11/2018	29/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	03/12/2018	03/12/2018		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	21	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	21	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	21	91	97	6	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	31	29/11/2018	29/11/2018		[NT]	[NT]
Date analysed	-			[NT]	31	03/12/2018	03/12/2018		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	31	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	31	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	31	95	93	2	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	206810-4
Date extracted	-			29/11/2018	3	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Date analysed	-			30/11/2018	3	30/11/2018	30/11/2018		30/11/2018	30/11/2018
HCB	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	119	118
gamma-BHC	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	107	96
Heptachlor	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	115	112
delta-BHC	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	101	97
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	106	93
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	107	104
Dieldrin	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	119	116
Endrin	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	106	87
pp-DDD	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	124	100
Endosulfan II	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	116	114
Methoxychlor	mg/kg	0.1	Org-005	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	113	3	94	98	4	115	114

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	29/11/2018	29/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	30/11/2018	30/11/2018		[NT]	[NT]
HCB	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-005	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	[NT]	21	108	86	23	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	206810-4
Date extracted	-			29/11/2018	3	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Date analysed	-			30/11/2018	3	30/11/2018	30/11/2018		30/11/2018	30/11/2018
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-008	<0.1	3	<0.1	<0.1	0	97	95
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	<0.1	3	<0.1	<0.1	0	97	105
Dimethoate	mg/kg	0.1	Org-008	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	<0.1	3	<0.1	<0.1	0	105	104
Fenitrothion	mg/kg	0.1	Org-008	<0.1	3	<0.1	<0.1	0	101	103
Malathion	mg/kg	0.1	Org-008	<0.1	3	<0.1	<0.1	0	91	87
Parathion	mg/kg	0.1	Org-008	<0.1	3	<0.1	<0.1	0	101	104
Ronnel	mg/kg	0.1	Org-008	<0.1	3	<0.1	<0.1	0	124	118
Surrogate TCMX	%		Org-008	113	3	94	98	4	100	105

QUALITY CONTROL: Organophosphorus Pesticides						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	29/11/2018	29/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	30/11/2018	30/11/2018		[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-008	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-008	[NT]	21	108	86	23	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	206810-4
Date extracted	-			29/11/2018	3	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Date analysed	-			30/11/2018	3	30/11/2018	30/11/2018		30/11/2018	30/11/2018
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	3	<0.1	<0.1	0	100	107
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	113	3	94	98	4	100	105

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	29/11/2018	29/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	30/11/2018	30/11/2018		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-006	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	[NT]	21	108	86	23	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	206810-4
Date prepared	-			29/11/2018	3	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Date analysed	-			30/11/2018	3	30/11/2018	30/11/2018		30/11/2018	30/11/2018
Arsenic	mg/kg	4	Metals-020	<4	3	9	6	40	105	81
Cadmium	mg/kg	0.4	Metals-020	<0.4	3	<0.4	<0.4	0	95	79
Chromium	mg/kg	1	Metals-020	<1	3	8	8	0	102	85
Copper	mg/kg	1	Metals-020	<1	3	27	29	7	111	104
Lead	mg/kg	1	Metals-020	<1	3	18	18	0	101	84
Mercury	mg/kg	0.1	Metals-021	<0.1	3	<0.1	<0.1	0	112	109
Nickel	mg/kg	1	Metals-020	<1	3	25	22	13	99	82
Zinc	mg/kg	1	Metals-020	<1	3	110	100	10	97	80

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	206810-22
Date prepared	-			[NT]	12	29/11/2018	29/11/2018		29/11/2018	29/11/2018
Date analysed	-			[NT]	12	30/11/2018	30/11/2018		30/11/2018	30/11/2018
Arsenic	mg/kg	4	Metals-020	[NT]	12	<4	<4	0	105	82
Cadmium	mg/kg	0.4	Metals-020	[NT]	12	<0.4	<0.4	0	97	79
Chromium	mg/kg	1	Metals-020	[NT]	12	5	3	50	103	90
Copper	mg/kg	1	Metals-020	[NT]	12	21	25	17	111	107
Lead	mg/kg	1	Metals-020	[NT]	12	8	10	22	102	86
Mercury	mg/kg	0.1	Metals-021	[NT]	12	<0.1	<0.1	0	99	92
Nickel	mg/kg	1	Metals-020	[NT]	12	5	3	50	100	82
Zinc	mg/kg	1	Metals-020	[NT]	12	27	19	35	97	81

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	21	29/11/2018	29/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	30/11/2018	30/11/2018		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	21	7	6	15	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	21	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	21	11	11	0	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	21	24	22	9	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	21	17	15	12	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	21	9	9	0	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	21	37	35	6	[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]	31	29/11/2018	29/11/2018		[NT]	[NT]
Date analysed	-			[NT]	31	30/11/2018	30/11/2018		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	31	5	6	18	[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	9	10	11	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	31	19	23	19	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	31	11	14	24	[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	8	8	0	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	31	27	33	20	[NT]	[NT]

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	206810-4
Date prepared	-			04/12/2018	3	29/11/2018	29/11/2018		04/12/2018	04/12/2018
Date analysed	-			04/12/2018	3	04/12/2018	04/12/2018		04/12/2018	04/12/2018
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	3	<5	<5	0	103	102

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	21	29/11/2018	29/11/2018		[NT]	[NT]
Date analysed	-			[NT]	21	04/12/2018	04/12/2018		[NT]	[NT]
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	[NT]	21	<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	-			30/11/2018	[NT]	[NT]	[NT]	[NT]	30/11/2018	[NT]
Date analysed	-			30/11/2018	[NT]	[NT]	[NT]	[NT]	30/11/2018	[NT]
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	[NT]	[NT]	[NT]	[NT]	102	[NT]
Chloride, Cl 1:5 soil:water	mg/kg	10	Inorg-081	<10	[NT]	[NT]	[NT]	[NT]	100	[NT]
Sulphate, SO4 1:5 soil:water	mg/kg	10	Inorg-081	<10	[NT]	[NT]	[NT]	[NT]	96	[NT]
Resistivity in soil*	ohm m	1	Inorg-002	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-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.

Report Comments

Asbestos: A portion of the supplied samples were sub-sampled for asbestos analysis according to Envirolab procedures.
We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab recommends supplying
40-50g of sample in its own container.
Note: Samples requested for asbestos testing were sub-sampled from jars provided by the client.

Douglas Partners
Geotechnics / Environment / Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No:	94522.00	**Suburb:**	Marsden Park	**To:**	EnviroLab
Project Name:	Proposed Public School	**Order Number**			12 Ashley Street, Chatswood 2067
Project Manager:	Gavin Boyd	**Sampler:**	Joel J-H	**Attn:**	Aileen Hie
Emails:	gavin.boyd@douglaspartners.com.au; joel.james-hall@douglaspartners.com.au			**Phone:**	(02) 9910 6200
Date Required:	Same day ☐ 24 hours ☐ 48 hours ☐ 72 hours ☐ Standard ☑			**Email:**	Ahie@envirolab.com.au
Prior Storage:	☑ Esky ☑ Fridge ☐ Shelved	Do samples contain 'potential' HBM?	Yes ☐ No ☑ (If YES, then handle, transport and store in accordance with FPM HAZID)		

Sample ID	Lab ID	Date Sampled	Sample Type (S - soil, W - water)	Container Type (G - Glass, P - Plastic)	Analytes: Combo 8a	Combo 3	BTEX							Notes/preservation
BD7/20181127	1	27/11/18	S	G		x								
BD8/20181127	2	27/11/18	S	G		x								
BH107/0-0.2	3	27/11/18	S	G	x									
BH107/2/2.0-2.2	4	27/11/18	S	G	x									
BH107/2.4-2.5	5	27/11/18	S	G		x								
BH108/0.5-0.6	6	27/11/18	S	G	x									
BH108/1.7-1.8	7	27/11/18	S	G		x								
BH109/0-0.2	8	27/11/18	S	G	x									
BH109/1.0-1.2	9	27/11/18	S	G	x									
BH109/2.0-2.2	10	27/11/18	S	G		x								
BH113/0.5-0.6	11	27/11/18	S	G	x									
BH113/1.5-1.6	12	27/11/18	S	G		x								
BH114/0.5-0.6	13	27/11/18	S	G	x									
BH114/2.0-2.2	NR	27/11/18	S	G		x								
BH115/0-0.2	14	27/11/18	S	G	x									
														ANZECC PQLs req'd for all water analytes ☐

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200
Job No: 206810
Date Received: 28/11
Time Received: 17:16
Received By: AZ
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Metals to Analyse: 8HM unless specified here:

Lab Report/Reference No:

Total number of samples in container: | **Relinquished by:** | **Transported to laboratory by:**

Send Results to: Douglas Partners Pty Ltd | **Address:** | **Phone:** | **Fax:**

Signed: AZ | **Received by:** AZ Andy Zheng DPS | **Date & Time:** 28/11 17:16

Douglas Partners
Geotechnics / Environment / Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No:	94522.00	**Suburb:**	Marsden Park	**To:**	EnviroLab
Project Name:	Proposed Public School	**Order Number**			12 Ashley Street, Chatswood 2067
Project Manager:	Gavin Boyd	**Sampler:**	Joel J-H	**Attn:**	Aileen Hie
Emails:	gavin.boyd@douglaspartners.com.au; joel.james-hall@douglaspartners.com.a			**Phone:**	(02) 9910 6200
Date Required:	Same day ☐ 24 hours ☐ 48 hours ☐ 72 hours ☐ Standard ☑			**Email:**	Ahie@envirolab.com.au
Prior Storage:	☑ Esky ☑ Fridge ☐ Shelved	Do samples contain 'potential' HBM?	Yes ☐	No ☑	(If YES, then handle, transport and store in accordance with FPM HAZID)

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - Glass, P - Plastic)	Analytes: Combo 8a	Combo 3	BTEX							Notes/preservation
BH115/1.0-1.2	15	27/11/18	S	G	x									
BH115/2.0-2.2	16	27/11/18	S	G		x								
BH121/0-0.2	17	27/11/18	S	G	x									
BH121/1.0-1.2	18	27/11/18	S	G	x									
BH121/2.0-2.2	19	27/11/18	S	G		x								
BH122/0-0.2	20	27/11/18	S	G	x									
BH122/1.0-1.2	21	27/11/18	S	G	x									
BH122/2.5-2.7	22	27/11/18	S	G		x								
BH123/0.5-0.6	23	27/11/18	S	G	x									
BH123/2.0-2.2	24	27/11/18	S	G		x								
BH124/~~0-0.1~~ 0.1-0.2	25	27/11/18	S	G	x									
BH124/0.5-0.6	26	27/11/18	S	G	x									
BH124/1.0-1.2	27	27/11/18	S	G	x									
BH124/2.6-2.7	28	27/11/18	S	G		x								
BH125/0-0.2	29	27/11/18	S	G	x									
														ANZECC PQLs req'd for all water analytes ☐

PQL (S) mg/kg

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Lab Report/Reference No:

Metals to Analyse: 8HM unless specified here:

Total number of samples in container: **Relinquished by:** **Transported to laboratory by:**

Send Results to: Douglas Partners Pty Ltd **Address** **Phone:** **Fax:**

Signed: **Received by:** Andy Zhang PCS **Date & Time:** 28/11 17:16

Douglas Partners
Geotechnics | Environment | Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No:	94522.00	**Suburb:**	Marsden Park	**To:**	EnviroLab
Project Name:	Proposed Public School	**Order Number**			12 Ashley Street, Chatswood 2067
Project Manager:	Gavin Boyd	**Sampler:**	Joel J-H	**Attn:**	Aileen Hie
Emails:	gavin.boyd@douglaspartners.com.au; joel.james-hall@douglaspartners.com.a			**Phone:**	(02) 9910 6200
Date Required:	Same day ☐ 24 hours ☐ 48 hours ☐ 72 hours ☐ Standard ☐			**Email:**	Ahie@envirolab.com.au
Prior Storage:	☐ Esky ☐ Fridge ☐ Shelved	Do samples contain 'potential' HBM?	Yes ☐	No ☐	(If YES, then handle, transport and store in accordance with FPM HAZID)

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - Glass, P - Plastic)	Analytes: Combo 8a	Combo 3	BTEX	pH, SO4, Cl, Resistivity						Notes/preservation
BH125/1.0-1.2	30	27/11/18	S	G		x								
BH106/1.0-1.45	31	23/11/18	S	G		x								
TS-2	32						x							
TB-2	33						x							
BH108/2.2/2.3	34	27/11/18	S	G		x								
BH119/0.5-0.6	34VR	23/11/18	S	G/P				x						Sent jar with previous batch
BH102/0.5-1.0	36VR	21/11/18	S	P				x						
BH105/1.5-2	37VR	22/11/18	S	G				x						
BH117/1.5-1.6	38VR	23/11/18	S	G/P				x						Sent jar with previous batch
TP1	3439	27/11/18	S	G		x								
TP2	3640	27/11/18	S	G	x									
TP3	3741	27/11/18	S	G		x								
~~Extra:~~														
~~BH115/0.2-0.3~~	~~3842~~													
														ANZECC PQLs req'd for all water analytes ☐

PQL (S) mg/kg

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Lab Report/Reference No:

Metals to Analyse: 8HM unless specified here:

Total number of samples in container: **Relinquished by:** **Transported to laboratory by:**

Send Results to: Douglas Partners Pty Ltd **Address** **Phone:** **Fax:**

Signed: AZ **Received by:** Andy Zhang ELS **Date & Time:** 28/11 17:16

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 220042

Client Details

Client	Douglas Partners Pty Ltd (Riverstone)
Attention	Gavin Boyd
Address	43 Hobart St, Riverstone, NSW, 2765

Sample Details

Your Reference	**94522.01, Marsden Park**
Number of Samples	21 Soil
Date samples received	20/06/2019
Date completed instructions received	20/06/2019

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	27/06/2019
Date of Issue	27/06/2019

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Asbestos Approved By
Analysed by Asbestos Approved Identifier: Aida Marner
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By
Diego Bigolin, Team Leader, Inorganics
Loren Bardwell, Senior Chemist
Lucy Zhu, Senior Asbestos Analyst
Nick Sarlamis, Inorganics Supervisor
Steven Luong, Organics Supervisor

Authorised By



Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		220042-1	220042-2	220042-3	220042-4	220042-5
Your Reference	UNITS	BH209	BH209	BH210	BH210	BH211
Depth		0-0.2	0.4-0.5	0-0.2	0.4-0.5	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	26/06/2019	26/06/2019	26/06/2019	26/06/2019	26/06/2019
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	88	86	86	90

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		220042-6	220042-7	220042-8	220042-9	220042-10
Your Reference	UNITS	BH211	BH212	BH213	BH213	BH214
Depth		0.4-0.5	0-0.2	0-0.2	0.4-0.5	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	26/06/2019	26/06/2019	26/06/2019	26/06/2019	26/06/2019
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	88	88	86

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		220042-11	220042-12	220042-13	220042-14	220042-15
Your Reference	UNITS	BH215	BH215	BH216	BH216	BH217
Depth		0-0.2	0.4-0.5	0-0.2	0.4-0.5	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	26/06/2019	26/06/2019	26/06/2019	26/06/2019	26/06/2019
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	88	87	92	87

vTRH(C6-C10)/BTEXN in Soil				
Our Reference		220042-16	220042-17	220042-18
Your Reference	UNITS	BH217	TS	TB
Depth		0.4-0.5	-	-
Date Sampled		18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil
Date extracted	-	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	26/06/2019	26/06/2019	26/06/2019
TRH C_6 - C_9	mg/kg	<25	[NA]	[NA]
TRH C_6 - C_{10}	mg/kg	<25	[NA]	[NA]
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	[NA]	[NA]
Benzene	mg/kg	<0.2	109%	<0.2
Toluene	mg/kg	<0.5	121%	<0.5
Ethylbenzene	mg/kg	<1	122%	<1
m+p-xylene	mg/kg	<2	124%	<2
o-Xylene	mg/kg	<1	123%	<1
naphthalene	mg/kg	<1	[NA]	[NA]
Total +ve Xylenes	mg/kg	<3	[NA]	<3
Surrogate aaa-Trifluorotoluene	%	86	104	94

svTRH (C10-C40) in Soil						
Our Reference		220042-1	220042-2	220042-3	220042-4	220042-5
Your Reference	UNITS	BH209	BH209	BH210	BH210	BH211
Depth		0-0.2	0.4-0.5	0-0.2	0.4-0.5	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	22/06/2019	22/06/2019	22/06/2019	22/06/2019	22/06/2019
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
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	%	81	82	82	81	81

svTRH (C10-C40) in Soil						
Our Reference		220042-6	220042-7	220042-8	220042-9	220042-10
Your Reference	UNITS	BH211	BH212	BH213	BH213	BH214
Depth		0.4-0.5	0-0.2	0-0.2	0.4-0.5	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	22/06/2019	22/06/2019	22/06/2019	22/06/2019	22/06/2019
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
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	81	80	82	77

svTRH (C10-C40) in Soil						
Our Reference		220042-11	220042-12	220042-13	220042-14	220042-15
Your Reference	UNITS	BH215	BH215	BH216	BH216	BH217
Depth		0-0.2	0.4-0.5	0-0.2	0.4-0.5	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	22/06/2019	22/06/2019	22/06/2019	22/06/2019	22/06/2019
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
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	%	80	79	81	82	78

svTRH (C10-C40) in Soil		
Our Reference		220042-16
Your Reference	UNITS	BH217
Depth		0.4-0.5
Date Sampled		18/06/2019
Type of sample		Soil
Date extracted	-	21/06/2019
Date analysed	-	22/06/2019
TRH C_{10} - C_{14}	mg/kg	<50
TRH C_{15} - C_{28}	mg/kg	<100
TRH C_{29} - C_{36}	mg/kg	<100
TRH >C_{10} -C_{16}	mg/kg	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50
TRH >C_{16} -C_{34}	mg/kg	<100
TRH >C_{34} -C_{40}	mg/kg	<100
Total +ve TRH (>C10-C40)	mg/kg	<50
Surrogate o-Terphenyl	%	80

PAHs in Soil						
Our Reference		220042-1	220042-2	220042-3	220042-4	220042-5
Your Reference	UNITS	BH209	BH209	BH210	BH210	BH211
Depth		0-0.2	0.4-0.5	0-0.2	0.4-0.5	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
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	0.08
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	0.4
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	%	98	94	92	90	92

PAHs in Soil						
Our Reference		220042-6	220042-7	220042-8	220042-9	220042-10
Your Reference	UNITS	BH211	BH212	BH213	BH213	BH214
Depth		0.4-0.5	0-0.2	0-0.2	0.4-0.5	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Naphthalene	mg/kg	<0.1	<0.1	<0.1	0.2	<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	0.3	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	0.3	<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	0.08	<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	0.87	<0.05	0.4	<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	%	93	93	93	94	95

PAHs in Soil						
Our Reference		220042-11	220042-12	220042-13	220042-14	220042-15
Your Reference	UNITS	BH215	BH215	BH216	BH216	BH217
Depth		0-0.2	0.4-0.5	0-0.2	0.4-0.5	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
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	0.4	0.6	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	0.2	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.4	0.9	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	0.8	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.2	0.3	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.4	0.4	<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	0.3	0.2	<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	0.2	0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	2.4	3.8	<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	94	90	98	89

PAHs in Soil					
Our Reference		220042-16	220042-19	220042-20	220042-21
Your Reference	UNITS	BH217	BD1/20190618	BD4/20190618	BD5/20190618
Depth		0.4-0.5	-	-	-
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	0.3
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	0.8
Pyrene	mg/kg	<0.1	<0.1	<0.1	1.0
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	0.5
Chrysene	mg/kg	<0.1	<0.1	<0.1	0.7
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	0.4
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	0.4
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	0.2
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	0.2
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	0.3
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	4.8
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	0.8
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	0.8
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	0.8
Surrogate p-Terphenyl-d14	%	100	94	90	95

Organochlorine Pesticides in soil						
Our Reference		220042-1	220042-3	220042-4	220042-5	220042-7
Your Reference	UNITS	BH209	BH210	BH210	BH211	BH212
Depth		0-0.2	0-0.2	0.4-0.5	0-0.2	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	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
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
pp-DDD	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-DDT	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
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	%	100	89	93	94	89

Organochlorine Pesticides in soil						
Our Reference		220042-8	220042-10	220042-11	220042-13	220042-15
Your Reference	UNITS	BH213	BH214	BH215	BH216	BH217
Depth		0-0.2	0-0.2	0-0.2	0-0.2	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	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
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
pp-DDD	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-DDT	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
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	%	94	88	87	86	86

Organochlorine Pesticides in soil		
Our Reference		220042-16
Your Reference	UNITS	BH217
Depth		0.4-0.5
Date Sampled		18/06/2019
Type of sample		Soil
Date extracted	-	21/06/2019
Date analysed	-	21/06/2019
HCB	mg/kg	<0.1
alpha-BHC	mg/kg	<0.1
gamma-BHC	mg/kg	<0.1
beta-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
pp-DDD	mg/kg	<0.1
Endosulfan II	mg/kg	<0.1
pp-DDT	mg/kg	<0.1
Endrin Aldehyde	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	%	95

Organophosphorus Pesticides						
Our Reference		220042-1	220042-3	220042-4	220042-5	220042-7
Your Reference	UNITS	BH209	BH210	BH210	BH211	BH212
Depth		0-0.2	0-0.2	0.4-0.5	0-0.2	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Azinphos-methyl (Guthion)	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
Chlorpyriphos	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
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Ethion	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
Parathion	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
Surrogate TCMX	%	100	89	93	94	89

Organophosphorus Pesticides						
Our Reference		220042-8	220042-10	220042-11	220042-13	220042-15
Your Reference	UNITS	BH213	BH214	BH215	BH216	BH217
Depth		0-0.2	0-0.2	0-0.2	0-0.2	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Azinphos-methyl (Guthion)	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
Chlorpyriphos	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
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Ethion	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
Parathion	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
Surrogate TCMX	%	94	88	87	86	86

Organophosphorus Pesticides		
Our Reference		220042-16
Your Reference	UNITS	BH217
Depth		0.4-0.5
Date Sampled		18/06/2019
Type of sample		Soil
Date extracted	-	21/06/2019
Date analysed	-	21/06/2019
Azinphos-methyl (Guthion)	mg/kg	<0.1
Bromophos-ethyl	mg/kg	<0.1
Chlorpyriphos	mg/kg	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1
Diazinon	mg/kg	<0.1
Dichlorvos	mg/kg	<0.1
Dimethoate	mg/kg	<0.1
Ethion	mg/kg	<0.1
Fenitrothion	mg/kg	<0.1
Malathion	mg/kg	<0.1
Parathion	mg/kg	<0.1
Ronnel	mg/kg	<0.1
Surrogate TCMX	%	95

PCBs in Soil						
Our Reference		220042-1	220042-3	220042-4	220042-5	220042-7
Your Reference	UNITS	BH209	BH210	BH210	BH211	BH212
Depth		0-0.2	0-0.2	0.4-0.5	0-0.2	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
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 TCLMX	%	100	89	93	94	89

PCBs in Soil						
Our Reference		220042-8	220042-10	220042-11	220042-13	220042-15
Your Reference	UNITS	BH213	BH214	BH215	BH216	BH217
Depth		0-0.2	0-0.2	0-0.2	0-0.2	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
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 TCLMX	%	94	88	87	86	86

PCBs in Soil		
Our Reference		220042-16
Your Reference	UNITS	BH217
Depth		0.4-0.5
Date Sampled		18/06/2019
Type of sample		Soil
Date extracted	-	21/06/2019
Date analysed	-	21/06/2019
Aroclor 1016	mg/kg	<0.1
Aroclor 1221	mg/kg	<0.1
Aroclor 1232	mg/kg	<0.1
Aroclor 1242	mg/kg	<0.1
Aroclor 1248	mg/kg	<0.1
Aroclor 1254	mg/kg	<0.1
Aroclor 1260	mg/kg	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1
Surrogate TCLMX	%	95

Acid Extractable metals in soil						
Our Reference		220042-1	220042-2	220042-3	220042-4	220042-5
Your Reference	UNITS	BH209	BH209	BH210	BH210	BH211
Depth		0-0.2	0.4-0.5	0-0.2	0.4-0.5	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Arsenic	mg/kg	8	12	8	8	6
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	12	10	15	12	15
Copper	mg/kg	23	30	22	23	38
Lead	mg/kg	17	15	18	19	21
Mercury	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	9	13	12	10	31
Zinc	mg/kg	46	76	44	43	74

Acid Extractable metals in soil						
Our Reference		220042-6	220042-7	220042-8	220042-9	220042-10
Your Reference	UNITS	BH211	BH212	BH213	BH213	BH214
Depth		0.4-0.5	0-0.2	0-0.2	0.4-0.5	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Arsenic	mg/kg	7	12	7	7	10
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	12	9	12	9	16
Copper	mg/kg	34	27	25	35	21
Lead	mg/kg	20	21	17	18	17
Mercury	mg/kg	<0.1	1.3	0.2	<0.1	<0.1
Nickel	mg/kg	22	13	11	19	10
Zinc	mg/kg	78	66	46	80	43

Acid Extractable metals in soil						
Our Reference		220042-11	220042-12	220042-13	220042-14	220042-15
Your Reference	UNITS	BH215	BH215	BH216	BH216	BH217
Depth		0-0.2	0.4-0.5	0-0.2	0.4-0.5	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Arsenic	mg/kg	7	10	7	5	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	23	9	15	12	13
Copper	mg/kg	33	32	17	28	19
Lead	mg/kg	16	19	16	27	14
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	39	21	8	20	6
Zinc	mg/kg	100	72	36	90	29

Acid Extractable metals in soil					
Our Reference		220042-16	220042-19	220042-20	220042-21
Your Reference	UNITS	BH217	BD1/20190618	BD4/20190618	BD5/20190618
Depth		0.4-0.5	-	-	-
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Arsenic	mg/kg	6	9	7	6
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	7	11	13	20
Copper	mg/kg	31	23	21	32
Lead	mg/kg	17	16	16	17
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	13	14	11	34
Zinc	mg/kg	63	66	44	95

Misc Soil - Inorg						
Our Reference		220042-1	220042-3	220042-4	220042-5	220042-7
Your Reference	UNITS	BH209	BH210	BH210	BH211	BH212
Depth		0-0.2	0-0.2	0.4-0.5	0-0.2	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg						
Our Reference		220042-8	220042-10	220042-11	220042-13	220042-15
Your Reference	UNITS	BH213	BH214	BH215	BH216	BH217
Depth		0-0.2	0-0.2	0-0.2	0-0.2	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg		
Our Reference		220042-16
Your Reference	UNITS	BH217
Depth		0.4-0.5
Date Sampled		18/06/2019
Type of sample		Soil
Date prepared	-	21/06/2019
Date analysed	-	21/06/2019
Total Phenolics (as Phenol)	mg/kg	<5

Misc Inorg - Soil				
Our Reference		220042-1	220042-8	220042-13
Your Reference	UNITS	BH209	BH213	BH216
Depth		0-0.2	0-0.2	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil
Date prepared	-	24/06/2019	24/06/2019	24/06/2019
Date analysed	-	24/06/2019	24/06/2019	24/06/2019
pH 1:5 soil:water	pH Units	6.9	6.2	7.3

CEC				
Our Reference		220042-1	220042-8	220042-13
Your Reference	UNITS	BH209	BH213	BH216
Depth		0-0.2	0-0.2	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil
Date prepared	-	24/06/2019	24/06/2019	24/06/2019
Date analysed	-	24/06/2019	24/06/2019	24/06/2019
Exchangeable Ca	meq/100g	6.4	3.4	10
Exchangeable K	meq/100g	0.3	0.3	0.3
Exchangeable Mg	meq/100g	4.4	6.3	2.8
Exchangeable Na	meq/100g	0.99	1.4	0.37
Cation Exchange Capacity	meq/100g	12	11	14

Moisture						
Our Reference		220042-1	220042-2	220042-3	220042-4	220042-5
Your Reference	UNITS	BH209	BH209	BH210	BH210	BH211
Depth		0-0.2	0.4-0.5	0-0.2	0.4-0.5	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	24/06/2019	24/06/2019	24/06/2019	24/06/2019	24/06/2019
Moisture	%	10	9.8	8.8	9.5	9.9

Moisture						
Our Reference		220042-6	220042-7	220042-8	220042-9	220042-10
Your Reference	UNITS	BH211	BH212	BH213	BH213	BH214
Depth		0.4-0.5	0-0.2	0-0.2	0.4-0.5	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	24/06/2019	24/06/2019	24/06/2019	24/06/2019	24/06/2019
Moisture	%	9.0	12	15	8.2	9.6

Moisture						
Our Reference		220042-11	220042-12	220042-13	220042-14	220042-15
Your Reference	UNITS	BH215	BH215	BH216	BH216	BH217
Depth		0-0.2	0.4-0.5	0-0.2	0.4-0.5	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	24/06/2019	24/06/2019	24/06/2019	24/06/2019	24/06/2019
Moisture	%	5.3	8.5	9.7	8.0	9.8

Moisture					
Our Reference		220042-16	220042-19	220042-20	220042-21
Your Reference	UNITS	BH217	BD1/20190618	BD4/20190618	BD5/20190618
Depth		0.4-0.5	-	-	-
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Date analysed	-	24/06/2019	24/06/2019	24/06/2019	24/06/2019
Moisture	%	9.3	9.3	8.3	5.6

Asbestos ID - soils						
Our Reference		220042-1	220042-2	220042-3	220042-4	220042-5
Your Reference	UNITS	BH209	BH209	BH210	BH210	BH211
Depth		0-0.2	0.4-0.5	0-0.2	0.4-0.5	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Sample mass tested	g	Approx. 40g	Approx. 35g	Approx. 45g	Approx. 35g	Approx. 40g
Sample Description	-	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference		220042-6	220042-7	220042-8	220042-9	220042-10
Your Reference	UNITS	BH211	BH212	BH213	BH213	BH214
Depth		0.4-0.5	0-0.2	0-0.2	0.4-0.5	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Sample mass tested	g	Approx. 35g	Approx. 45g	Approx. 30g	Approx. 30g	Approx. 40g
Sample Description	-	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference		220042-11	220042-12	220042-13	220042-14	220042-15
Your Reference	UNITS	BH215	BH215	BH216	BH216	BH217
Depth		0-0.2	0.4-0.5	0-0.2	0.4-0.5	0-0.2
Date Sampled		18/06/2019	18/06/2019	18/06/2019	18/06/2019	18/06/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	21/06/2019	21/06/2019	21/06/2019	21/06/2019	21/06/2019
Sample mass tested	g	Approx. 45g	Approx. 35g	Approx. 35g	Approx. 40g	Approx. 30g
Sample Description	-	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils		
Our Reference		220042-16
Your Reference	UNITS	BH217
Depth		0.4-0.5
Date Sampled		18/06/2019
Type of sample		Soil
Date analysed	-	21/06/2019
Sample mass tested	g	Approx. 30g
Sample Description	-	Brown clayey soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
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-009	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-AES analytical finish.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's. 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-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.

Method ID	Methodology Summary
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-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-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-016	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-5	220042-3
Date extracted	-			21/06/2019	1	21/06/2019	21/06/2019		21/06/2019	21/06/2019
Date analysed	-			26/06/2019	1	26/06/2019	26/06/2019		26/06/2019	26/06/2019
TRH C_6 - C_9	mg/kg	25	Org-016	<25	1	<25	<25	0	103	101
TRH C_6 - C_{10}	mg/kg	25	Org-016	<25	1	<25	<25	0	103	101
Benzene	mg/kg	0.2	Org-016	<0.2	1	<0.2	<0.2	0	109	108
Toluene	mg/kg	0.5	Org-016	<0.5	1	<0.5	<0.5	0	100	99
Ethylbenzene	mg/kg	1	Org-016	<1	1	<1	<1	0	100	97
m+p-xylene	mg/kg	2	Org-016	<2	1	<2	<2	0	102	100
o-Xylene	mg/kg	1	Org-016	<1	1	<1	<1	0	102	99
naphthalene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	102	1	86	91	6	88	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]	16	21/06/2019	21/06/2019		[NT]	[NT]
Date analysed	-			[NT]	16	26/06/2019	26/06/2019		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-016	[NT]	16	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-016	[NT]	16	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-016	[NT]	16	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-016	[NT]	16	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-016	[NT]	16	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-016	[NT]	16	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-016	[NT]	16	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-014	[NT]	16	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	16	86	81	6	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	220042-3
Date extracted	-			21/06/2019	1	21/06/2019	21/06/2019		21/06/2019	21/06/2019
Date analysed	-			22/06/2019	1	22/06/2019	22/06/2019		22/06/2019	22/06/2019
TRH C_{10} - C_{14}	mg/kg	50	Org-003	<50	1	<50	<50	0	101	84
TRH C_{15} - C_{28}	mg/kg	100	Org-003	<100	1	<100	<100	0	116	112
TRH C_{29} - C_{36}	mg/kg	100	Org-003	<100	1	<100	<100	0	100	100
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	<50	1	<50	<50	0	101	84
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	<100	1	<100	<100	0	116	112
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	<100	1	<100	<100	0	100	100
Surrogate o-Terphenyl	%		Org-003	85	1	81	78	4	82	91

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	16	21/06/2019	21/06/2019		[NT]	[NT]
Date analysed	-			[NT]	16	22/06/2019	22/06/2019		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	16	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	16	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	16	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	16	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	16	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	16	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-003	[NT]	16	80	81	1	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	220042-3
Date extracted	-			21/06/2019	1	21/06/2019	21/06/2019		21/06/2019	21/06/2019
Date analysed	-			21/06/2019	1	21/06/2019	21/06/2019		21/06/2019	21/06/2019
Naphthalene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	106	100
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	92	94
Phenanthrene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	102	88
Anthracene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	106	93
Pyrene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	112	95
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	114	118
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	1	<0.05	<0.05	0	88	84
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	96	1	98	92	6	96	87

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	16	21/06/2019	21/06/2019		[NT]	[NT]
Date analysed	-			[NT]	16	21/06/2019	21/06/2019		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-012	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-012	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-012	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-012	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	16	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	16	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	16	100	93	7	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	220042-3
Date extracted	-			21/06/2019	1	21/06/2019	21/06/2019		21/06/2019	21/06/2019
Date analysed	-			21/06/2019	1	21/06/2019	21/06/2019		21/06/2019	21/06/2019
HCB	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	84	81
gamma-BHC	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	80	77
Heptachlor	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	86	80
delta-BHC	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	82	69
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	80	74
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	90	76
Dieldrin	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	96	88
Endrin	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	74	75
pp-DDD	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	78	68
Endosulfan II	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	70	88
Methoxychlor	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	94	1	100	91	9	89	88

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	16	21/06/2019	21/06/2019		[NT]	[NT]
Date analysed	-			[NT]	16	21/06/2019	21/06/2019		[NT]	[NT]
HCB	mg/kg	0.1	Org-005	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-005	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-005	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-005	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-005	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-005	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-005	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-005	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-005	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-005	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-005	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	[NT]	16	95	89	7	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	220042-3
Date extracted	-			21/06/2019	1	21/06/2019	21/06/2019		21/06/2019	21/06/2019
Date analysed	-			21/06/2019	1	21/06/2019	21/06/2019		21/06/2019	21/06/2019
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	114	98
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	68	72
Dimethoate	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	114	93
Fenitrothion	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	96	76
Malathion	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	86	75
Parathion	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	106	80
Ronnel	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	92	77
Surrogate TCMX	%		Org-008	94	1	100	91	9	87	88

QUALITY CONTROL: Organophosphorus Pesticides						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	16	21/06/2019	21/06/2019		[NT]	[NT]
Date analysed	-			[NT]	16	21/06/2019	21/06/2019		[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-008	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-008	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-008	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-008	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-008	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-008	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-008	[NT]	16	95	89	7	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	220042-3
Date extracted	-			21/06/2019	1	21/06/2019	21/06/2019		21/06/2019	21/06/2019
Date analysed	-			21/06/2019	1	21/06/2019	21/06/2019		21/06/2019	21/06/2019
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	100	80
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	94	1	100	91	9	87	88

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	16	21/06/2019	21/06/2019		[NT]	[NT]
Date analysed	-			[NT]	16	21/06/2019	21/06/2019		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-006	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-006	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	[NT]	16	95	89	7	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	220042-3
Date prepared	-			21/06/2019	1	21/06/2019	21/06/2019		21/06/2019	21/06/2019
Date analysed	-			21/06/2019	1	21/06/2019	21/06/2019		21/06/2019	21/06/2019
Arsenic	mg/kg	4	Metals-020	<4	1	8	7	13	112	89
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	106	85
Chromium	mg/kg	1	Metals-020	<1	1	12	12	0	112	87
Copper	mg/kg	1	Metals-020	<1	1	23	22	4	107	95
Lead	mg/kg	1	Metals-020	<1	1	17	16	6	117	86
Mercury	mg/kg	0.1	Metals-021	<0.1	1	0.2	<0.1	67	94	95
Nickel	mg/kg	1	Metals-020	<1	1	9	9	0	106	84
Zinc	mg/kg	1	Metals-020	<1	1	46	43	7	108	85

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	16	21/06/2019	21/06/2019		[NT]	[NT]
Date analysed	-			[NT]	16	21/06/2019	21/06/2019		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	16	6	7	15	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	16	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	16	7	7	0	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	16	31	32	3	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	16	17	18	6	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	16	13	9	36	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	16	63	55	14	[NT]	[NT]

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	220042-3
Date prepared	-			21/06/2019	1	21/06/2019	21/06/2019		21/06/2019	21/06/2019
Date analysed	-			21/06/2019	1	21/06/2019	21/06/2019		21/06/2019	21/06/2019
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	1	<5	<5	0	100	100

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	11	21/06/2019	21/06/2019		[NT]	[NT]
Date analysed	-			[NT]	11	21/06/2019	21/06/2019		[NT]	[NT]
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	[NT]	11	<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	-			24/06/2019	[NT]	[NT]	[NT]	[NT]	24/06/2019	[NT]
Date analysed	-			24/06/2019	[NT]	[NT]	[NT]	[NT]	24/06/2019	[NT]
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	[NT]	[NT]	[NT]	[NT]	102	[NT]

QUALITY CONTROL: CEC						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			24/06/2019	[NT]	[NT]	[NT]	[NT]	24/06/2019	[NT]
Date analysed	-			24/06/2019	[NT]	[NT]	[NT]	[NT]	24/06/2019	[NT]
Exchangeable Ca	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Exchangeable K	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	[NT]	[NT]	113	[NT]
Exchangeable Mg	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Exchangeable Na	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	[NT]	[NT]	106	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-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.

Report Comments

Asbestos: Excessive sample volumes were provided for asbestos analysis.
A portion of the supplied samples were sub-sampled according to Envirolab procedures.
We cannot guarantee that these sub-samples are indicative of the entire sample.
Envirolab recommends supplying 40-50g (50mL) of sample in its own container as per AS4964-2004.
Note: Samples requested for asbestos testing were sub-sampled from bags provided by the client.

Douglas Partners
Geotechnics | Environment | Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No:	94522.01	**Suburb:**	Marsden Park	**To:**	Envirolab Services
Project Name:	Proposed School Development	**Order Number**			12 Ashley St, Chatswood, NSW
Project Manager:	Gavin Boyd	**Sampler:**	Jeremie Young	**Attn:**	Aileen Hie
Emails:	gavin.boyd@douglaspartners.com.au	jeremie.young@douglaspartners.com.au			sammy-jo.sessions@douglaspartners.com.au
Date Required:	Same day ☐ 24 hours ☐ 48 hours ☐ 72 hours ☐ Standard ☑				
Prior Storage:	☑ Esky ☑ Fridge ☐ Shelved	Do samples contain 'potential' HBM?	Yes ☐	No ☑	(If YES, then handle, transport and store in accordance with FPM HAZID)

Sample ID	Lab ID	Date Sampled	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: Combo 8a	Combo 3a	CEC	pH	BTEX	8HM	PAH			Notes/preservation
BH209/0-0.2m	1	18.6.19	S	G/P	●		●	●						
BH210/0-0.2m	3	18.6.19	S	G/P	●									
BH211/0-0.2m	5	18.6.19	S	G/P	●									
BH212/0-0.2m	7	18.6.19	S	G/P	●									
BH213/0-0.2m	8	18.6.19	S	G/P	●		●	●						
BH214/0-0.2m	10	18.6.19	S	G/P	●									
BH215/0-0.2m	11	18.6.19	S	G/P	●									
BH216/0-0.2m	13	18.6.19	S	G/P	●		●	●						
BH217/0-0.2m	15	18.6.19	S	G/P	●									
BH210/0.4-0.5m	4	18.6.19	S	G/P	●									
BH217/0.4-0.5m	16	18.6.19	S	G/P	●									
BH209/0.4-0.5m	2	18.6.19	S	G/P		●								
BH211/0.4-0.5m	6	18.6.19	S	G/P		●								
BH213/0.4-0.5m	9	18.6.19	S	G/P		●								
BH215/0.4-0.5m	12	18.6.19	S	G/P		●								
BH216/0.4-0.5m	14	18.6.19	S	G/P		●								

ENVIROLAB

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 220042
Date Received: 200619
Time Received: 1448
Received by: ELS
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Metals to Analyse: 8HM unless specified here:

Lab Report/Reference No:

Total number of samples in container: **Relinquished by:** JY **Transported to laboratory by:**

Send Results to: Douglas Partners Pty Ltd **Address** 43 Hobart St, Riverstone, NSW, 2765 **Phone:** **Fax:**

Signed: **Received by:** Ellen Wr ELS 200619 1448 **Date & Time:**

Douglas Partners
Geotechnics | Environment | Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No:	94522.01	**Suburb:**	Marsden Park	**To:**	Envirolab Services
Project Name:	Proposed School Development	**Order Number**			12 Ashley St, Chatswood, NSW
Project Manager:	Gavin Boyd	**Sampler:**	Jeremie Young	**Attn:**	Aileen Hie
Emails:	gavin.boyd@douglaspartners.com.au	jeremie.young@douglaspartners.com.au			sammy-jo.sessions@douglaspartners.com.au
Date Required:	Same day ☐ 24 hours ☐ 48 hours ☐ 72 hours ☐ Standard ☑				
Prior Storage:	☑ Esky ☑ Fridge ☐ Shelved	Do samples contain 'potential' HBM?	Yes ☐ No ☑	(If YES, then handle, transport and store in accordance with FPM HAZID)	

Sample ID	Lab ID	Date Sampled	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: Combo 8a	Combo 3a	CEC	pH	BTEX	8HM	PAH			Notes/preservation
TS/TB	17/18	18.6.19	S	G/P					●					
BD1/20190618	19	18.6.19	S	G/P						●	●			
BD2/20190618	[illegible]	18.6.19	S	G/P						○	○			INTERLAB Replicate BD2
BD4/20190618	20	18.6.19	S	G/P						●	●			
BD5/20190618	21	18.6.19	S	G/P						●	●			

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Metals to Analyse: 8HM unless specified here:

Lab Report/Reference No: 220042

Total number of samples in container: | **Relinquished by:** JY | **Transported to laboratory by:**

Send Results to: Douglas Partners Pty Ltd | **Address** 43 Hobart St, Riverstone, NSW, 2765 | **Phone:** | **Fax:**

Signed: | **Received by:** Ellen WS ELS 200619 1448 | **Date & Time:**

Douglas Partners
Geotechnics | Environment | Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No:	94522.01	**Suburb:**	Marsden Park	**To:**	Envirolab Services
Project Name:	Proposed School Development	**Order Number**			12 Ashley St, Chatswood, NSW
Project Manager:	Gavin Boyd	**Sampler:**	Jeremie Young	**Attn:**	Aileen Hie
Emails:	gavin.boyd@douglaspartners.com.au	jeremie.young@douglaspartners.com.au			sammy-jo.sessions@douglaspartners.com.au
Date Required:	Same day ☐ 24 hours ☐ 48 hours ☐ 72 hours ☐ Standard ☑				
Prior Storage:	☑ Esky ☑ Fridge ☐ Shelved	Do samples contain 'potential' HBM?	Yes ☐	No ☑	(If YES, then handle, transport and store in accordance with FPM HAZID)

Sample ID	Lab ID	Date Sampled	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: Combo 8a	Combo 3a	CEC	pH	BTEX	8HM	PAH			Notes/preservation
BH209/0-0.2m		18.6.19	S	G/P	●		●	●						
BH210/0-0.2m		18.6.19	S	G/P	●									
BH211/0-0.2m		18.6.19	S	G/P	●									
BH212/0-0.2m		18.6.19	S	G/P	●									
BH213/0-0.2m		18.6.19	S	G/P	●		●	●						
BH214/0-0.2m		18.6.19	S	G/P	●									
BH215/0-0.2m		18.6.19	S	G/P	●									
BH216/0-0.2m		18.6.19	S	G/P	●		●	●						
BH217/0-0.2m		18.6.19	S	G/P	●									
BH210/0.4-0.5m		18.6.19	S	G/P	●									
BH217/0.4-0.5m		18.6.19	S	G/P	●									
BH209/0.4-0.5m		18.6.19	S	G/P		●								
BH211/0.4-0.5m		18.6.19	S	G/P		●								
BH213/0.4-0.5m		18.6.19	S	G/P		●								
BH215/0.4-0.5m		18.6.19	S	G/P		●								
BH216/0.4-0.5m		18.6.19	S	G/P		●								

ENVIROLAB

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 220042
Date Received: 20/6/19
Time Received: 1448
Received by: ELS
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Metals to Analyse: 8HM unless specified here:

Lab Report/Reference No:

Total number of samples in container: **Relinquished by:** JY **Transported to laboratory by:**

Send Results to: Douglas Partners Pty Ltd **Address** 43 Hobart St, Riverstone, NSW, 2765 **Phone:** **Fax:**

Signed: **Received by:** Ellen Wu ELS 20/6/19 1448 **Date & Time:**

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES1919403**	Page	: 1 of 5
Client	: **DOUGLAS PARTNERS PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR GAVIN BOYD	Contact	: Shirley LeCornu
Address	: PO BOX 472 96 HERMITAGE ROAD WEST RYDE NSW, AUSTRALIA 1685	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 9809 0666	Telephone	: +6138549 9630
Project	: 94522.01 PROPOSED SCHOOL DEVELOPMENT	Date Samples Received	: 21-Jun-2019
Order number	:	Date Analysis Commenced	: 24-Jun-2019
C-O-C number	: ----	Issue Date	: 28-Jun-2019
Sampler	: JEREMIE YOUNG		
Site	: MARSDEN PARK		
Quote number	: EN/222		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics, Smithfield, NSW

General Comments

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

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

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

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 2423304)									
ES1919427-003	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	12	12	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	24	21	10.4	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	27	28	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	13	13	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	46	52	11.6	0% - 50%
ES1919362-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	11	18	43.6	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	9	12	32.7	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	9	12	30.6	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	10	15	36.4	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	30	41	31.4	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 2423308)									
ES1919404-001	Anonymous	EA055: Moisture Content	----	0.1	%	11.0	13.6	20.7	0% - 50%
ES1919456-007	Anonymous	EA055: Moisture Content	----	0.1	%	17.1	19.8	14.8	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 2423305)									
ES1919427-003	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES1919362-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2425242)									
ES1919427-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2425242) - continued									
ES1919427-001	Anonymous	EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2423304)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	101	86	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	101	83	113
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	89.6	76	128
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	97.9	86	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	99.0	80	114
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	102	87	123
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	105	80	122
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2423305)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	79.2	70	105
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2425242)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	94.9	77	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	93.5	72	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	93.2	73	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	91.9	72	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	93.5	75	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	92.2	77	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	98.6	73	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	95.1	74	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	89.2	69	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	88.4	75	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	92.2	68	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	97.9	74	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	92.4	70	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	87.5	61	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	89.0	62	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	88.8	63	121

Matrix Spike (MS) Report

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

Sub-Matrix: **SOIL**

Matrix Spike (MS) Report		
Spike	SpikeRecovery(%)	Recovery Limits (%)

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2423304)							
ES1919362-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	101	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	94.3	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	115	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	95.9	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	97.9	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	96.3	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	98.8	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2423305)							
ES1919362-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	91.7	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2425242)							
ES1919427-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	96.5	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	99.1	70	130

Douglas Partners
Geotechnics | Environment | Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No:	94522.01	**Suburb:**	Marsden Park	**To:**	Envirolab Services
Project Name:	Proposed School Development	**Order Number**			12 Ashley St, Chatswood, NSW
Project Manager:	Gavin Boyd	**Sampler:**	Jeremie Young	**Attn:**	Aileen Hie
Emails:	gavin.boyd@douglaspartners.com.au	jeremie.young@douglaspartners.com.au			sammy-jo.sessions@douglaspartners.com.au
Date Required:	Same day ☐ 24 hours ☐ 48 hours ☐ 72 hours ☐ Standard ☐				
Prior Storage:	☐ Esky ☐ Fridge ☐ Shelved	Do samples contain 'potential' HBM? Yes ☐ No ☐ (If YES, then handle, transport and store in accordance with FPM HAZID)			

Sample ID	Lab ID	Date Sampled	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: Combo 8a	Combo 3a	CEC	pH	BTEX	8HM	PAH			Notes/preservation
TP225/0-0.2m	1	11.7.19	S	G/P	●									
TP224/0.1-0.2	2	11.7.19	S	G/P	●									
TP229/0.1-0.2	3	11.7.19	S	G/P	●									
TP232/0.1-0.2	4	11.7.19	S	G/P	●									
														Trip spike/ Trip blank

ENVIROLAB
Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 221582
Date Received: 12/7/2019
Time Received: 16:30
Received by:
Temp: Cool/Ambient 12
Cooling: Ice/Icepack
Security: Intact/Broken/None 14.2

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Metals to Analyse: 8HM unless specified here:

Lab Report/Reference No:

Total number of samples in container: **Relinquished by:** JY **Transported to laboratory by:**

Send Results to: Douglas Partners Pty Ltd **Address:** 43 Hobart St, Riverstone, NSW, 2765 **Phone:** **Fax:**

Signed: **Received by:** **Date & Time:** 12/7/2019 16:30

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 221582

Client Details

Client	Douglas Partners Pty Ltd (Riverstone)
Attention	Gavin Boyd, Sammy-Jo sessions, Jeremie Young
Address	43 Hobart St, Riverstone, NSW, 2765

Sample Details

Your Reference	**94522.01, Proposed School Development**
Number of Samples	4 Soil
Date samples received	12/07/2019
Date completed instructions received	12/07/2019

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	17/07/2019
Date of Issue	17/07/2019

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Asbestos Approved By
Analysed by Asbestos Approved Identifier: Aida Marner
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By
Jaimie Loa-Kum-Cheung, Metals Supervisor
Lucy Zhu, Senior Asbestos Analyst
Nancy Zhang, Laboratory Manager, Sydney
Nick Sarlamis, Inorganics Supervisor
Steven Luong, Organics Supervisor

Authorised By



Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil					
Our Reference		221582-1	221582-2	221582-3	221582-4
Your Reference	UNITS	TP225/0-0.2m	TP224/0.1-0.2	TP229/0-0.2	TP232/0-0.2
Date Sampled		11/07/2019	11/07/2019	11/07/2019	11/07/2019
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	98	101	96	113

svTRH (C10-C40) in Soil					
Our Reference		221582-1	221582-2	221582-3	221582-4
Your Reference	UNITS	TP225/0-0.2m	TP224/0.1-0.2	TP229/0-0.2	TP232/0-0.2
Date Sampled		11/07/2019	11/07/2019	11/07/2019	11/07/2019
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50
Surrogate o-Terphenyl	%	82	84	82	82

PAHs in Soil					
Our Reference		221582-1	221582-2	221582-3	221582-4
Your Reference	UNITS	TP225/0-0.2m	TP224/0.1-0.2	TP229/0-0.2	TP232/0-0.2
Date Sampled		11/07/2019	11/07/2019	11/07/2019	11/07/2019
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<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
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	82	93	87	87

Organochlorine Pesticides in soil					
Our Reference		221582-1	221582-2	221582-3	221582-4
Your Reference	UNITS	TP225/0-0.2m	TP224/0.1-0.2	TP229/0-0.2	TP232/0-0.2
Date Sampled		11/07/2019	11/07/2019	11/07/2019	11/07/2019
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	91	88	88	88

Organophosphorus Pesticides					
Our Reference		221582-1	221582-2	221582-3	221582-4
Your Reference	UNITS	TP225/0-0.2m	TP224/0.1-0.2	TP229/0-0.2	TP232/0-0.2
Date Sampled		11/07/2019	11/07/2019	11/07/2019	11/07/2019
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	91	88	88	88

PCBs in Soil					
Our Reference		221582-1	221582-2	221582-3	221582-4
Your Reference	UNITS	TP225/0-0.2m	TP224/0.1-0.2	TP229/0-0.2	TP232/0-0.2
Date Sampled		11/07/2019	11/07/2019	11/07/2019	11/07/2019
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	91	88	88	88

Acid Extractable metals in soil					
Our Reference		221582-1	221582-2	221582-3	221582-4
Your Reference	UNITS	TP225/0-0.2m	TP224/0.1-0.2	TP229/0-0.2	TP232/0-0.2
Date Sampled		11/07/2019	11/07/2019	11/07/2019	11/07/2019
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Arsenic	mg/kg	6	9	9	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	13	7	14	9
Copper	mg/kg	19	19	19	17
Lead	mg/kg	15	15	18	13
Mercury	mg/kg	0.1	<0.1	0.1	<0.1
Nickel	mg/kg	8	14	8	7
Zinc	mg/kg	33	54	35	34

Misc Soil - Inorg					
Our Reference		221582-1	221582-2	221582-3	221582-4
Your Reference	UNITS	TP225/0-0.2m	TP224/0.1-0.2	TP229/0-0.2	TP232/0-0.2
Date Sampled		11/07/2019	11/07/2019	11/07/2019	11/07/2019
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5

Moisture					
Our Reference		221582-1	221582-2	221582-3	221582-4
Your Reference	UNITS	TP225/0-0.2m	TP224/0.1-0.2	TP229/0-0.2	TP232/0-0.2
Date Sampled		11/07/2019	11/07/2019	11/07/2019	11/07/2019
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Moisture	%	18	5.0	18	13

Asbestos ID - soils					
Our Reference		221582-1	221582-2	221582-3	221582-4
Your Reference	UNITS	TP225/0-0.2m	TP224/0.1-0.2	TP229/0-0.2	TP232/0-0.2
Date Sampled		11/07/2019	11/07/2019	11/07/2019	11/07/2019
Type of sample		Soil	Soil	Soil	Soil
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Sample mass tested	g	Approx. 40g	Approx. 50g	Approx. 55g	Approx. 85g
Sample Description	-	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
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-021	Determination of Mercury by Cold Vapour AAS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's. 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-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.

Method ID	Methodology Summary
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-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-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-016	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-1	221582-2
Date extracted	-			15/07/2019	1	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Date analysed	-			16/07/2019	1	16/07/2019	16/07/2019		16/07/2019	16/07/2019
TRH C_6 - C_9	mg/kg	25	Org-016	<25	1	<25	<25	0	114	104
TRH C_6 - C_{10}	mg/kg	25	Org-016	<25	1	<25	<25	0	114	104
Benzene	mg/kg	0.2	Org-016	<0.2	1	<0.2	<0.2	0	113	103
Toluene	mg/kg	0.5	Org-016	<0.5	1	<0.5	<0.5	0	113	102
Ethylbenzene	mg/kg	1	Org-016	<1	1	<1	<1	0	117	106
m+p-xylene	mg/kg	2	Org-016	<2	1	<2	<2	0	114	104
o-Xylene	mg/kg	1	Org-016	<1	1	<1	<1	0	114	105
naphthalene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	99	1	98	94	4	115	97

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	221582-2
Date extracted	-			15/07/2019	1	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Date analysed	-			15/07/2019	1	15/07/2019	15/07/2019		15/07/2019	15/07/2019
TRH C_{10} - C_{14}	mg/kg	50	Org-003	<50	1	<50	<50	0	97	99
TRH C_{15} - C_{28}	mg/kg	100	Org-003	<100	1	<100	<100	0	91	95
TRH C_{29} - C_{36}	mg/kg	100	Org-003	<100	1	<100	<100	0	75	81
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	<50	1	<50	<50	0	97	99
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	<100	1	<100	<100	0	91	95
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	<100	1	<100	<100	0	75	81
Surrogate o-Terphenyl	%		Org-003	83	1	82	83	1	102	101

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	221582-2
Date extracted	-			15/07/2019	1	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Date analysed	-			16/07/2019	1	16/07/2019	16/07/2019		16/07/2019	16/07/2019
Naphthalene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	116	114
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	102	104
Phenanthrene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	104	102
Anthracene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	100	100
Pyrene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	102	102
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	104	102
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	1	<0.05	<0.05	0	108	110
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	88	1	82	85	4	92	93

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	221582-2
Date extracted	-			15/07/2019	1	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Date analysed	-			16/07/2019	1	16/07/2019	16/07/2019		16/07/2019	16/07/2019
HCB	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	80	77
gamma-BHC	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	76	72
Heptachlor	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	68	65
delta-BHC	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	78	73
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	79	75
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	71	70
Dieldrin	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	95	90
Endrin	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	74	71
pp-DDD	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	60	63
Endosulfan II	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	87	82
Methoxychlor	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	88	1	91	91	0	87	86

QUALITY CONTROL: Organophosphorus Pesticides						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	221582-2
Date extracted	-			15/07/2019	1	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Date analysed	-			16/07/2019	1	16/07/2019	16/07/2019		16/07/2019	16/07/2019
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	86	84
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	108	104
Dimethoate	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	94	90
Fenitrothion	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	122	110
Malathion	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	122	106
Parathion	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	138	140
Ronnel	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	92	[NT]
Surrogate TCMX	%		Org-008	88	1	91	91	0	89	86

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	221582-2
Date extracted	-			15/07/2019	1	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Date analysed	-			16/07/2019	1	16/07/2019	16/07/2019		16/07/2019	16/07/2019
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	77	78
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	88	1	91	91	0	89	86

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	221582-2
Date prepared	-			15/07/2019	1	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Date analysed	-			15/07/2019	1	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Arsenic	mg/kg	4	Metals-020	<4	1	6	5	18	112	83
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	107	85
Chromium	mg/kg	1	Metals-020	<1	1	13	11	17	110	86
Copper	mg/kg	1	Metals-020	<1	1	19	16	17	105	93
Lead	mg/kg	1	Metals-020	<1	1	15	14	7	108	83
Mercury	mg/kg	0.1	Metals-021	<0.1	1	0.1	<0.1	0	100	104
Nickel	mg/kg	1	Metals-020	<1	1	8	6	29	106	82
Zinc	mg/kg	1	Metals-020	<1	1	33	25	28	106	78

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	221582-2
Date prepared	-			15/07/2019	1	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Date analysed	-			15/07/2019	1	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	1	<5	<5	0	100	106

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-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.

Report Comments

Asbestos: Excessive sample volumes were provided for asbestos analysis.
A portion of the supplied samples were sub-sampled according to Envirolab procedures.
We cannot guarantee that these sub-samples are indicative of the entire sample.
Envirolab recommends supplying 40-50g (50mL) of sample in its own container as per AS4964-2004.
Note: Samples requested for asbestos testing were sub-sampled from bags provided by the client.

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES1919403**	Page	: 1 of 4
Client	: **DOUGLAS PARTNERS PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR GAVIN BOYD	Telephone	: +6138549 9630
Project	: 94522.01 PROPOSED SCHOOL DEVELOPMENT	Date Samples Received	: 21-Jun-2019
Site	: MARSDEN PARK	Issue Date	: 28-Jun-2019
Sampler	: JEREMIE YOUNG	No. of samples received	: 1
Order number	:	No. of samples analysed	: 1

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

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

Analysis Holding Time Compliance

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

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

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

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

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
BD2/201909618	**18-Jun-2019**	**----**	----	----	**24-Jun-2019**	02-Jul-2019	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
BD2/201909618	**18-Jun-2019**	**25-Jun-2019**	15-Dec-2019	✓	**25-Jun-2019**	15-Dec-2019	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
BD2/201909618	**18-Jun-2019**	**25-Jun-2019**	16-Jul-2019	✓	**25-Jun-2019**	16-Jul-2019	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
BD2/201909618	**18-Jun-2019**	**26-Jun-2019**	02-Jul-2019	✓	**27-Jun-2019**	05-Aug-2019	✓

Quality Control Parameter Frequency Compliance

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

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270D. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 502 and 507)

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (2013) Schedule B(3) (Method 202)
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	Douglas Partners Pty Ltd (Riverstone)
Attention	Gavin Boyd, Sammy-Jo sessions, Jeremie Young

Sample Login Details

Your reference	94522.01, Proposed School Development
Envirolab Reference	221582
Date Sample Received	12/07/2019
Date Instructions Received	12/07/2019
Date Results Expected to be Reported	19/07/2019

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	4 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	14.2
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticidesin soil	Organophosphorus Pesticides	PCBsin Soil	Acid Extractable metalsin soil	Misc Soil - Inorg	Asbestos ID - soils
TP225/0-0.2m	✓	✓	✓	✓	✓	✓	✓	✓	✓
TP224/0.1-0.2	✓	✓	✓	✓	✓	✓	✓	✓	✓
TP229/0-0.2	✓	✓	✓	✓	✓	✓	✓	✓	✓
TP232/0-0.2	✓	✓	✓	✓	✓	✓	✓	✓	✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES1919403**

Client	: **DOUGLAS PARTNERS PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR GAVIN BOYD	Contact	: Shirley LeCornu
Address	: PO BOX 472 96 HERMITAGE ROAD WEST RYDE NSW, AUSTRALIA 1685	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: gavin.boyd@douglaspartners.com.au	E-mail	: shirley.lecornu@Alsglobal.com
Telephone	: +61 02 9809 0666	Telephone	: +6138549 9630
Facsimile	: +61 02 9809 4095	Facsimile	: +61-2-8784 8500
Project	: 94522.01 PROPOSED SCHOOL DEVELOPMENT	Page	: 1 of 3
Order number	:	Quote number	: EM2017DOUPAR0002 (EN/222)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: MARSDEN PARK		
Sampler	: JEREMIE YOUNG		

Dates

Date Samples Received	: 21-Jun-2019 15:30	Issue Date	: 24-Jun-2019
Client Requested Due Date	: 28-Jun-2019	Scheduled Reporting Date	: **28-Jun-2019**

Delivery Details

Mode of Delivery	: Undefined	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 8.2'C - Ice Bricks present
Receipt Detail	:	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

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

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

Summary of Sample(s) and Requested Analysis

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

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - EA055-103 Moisture Content	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - S-02 8 Metals (incl. Digestion)
ES1919403-001	18-Jun-2019 00:00	BD2/201909618	✓	✓	✓

Proactive Holding Time Report

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

Requested Deliverables

ACCOUNTS BRISBANE

- A4 - AU Tax Invoice (INV)	Email	brisbane@douglaspartners.com.au

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accounts@douglaspartners.com.au

GAVIN BOYD

- *AU Certificate of Analysis - NATA (COA)	Email	gavin.boyd@douglaspartners.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	gavin.boyd@douglaspartners.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	gavin.boyd@douglaspartners.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	gavin.boyd@douglaspartners.com.au
- Chain of Custody (CoC) (COC)	Email	gavin.boyd@douglaspartners.com.au
- EDI Format - ENMRG (ENMRG)	Email	gavin.boyd@douglaspartners.com.au
- EDI Format - ESDAT (ESDAT)	Email	gavin.boyd@douglaspartners.com.au
- EDI Format - XTab (XTAB)	Email	gavin.boyd@douglaspartners.com.au

JEREMIE YOUNG

- *AU Certificate of Analysis - NATA (COA)	Email	jeremie.young@douglaspartners.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	jeremie.young@douglaspartners.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	jeremie.young@douglaspartners.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	jeremie.young@douglaspartners.com.au
- Chain of Custody (CoC) (COC)	Email	jeremie.young@douglaspartners.com.au
- EDI Format - ENMRG (ENMRG)	Email	jeremie.young@douglaspartners.com.au
- EDI Format - ESDAT (ESDAT)	Email	jeremie.young@douglaspartners.com.au
- EDI Format - XTab (XTAB)	Email	jeremie.young@douglaspartners.com.au

SAMMY-JO SESSIONS

- *AU Certificate of Analysis - NATA (COA)	Email	sammy-jo.sessions@douglaspartners.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	sammy-jo.sessions@douglaspartners.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	sammy-jo.sessions@douglaspartners.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	sammy-jo.sessions@douglaspartners.com.au
- Chain of Custody (CoC) (COC)	Email	sammy-jo.sessions@douglaspartners.com.au
- EDI Format - ENMRG (ENMRG)	Email	sammy-jo.sessions@douglaspartners.com.au
- EDI Format - ESDAT (ESDAT)	Email	sammy-jo.sessions@douglaspartners.com.au
- EDI Format - XTab (XTAB)	Email	sammy-jo.sessions@douglaspartners.com.au

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1919403**	Page	: 1 of 5
Client	: **DOUGLAS PARTNERS PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR GAVIN BOYD	Contact	: Shirley LeCornu
Address	: PO BOX 472 96 HERMITAGE ROAD WEST RYDE NSW, AUSTRALIA 1685	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 9809 0666	Telephone	: +6138549 9630
Project	: 94522.01 PROPOSED SCHOOL DEVELOPMENT	Date Samples Received	: 21-Jun-2019 15:30
Order number	:	Date Analysis Commenced	: 24-Jun-2019
C-O-C number	: ----	Issue Date	: 28-Jun-2019 12:12
Sampler	: JEREMIE YOUNG		
Site	: MARSDEN PARK		
Quote number	: EN/222		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics, Smithfield, NSW

General Comments

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

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

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

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

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

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

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BD2/201909618	----	----	----	----
			Client sampling date / time	18-Jun-2019 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1919403-001	--------	--------	--------	--------
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**8.5**	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**8**	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg	**12**	----	----	----	----
Copper	7440-50-8	5	mg/kg	**24**	----	----	----	----
Lead	7439-92-1	5	mg/kg	**16**	----	----	----	----
Nickel	7440-02-0	2	mg/kg	**10**	----	----	----	----
Zinc	7440-66-6	5	mg/kg	**52**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**81.1**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BD2/201909618	----	----	----	----
				Client sampling date / time	18-Jun-2019 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1919403-001	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates - Continued									
2-Chlorophenol-D4	93951-73-6	0.5	%		**83.7**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**62.7**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**97.6**	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		**90.6**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		**94.3**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129

Douglas Partners
Geotechnics / Environment / Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No: 94522.01	**Suburb:** Marsden Park	**To:** Envirolab Services	
Project Name: Proposed School Development	**Order Number**	12 Ashley St, Chatswood, NSW	
Project Manager: Gavin Boyd	**Sampler:** Jeremie Young	**Attn:** Aileen Hie	
Emails: gavin.boyd@douglaspartners.com.au	jeremie.young@douglaspartners.com.au	sammy-jo.sessions@douglaspartners.com.au	
Date Required: Same day ☐ 24 hours ☐ 48 hours ☐ 72 hours ☐ Standard ☑			
Prior Storage: ☑ Esky ☑ Fridge ☐ Shelved	Do samples contain 'potential' HBM? Yes ☐ No ☑ (If YES, then handle, transport and store in accordance with FPM HAZID)		

Sample ID	Lab ID	Date Sampled	Sample Type (S - soil W - water)	Container Type (G - glass P - plastic)	Analytes: Combo 8a	Combo 3a	CEC	pH	BTEX	8HM	PAH			Notes/preservation
TS/TB	17/18	18.6.19	S	G/P					●					
BD1/20190618	19	18.6.19	S	G/P						●	●			
(1) BD2/20190618	—	18.6.19	S	G/P						●	●			INTERLAB Replicate BD2
BD4/20190618	20	18.6.19	S	G/P						●	●			
BD5/20190618	21	18.6.19	S	G/P						●	●			

Environmental Division Sydney
Work Order Reference
ES1919403

Telephone : +61-2-8784 8555

1 X Jar 250ml
1 X Bag Med.

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Metals to Analyse: 8HM unless specified here:

Total number of samples in container:

Send Results to: Douglas Partners Pty Ltd

Signed:

Relinquished by: JY

Address 43 Hobart St, Riverstone, NSW, 2765

Received by: Ellen Wt ES 200619 1448

Relinquished by: Kevin Wang 21/6/19

Transported to laboratory by:

Phone: **Fax:**

Date & Time:

Sent Aline AUS. 21/6/19 1530

Lab Report/Reference No: 220042

Appendix G

Results Summary Table

Douglas Partners
Geotechnics / Environment / Groundwater

Table 1: Summary of Laboratory Results – Metals, TRH, BTEX, PAH

			Metals								TRH						BTEX				PAH			
			Arsenic	Cadmium	Chromium (VI)	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	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	Naphthalene [b]	Benzo(a)pyrene (BaP)	Benzo(a)pyrene TEQ	Total PAHs
		PQL	4	0.4	1	1	1	0.1	1	1	25	50	25	50	100	100	0.2	0.5	1	1	1	0.05	0.5	0.05
Sample ID	Depth	Sampled 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
BD1/20181121	0m	21/11/2018	<4	<0.4	10	19	12	<0.1	6	21	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BD2/20181122	0m	22/11/2018	6	<0.4	10	29	18	<0.1	9	45	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BD3/20181122	0m	22/11/2018	5	<0.4	14	19	14	<0.1	10	47	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BD4/20181122	0m	22/11/2018	5	<0.4	11	22	16	<0.1	10	41	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BD5/20181122	0m	22/11/2018	<4	<0.4	11	30	13	<0.1	10	44	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH101	0 - 0.2m	21/11/2018	<4	<0.4	8	18	10	<0.1	6	22	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH101	0.7 - 0.8m	21/11/2018	<4	<0.4	8	41	12	<0.1	5	31	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH102	0.4 - 0.5m	21/11/2018	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH102	2.2 - 2.4m	21/11/2018	<4	<0.4	7	14	9	<0.1	4	17	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	110 180	440 120	NC 300	NC 2800	0.5 50	310 85	NL 70	95 105	NL 170	NC 0.7	3 NC	300 NC
BH103	0 - 0.2m	22/11/2018	5	<0.4	10	26	16	<0.1	8	38	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH103	2.4 - 2.5m	22/11/2018	5	<0.4	4	4	3	<0.1	<1	3	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	110 180	440 120	NC 300	NC 2800	0.5 50	310 85	NL 70	95 105	NL 170	NC 0.7	3 NC	300 NC
BH103	3.55 - 4m	22/11/2018	<4	<0.4	11	18	13	<0.1	4	16	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	110 180	440 120	NC 300	NC 2800	0.5 50	310 85	NL 70	95 105	NL 170	NC 0.7	3 NC	300 NC
BH103	5.05 - 5.55m	22/11/2018	<4	<0.4	10	29	11	<0.1	12	55	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	200 180	NL 120	NC 300	NC 2800	0.5 50	540 85	NL 70	170 105	NL 170	NC 0.7	3 NC	300 NC
BH104	0 - 0.2m	22/11/2018	8	<0.4	8	120	11	<0.1	8	39	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH104	4 - 4.45m	22/11/2018	7	<0.4	18	23	18	<0.1	10	40	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	200 180	NL 120	NC 300	NC 2800	0.5 50	540 85	NL 70	170 105	NL 170	NC 0.7	3 NC	300 NC
BH105	0 - 0.2m	22/11/2018	<4	<0.4	11	32	15	<0.1	9	45	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH105	3.5 - 3.7m	22/11/2018	<4	<0.4	9	27	9	<0.1	8	39	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	110 180	440 120	NC 300	NC 2800	0.5 50	310 85	NL 70	95 105	NL 170	NC 0.7	3 NC	300 NC
BH106	0.5 - 0.6m	23/11/2018	7	<0.4	11	21	17	<0.1	9	34	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH110	0.5 - 0.6m	23/11/2018	<4	<0.4	10	12	8	<0.1	3	9	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH110	1 - 1.3m	23/11/2018	<4	<0.4	6	11	6	<0.1	3	10	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	70 180	240 120	NC 300	NC 2800	0.5 50	220 85	NL 70	60 105	NL 170	NC 0.7	3 NC	300 NC
BH110	1.3 - 1.45m	23/11/2018	<4	<0.4	8	42	14	<0.1	5	35	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	70 180	240 120	NC 300	NC 2800	0.5 50	220 85	NL 70	60 105	NL 170	NC 0.7	3 NC	300 NC
BH111	0.5 - 0.6m	23/11/2018	6	<0.4	13	14	18	<0.1	2	14	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH112	0 - 0.2m	23/11/2018	6	<0.4	11	21	14	<0.1	12	37	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC

			Metals								TRH						BTEX				PAH			
			Arsenic	Cadmium	Chromium (VI)	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	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	Naphthalene b	Benzo(a)pyrene (BaP)	Benzo(a)pyrene TEQ	Total PAHs
		PQL	4	0.4	1	1	1	0.1	1	1	25	50	25	50	100	100	0.2	0.5	1	1	1	0.05	0.5	0.05
Sample ID	Depth	Sampled 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
BH112	2.5 - 2.95m	23/11/2018	4 100 100	<0.4 20 NC	6 100 190	31 6000 190	16 300 1100	<0.1 40 NC	24 400 140	88 7400 450	<25 NC NC	<50 NC NC	<25 110 180	<50 440 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 310 85	<1 NL 70	<1 95 105	<1 NL 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH116	0 - 0.2m	23/11/2018	<4 100 100	<0.4 20 NC	8 100 190	22 6000 190	13 300 1100	<0.1 40 NC	11 400 140	44 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH116	0.5 - 0.6m	23/11/2018	<4 100 100	<0.4 20 NC	8 100 190	24 6000 190	10 300 1100	<0.1 40 NC	6 400 140	25 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH116	0.6 - 0.7m	23/11/2018	4 100 100	<0.4 20 NC	8 100 190	25 6000 190	10 300 1100	<0.1 40 NC	7 400 140	27 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH117	0.5 - 0.6m	23/11/2018	<4 100 100	<0.4 20 NC	8 100 190	15 6000 190	11 300 1100	<0.1 40 NC	7 400 140	23 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH117	1.5 - 1.6m	23/11/2018	<4 100 100	<0.4 20 NC	10 100 190	34 6000 190	13 300 1100	<0.1 40 NC	10 400 140	50 7400 450	<25 NC NC	<50 NC NC	<25 70 180	<50 240 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 220 85	<1 NL 70	<1 60 105	<1 NL 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH118	0 - 0.2m	23/11/2018	4 100 100	<0.4 20 NC	15 100 190	19 6000 190	16 300 1100	<0.1 40 NC	2 400 140	10 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH118	2 - 2.45m	23/11/2018	<4 100 100	<0.4 20 NC	9 100 190	15 6000 190	8 300 1100	<0.1 40 NC	7 400 140	20 7400 450	<25 NC NC	<50 NC NC	<25 110 180	<50 440 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 310 85	<1 NL 70	<1 95 105	<1 NL 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH119	0.5 - 0.6m	23/11/2018	4 100 100	<0.4 20 NC	8 100 190	20 6000 190	14 300 1100	<0.1 40 NC	7 400 140	30 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH119	2 - 2.45m	23/11/2018	<4 100 100	<0.4 20 NC	3 100 190	12 6000 190	6 300 1100	<0.1 40 NC	5 400 140	22 7400 450	<25 NC NC	<50 NC NC	<25 110 180	<50 440 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 310 85	<1 NL 70	<1 95 105	<1 NL 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH120	0 - 0.2m	23/11/2018	5 100 100	<0.4 20 NC	8 100 190	25 6000 190	15 300 1100	<0.1 40 NC	17 400 140	83 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	0.05 NC 0.7	<0.5 3 NC	0.3 300 NC
BH120	2.3 - 2.45m	23/11/2018	5 100 100	<0.4 20 NC	10 100 190	11 6000 190	9 300 1100	<0.1 40 NC	2 400 140	6 7400 450	<25 NC NC	<50 NC NC	<25 110 180	<50 440 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 310 85	<1 NL 70	<1 95 105	<1 NL 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH120	4 - 4.45m	232/11/2018	<4 100 100	<0.4 20 NC	8 100 190	26 6000 190	9 300 1100	<0.1 40 NC	5 400 140	23 7400 450	<25 NC NC	<50 NC NC	<25 200 180	<50 NL 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 540 85	<1 NL 70	<1 170 105	<1 NL 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BD1/20181121 - [TRIPLICATE]	0m	21/11/2018	6 100 100	<0.4 20 NC	13 100 190	17 6000 190	15 300 1100	<0.1 40 NC	7 400 140	28 7400 450	NT NC NC	NT NC NC	NT 45 180	NT 110 120	NT NC 300	NT NC 2800	NT 0.5 50	NT 160 85	NT 55 70	NT 40 105	NT 3 170	NT NC 0.7	NT 3 NC	NT 300 NC
BH102 - [TRIPLICATE]	2.2 - 2.4m	21/11/2018	5 100 100	<0.4 20 NC	13 100 190	21 6000 190	14 300 1100	<0.1 40 NC	8 400 140	30 7400 450	NT NC NC	NT NC NC	NT 110 180	NT 440 120	NT NC 300	NT NC 2800	NT 0.5 50	NT 310 85	NT NL 70	NT 95 105	NT NL 170	NT NC 0.7	NT 3 NC	NT 300 NC
BH110 - [TRIPLICATE]	0.5 - 0.6m	23/11/2018	<4 100 100	<0.4 20 NC	6 100 190	7 6000 190	4 300 1100	<0.1 40 NC	2 400 140	5 7400 450	NT NC NC	NT NC NC	NT 45 180	NT 110 120	NT NC 300	NT NC 2800	NT 0.5 50	NT 160 85	NT 55 70	NT 40 105	NT 3 170	NT NC 0.7	NT 3 NC	NT 300 NC
BD7/20181127	0m	27/11/2018	5 100 100	<0.4 20 NC	11 100 190	24 6000 190	16 300 1100	<0.1 40 NC	10 400 140	41 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BD8/20181127	0m	27/11/2018	6 100 100	<0.4 20 NC	11 100 190	22 6000 190	16 300 1100	<0.1 40 NC	8 400 140	33 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH107/0-0.2	0m	27/11/2018	9 100 100	<0.4 20 NC	8 100 190	27 6000 190	18 300 1100	<0.1 40 NC	25 400 140	110 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH107/2/2.0-2.2	0m	27/11/2018	6 100 100	<0.4 20 NC	11 100 190	19 6000 190	14 300 1100	<0.1 40 NC	7 400 140	32 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH107/2.4-2.5	0m	27/11/2018	4 100 100	<0.4 20 NC	8 100 190	10 6000 190	8 300 1100	<0.1 40 NC	2 400 140	8 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH108/0.5-0.6	0m	27/11/2018	7 100 100	<0.4 20 NC	8 100 190	27 6000 190	17 300 1100	<0.1 40 NC	18 400 140	66 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH108/1.7-1.8	0m	27/11/2018	4 100 100	<0.4 20 NC	10 100 190	23 6000 190	10 300 1100	<0.1 40 NC	4 400 140	16 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH109/0-0.2	0m	27/11/2018	7 100 100	<0.4 20 NC	13 100 190	19 6000 190	16 300 1100	<0.1 40 NC	7 400 140	31 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH109/1.0-1.2	0m	27/11/2018	7 100 100	<0.4 20 NC	14 100 190	13 6000 190	14 300 1100	<0.1 40 NC	6 400 140	27 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC

			Metals								TRH						BTEX				PAH			
			Arsenic	Cadmium	Chromium (VI)	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	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	Naphthalene [b]	Benzo(a)pyrene (BaP)	Benzo(a)pyrene TEQ	Total PAHs
		PQL	4	0.4	1	1	1	0.1	1	1	25	50	25	50	100	100	0.2	0.5	1	1	1	0.05	0.5	0.05
Sample ID	Depth	Sampled 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
BH109/2.0-2.2	0m	27/11/2018	5	<0.4	9	21	16	<0.1	10	45	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH113/0.5-0.6	0m	27/11/2018	5	<0.4	11	21	11	<0.1	5	21	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH113/1.5-1.6	0m	27/11/2018	<4	<0.4	5	21	8	<0.1	5	27	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH114/0.5-0.6	0m	27/11/2018	6	<0.4	12	22	16	<0.1	9	39	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH115/0-0.2	0m	27/11/2018	6	<0.4	11	21	17	<0.1	8	37	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH115/1.0-1.2	0m	27/11/2018	<4	<0.4	8	16	13	<0.1	8	35	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH115/2.0-2.2	0m	27/11/2018	7	<0.4	11	31	18	<0.1	12	51	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH121/0-0.2	0m	27/11/2018	7	<0.4	10	25	16	<0.1	9	45	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH121/1.0-1.2	0m	27/11/2018	5	<0.4	8	24	15	<0.1	11	49	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH121/2.0-2.2	0m	27/11/2018	4	<0.4	10	25	18	<0.1	4	21	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH122/0-0.2	0m	27/11/2018	5	<0.4	6	16	11	<0.1	19	32	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0.06	<0.5	0.85
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH122/1.0-1.2	0m	27/11/2018	7	<0.4	11	24	17	<0.1	9	37	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH122/2.5-2.7	0m	27/11/2018	5	<0.4	10	12	8	<0.1	4	12	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH123/0.5-0.6	0m	27/11/2018	6	<0.4	11	20	16	<0.1	10	40	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH123/2.0-2.2	0m	27/11/2018	5	<0.4	10	24	15	<0.1	7	31	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH124/0.1-0.2	0m	27/11/2018	6	<0.4	5	7	16	<0.1	<1	2	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH124/0.5-0.6	0m	27/11/2018	7	<0.4	12	5	17	<0.1	<1	1	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH124/1.0-1.2	0m	27/11/2018	9	<0.4	7	30	17	<0.1	12	51	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH124/2.6-2.7	0m	27/11/2018	6	<0.4	11	24	16	<0.1	10	38	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH125/0-0.2	0m	27/11/2018	5	<0.4	11	24	17	<0.1	8	38	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH125/1.0-1.2	0m	27/11/2018	5	<0.4	9	20	13	<0.1	9	35	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH106/1.0-1.45	0m	23/11/2018	5	<0.4	9	19	11	<0.1	8	27	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH108/2.2/2.3	0m	27/11/2018	5	<0.4	9	26	29	<0.1	10	50	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH119/0.5-0.6	0m	23/11/2018	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
BH102/0.5-1.0	0m	21/11/2018	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC

			Metals								TRH						BTEX				PAH			
			Arsenic	Cadmium	Chromium (VI)	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	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	Naphthalene [b]	Benzo(a)pyrene (BaP)	Benzo(a)pyrene TEQ	Total PAHs
		PQL	4	0.4	1	1	1	0.1	1	1	25	50	25	50	100	100	0.2	0.5	1	1	1	0.05	0.5	0.05
Sample ID	Depth	Sampled 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
BH105/1.5-2	0m	22/11/2018	NT 100 100	NT 20 NC	NT 100 190	NT 6000 190	NT 300 1100	NT 40 NC	NT 400 140	NT 7400 450	NT NC NC	NT NC NC	NT 45 180	NT 110 120	NT NC 300	NT NC 2800	NT 0.5 50	NT 160 85	NT 55 70	NT 40 105	NT 3 170	NT NC 0.7	NT 3 NC	NT 300 NC
BH117/1.5-1.6	0m	23/11/2018	NT 100 100	NT 20 NC	NT 100 190	NT 6000 190	NT 300 1100	NT 40 NC	NT 400 140	NT 7400 450	NT NC NC	NT NC NC	NT 45 180	NT 110 120	NT NC 300	NT NC 2800	NT 0.5 50	NT 160 85	NT 55 70	NT 40 105	NT 3 170	NT NC 0.7	NT 3 NC	NT 300 NC
TP1	0m	27/11/2018	6 100 100	<0.4 20 NC	12 100 190	17 6000 190	15 300 1100	<0.1 40 NC	6 400 140	25 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
TP2	0m	27/11/2018	9 100 100	<0.4 20 NC	29 100 190	5 6000 190	19 300 1100	<0.1 40 NC	3 400 140	11 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
TP3	0m	27/11/2018	5 100 100	<0.4 20 NC	10 100 190	25 6000 190	18 300 1100	<0.1 40 NC	9 400 140	36 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH113/1.5-1.6 - [TRIPLICATE]	0m	27/11/2018	NT 100 100	NT 20 NC	NT 100 190	NT 6000 190	NT 300 1100	NT 40 NC	NT 400 140	NT 7400 450	NT NC NC	NT NC NC	NT 45 180	NT 110 120	NT NC 300	NT NC 2800	NT 0.5 50	NT 160 85	NT 55 70	NT 40 105	NT 3 170	NT NC 0.7	NT 3 NC	NT 300 NC
BH209	0 - 0.2m	18/06/2019	8 100 100	<0.4 20 NC	12 100 190	23 6000 190	17 300 1100	0.2 40 NC	9 400 140	46 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH209	0.4 - 0.5m	18/06/2019	12 100 100	<0.4 20 NC	10 100 190	30 6000 190	15 300 1100	<0.1 40 NC	13 400 140	76 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH210	0 - 0.2m	18/06/2019	8 100 100	<0.4 20 NC	15 100 190	22 6000 190	18 300 1100	<0.1 40 NC	12 400 140	44 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH210	0.4 - 0.5m	18/06/2019	8 100 100	<0.4 20 NC	12 100 190	23 6000 190	19 300 1100	<0.1 40 NC	10 400 140	43 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH211	0 - 0.2m	18/06/2019	6 100 100	<0.4 20 NC	15 100 190	38 6000 190	21 300 1100	<0.1 40 NC	31 400 140	74 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	0.08 NC 0.7	<0.5 3 NC	0.4 300 NC
BH211	0.4 - 0.5m	18/06/2019	7 100 100	<0.4 20 NC	12 100 190	34 6000 190	20 300 1100	<0.1 40 NC	22 400 140	78 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH212	0 - 0.2m	18/06/2019	12 100 100	<0.4 20 NC	9 100 190	27 6000 190	21 300 1100	1.3 40 NC	13 400 140	66 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	0.08 NC 0.7	<0.5 3 NC	0.87 300 NC
BH213	0 - 0.2m	18/06/2019	7 100 100	<0.4 20 NC	12 100 190	25 6000 190	17 300 1100	0.2 40 NC	11 400 140	46 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH213	0.4 - 0.5m	18/06/2019	7 100 100	<0.4 20 NC	9 100 190	35 6000 190	18 300 1100	<0.1 40 NC	19 400 140	80 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	0.4 300 NC
BH214	0 - 0.2m	18/06/2019	10 100 100	<0.4 20 NC	16 100 190	21 6000 190	17 300 1100	<0.1 40 NC	10 400 140	43 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH215	0 - 0.2m	18/06/2019	7 100 100	<0.4 20 NC	23 100 190	33 6000 190	16 300 1100	<0.1 40 NC	39 400 140	100 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	0.3 NC 0.7	<0.5 3 NC	2.4 300 NC
BH215	0.4 - 0.5m	18/06/2019	10 100 100	<0.4 20 NC	9 100 190	32 6000 190	19 300 1100	<0.1 40 NC	21 400 140	72 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	0.2 NC 0.7	<0.5 3 NC	3.8 300 NC
BH216	0 - 0.2m	18/06/2019	7 100 100	<0.4 20 NC	15 100 190	17 6000 190	16 300 1100	<0.1 40 NC	8 400 140	36 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH216	0.4 - 0.5m	18/06/2019	5 100 100	<0.4 20 NC	12 100 190	28 6000 190	27 300 1100	<0.1 40 NC	20 400 140	90 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH217	0 - 0.2m	18/06/2019	7 100 100	<0.4 20 NC	13 100 190	19 6000 190	14 300 1100	<0.1 40 NC	6 400 140	29 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BH217	0.4 - 0.5m	18/06/2019	6 100 100	<0.4 20 NC	7 100 190	31 6000 190	17 300 1100	<0.1 40 NC	13 400 140	63 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BD1/20190618	0m	18/06/2019	9 100 100	<0.4 20 NC	11 100 190	23 6000 190	16 300 1100	<0.1 40 NC	14 400 140	66 7400 450	NT NC NC	NT NC NC	NT 45 180	NT 110 120	NT NC 300	NT NC 2800	NT 0.5 50	NT 160 85	NT 55 70	NT 40 105	<0.1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BD4/20190618	0m	18/06/2019	7 100 100	<0.4 20 NC	13 100 190	21 6000 190	16 300 1100	<0.1 40 NC	11 400 140	44 7400 450	NT NC NC	NT NC NC	NT 45 180	NT 110 120	NT NC 300	NT NC 2800	NT 0.5 50	NT 160 85	NT 55 70	NT 40 105	<0.1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC
BD5/20190618	0m	18/06/2019	6 100 100	<0.4 20 NC	20 100 190	32 6000 190	17 300 1100	<0.1 40 NC	34 400 140	95 7400 450	NT NC NC	NT NC NC	NT 45 180	NT 110 120	NT NC 300	NT NC 2800	NT 0.5 50	NT 160 85	NT 55 70	NT 40 105	<0.1 3 170	0.4 NC 0.7	0.8 3 NC	4.8 300 NC
TP225/0-0.2m	0m	11/07/2019	6 100 100	<0.4 20 NC	13 100 190	19 6000 190	15 300 1100	0.1 40 NC	8 400 140	33 7400 450	<25 NC NC	<50 NC NC	<25 45 180	<50 110 120	<100 NC 300	<100 NC 2800	<0.2 0.5 50	<0.5 160 85	<1 55 70	<1 40 105	<1 3 170	<0.05 NC 0.7	<0.5 3 NC	<0.05 300 NC

			9	<0.4	7	19	15	<0.1	14	54	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			Metals								TRH						BTEX				PAH			
TP224/0.1-0.2	0m	11/07/2019	Arsenic	Cadmium	Chromium (VI)	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	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	Naphthalene [b]	Benzo(a)pyrene (BaP)	Benzo(a)pyrene TEQ	Total PAHs
			4	0.4	1	1	1	0.1	1	1	25	50	25	50	100	100	0.2	0.5	1	1	1	0.05	0.5	0.05
			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
			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
TP229/0-0.2	0m	11/07/2019	9	<0.4	14	19	18	0.1	8	35	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC
TP232/0-0.2	0m	11/07/2019	5	<0.4	9	17	13	<0.1	7	34	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05
			100 100	20 NC	100 190	6000 190	300 1100	40 NC	400 140	7400 450	NC NC	NC NC	45 180	110 120	NC 300	NC 2800	0.5 50	160 85	55 70	40 105	3 170	NC 0.7	3 NC	300 NC

Lab result
HIL/HSL value EIL/ESL 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 below the PQL, refer to the lab report **Blue** = DC exceedance

Bold = Lab detections NT = Not tested NL = Non limiting NC = No criteria NA = Not applicable NAD = No asbestos detected

Notes:

HIL/HSL/DC	NEPC, Schedule B1 - HIL A (Residential / Low - High Density), HSL A/B (Residential / Low - High Density), DC HSL A (Direct contact HSL A Residential (Low density))
EIL/ESL	NEPC, Schedule B1 - EIL UR/POS (Urban Residential and Public Open Space), ESL UR/POS (Urban Residential and Public Open Space)
ML	NEPC, Schedule B1 - ML R/P/POS (Residential, Parkland and Public Open Space)
a	QA/QC replicate of sample listed directly below the primary sample
b	reported naphthalene laboratory result obtained from BTEXN suite
c	criteria applies to DDT only

Douglas Partners
Geotechnics / Environment / Groundwater

Table 2: Summary of Laboratory Results – Phenol, OCP, OPP, PCB, Asbestos

			Phenol	OCP								OPP	PCB	Asbestos		
			Phenol	DDT+DDE+DDD c	Aldrin & Dieldrin	Total Chlordane	Total Endosulfan	Endrin	Heptachlor	HCB	Methoxychlor	Chlorpyriphos	Total PCB	Asbestos ID in soil >0.1g/kg	Trace Analysis	Asbestos (50 g)
		PQL	5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1			
Sample ID	Depth	Sampled Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	-	-
BD1/20181121	0m	21/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BD2/20181122	0m	22/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BD3/20181122	0m	22/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BD4/20181122	0m	22/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BD5/20181122	0m	22/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH101	0 - 0.2m	21/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH101	0.7 - 0.8m	21/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH102	0.4 - 0.5m	21/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH102	2.2 - 2.4m	21/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH103	0 - 0.2m	22/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH103	2.4 - 2.5m	22/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH103	3.55 - 4m	22/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH103	5.05 - 5.55m	22/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH104	0 - 0.2m	22/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH104	4 - 4.45m	22/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH105	0 - 0.2m	22/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH105	3.5 - 3.7m	22/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH106	0.5 - 0.6m	23/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH110	0.5 - 0.6m	23/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD

			Phenol	OCP								OPP	PCB	Asbestos		
			Phenol	DDT+DDE+DDD c	Aldrin & Dieldrin	Total Chlordane	Total Endosulfan	Endrin	Heptachlor	HCB	Methoxychlor	Chlorpyriphos	Total PCB	Asbestos ID in soil >0.1g/kg	Trace Analysis	Asbestos (50 g)
		PQL	5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1			
Sample ID	Depth	Sampled Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	-	-
BH110	1 - 1.3m	23/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH110	1.3 - 1.45m	23/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH111	0.5 - 0.6m	23/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH112	0 - 0.2m	23/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH112	2.5 - 2.95m	23/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH116	0 - 0.2m	23/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH116	0.5 - 0.6m	23/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH116	0.6 - 0.7m	23/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH117	0.5 - 0.6m	23/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH117	1.5 - 1.6m	23/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH118	0 - 0.2m	23/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH118	2 - 2.45m	23/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH119	0.5 - 0.6m	23/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH119	2 - 2.45m	23/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH120	0 - 0.2m	23/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH120	2.3 - 2.45m	23/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH120	4 - 4.45m	232/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BD1/20181121 - [TRIPLICATE]	0m	21/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH102 - [TRIPLICATE]	2.2 - 2.4m	21/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH110 - [TRIPLICATE]	0.5 - 0.6m	23/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BD7/20181127	0m	27/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BD8/20181127	0m	27/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH107/0-0.2	0m	27/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH107/2/2.0-	0m	27/11/2018	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NAD	NAD	NAD

2.2	0m	27/11/2018	100 NC	240 180	6 NC	50 NC	270 NC	10 NC	6 NC	10 NC	300 NC	160 NC	1 NC	NAD	NAD	NAD
			Phenol	OCP								OPP	PCB	Asbestos		
			Phenol	DDT+DDE+DDD c	Aldrin & Dieldrin	Total Chlordane	Total Endosulfan	Endrin	Heptachlor	HCB	Methoxychlor	Chlorpyriphos	Total PCB	Asbestos ID in soil >0.1g/kg	Trace Analysis	Asbestos (50 g)
		PQL	5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1			
Sample ID	Depth	Sampled Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	-	-
BH107/2.4-2.5	0m	27/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH108/0.5-0.6	0m	27/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH108/1.7-1.8	0m	27/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH109/0-0.2	0m	27/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH109/1.0-1.2	0m	27/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH109/2.0-2.2	0m	27/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH113/0.5-0.6	0m	27/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH113/1.5-1.6	0m	27/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH114/0.5-0.6	0m	27/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH115/0-0.2	0m	27/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH115/1.0-1.2	0m	27/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH115/2.0-2.2	0m	27/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH121/0-0.2	0m	27/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH121/1.0-1.2	0m	27/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH121/2.0-2.2	0m	27/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH122/0-0.2	0m	27/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH122/1.0-1.2	0m	27/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH122/2.5-2.7	0m	27/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH123/0.5-0.6	0m	27/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH123/2.0-2.2	0m	27/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH124/0.1-0.2	0m	27/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD

			Phenol	OCP								OPP	PCB	Asbestos		
			Phenol	DDT+DDE+DDD c	Aldrin & Dieldrin	Total Chlordane	Total Endosulfan	Endrin	Heptachlor	HCB	Methoxychlor	Chlorpyriphos	Total PCB	Asbestos ID in soil >0.1g/kg	Trace Analysis	Asbestos (50 g)
		PQL	5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1			
Sample ID	Depth	Sampled Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	-	-
BH124/0.5-0.6	0m	27/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH124/1.0-1.2	0m	27/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH124/2.6-2.7	0m	27/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH125/0-0.2	0m	27/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH125/1.0-1.2	0m	27/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH106/1.0-1.45	0m	23/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH108/2.2/2.3	0m	27/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH119/0.5-0.6	0m	23/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH102/0.5-1.0	0m	21/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH105/1.5-2	0m	22/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH117/1.5-1.6	0m	23/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
TP1	0m	27/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
TP2	0m	27/11/2018	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
TP3	0m	27/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH113/1.5-1.6 - [TRIPLICATE]	0m	27/11/2018	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BH209	0 - 0.2m	18/06/2019	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH209	0.4 - 0.5m	18/06/2019	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NAD	NAD	NAD
BH210	0 - 0.2m	18/06/2019	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH210	0.4 - 0.5m	18/06/2019	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH211	0 - 0.2m	18/06/2019	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH211	0.4 - 0.5m	18/06/2019	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NAD	NAD	NAD
BH212	0 - 0.2m	18/06/2019	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH213	0 - 0.2m	18/06/2019	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD

			Phenol	OCP								OPP	PCB	Asbestos		
			Phenol	DDT+DDE+DDD c	Aldrin & Dieldrin	Total Chlordane	Total Endosulfan	Endrin	Heptachlor	HCB	Methoxychlor	Chlorpyriphos	Total PCB	Asbestos ID in soil >0.1g/kg	Trace Analysis	Asbestos (50 g)
		PQL	5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1			
Sample ID	Depth	Sampled Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	-	-
BH213	0.4 - 0.5m	18/06/2019	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NAD	NAD	NAD
BH214	0 - 0.2m	18/06/2019	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH215	0 - 0.2m	18/06/2019	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH215	0.4 - 0.5m	18/06/2019	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NAD	NAD	NAD
BH216	0 - 0.2m	18/06/2019	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH216	0.4 - 0.5m	18/06/2019	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NAD	NAD	NAD
BH217	0 - 0.2m	18/06/2019	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BH217	0.4 - 0.5m	18/06/2019	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
BD1/20190618	0m	18/06/2019	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BD4/20190618	0m	18/06/2019	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
BD5/20190618	0m	18/06/2019	NT 100 NC	NT 240 180	NT 6 NC	NT 50 NC	NT 270 NC	NT 10 NC	NT 6 NC	NT 10 NC	NT 300 NC	NT 160 NC	NT 1 NC	NT	NT	NT
TP225/0-0.2m	0m	11/07/2019	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
TP224/0.1-0.2	0m	11/07/2019	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
TP229/0-0.2	0m	11/07/2019	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD
TP232/0-0.2	0m	11/07/2019	<5 100 NC	<0.1 240 180	<0.1 6 NC	<0.1 50 NC	<0.1 270 NC	<0.1 10 NC	<0.1 6 NC	<0.1 10 NC	<0.1 300 NC	<0.1 160 NC	<0.1 1 NC	NAD	NAD	NAD

Lab result
HIL/HSL value EIL/ESL 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 below the PQL, refer to the lab report **Blue** = DC exceedance

Bold = Lab detections NT = Not tested NL = Non limiting NC = No criteria NA = Not applicable NAD = No asbestos detected

Notes:

HIL/HSL/DC	NEPC, Schedule B1 - HIL A (Residential / Low - High Density), HSL A/B (Residential / Low - High Density), DC HSL A (Direct contact HSL A Residential (Lc
EIL/ESL	NEPC, Schedule B1 - EIL UR/POS (Urban Residential and Public Open Space), ESL UR/POS (Urban Residential and Public Open Space)
ML	NEPC, Schedule B1 - ML R/P/POS (Residential, Parkland and Public Open Space)
a	QA/QC replicate of sample listed directly below the primary sample
b	reported naphthalene laboratory result obtained from BTEXN suite
c	criteria applies to DDT only