DETAILED SITE INVESTIGATION REPORT

243-261 Forrester Road,
North St Marys NSW 2760

Home Co. – April 2021

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243-261 Forrester Road,
North St Marys, NSW 2760

PREPARED FOR

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EXECUTIVE SUMMARY

Geo-Logix Pty Ltd (Geo-Logix) was engaged by Home Co. to conduct a Detailed Site Investigation (DSI) of the property located at 243–261 Forrester Road, North St Marys NSW. Geo-Logix understands that Home Co. plan to develop the site as a health and wellness precinct including childcare.

Geo-Logix completed a Preliminary Site Investigation (PSI) for the subject site in August 2020. The PSI identified the following:

- An asbestos containment cell exists in the north eastern corner of site. The containment cell is located at least 1 m below existing site pavements;
- Fill was likely placed across the site during development as a bulky goods store. The origin of this fill is unknown.

The objective of the DSI was to conduct an investigation to assess the presence or otherwise of contamination to the land associated with the above identified historical activity. The findings of this report are based on a site investigation conducted on 23 and 24 March 2020.

The subject site is located in a commercial area in North St Mary's NSW. The site comprises a rectangle shaped lot encompassing an area of 32,500 m^2 and is bound by Forrester Road to the north and west, St Marys Leagues Stadium to the east and various restaurants and St Marys Rugby League Club to the south. Entry into the site is via a driveway from Forrester Road to the west.

At the time of the investigation the on-site building was occupied; however, a temporary COVID-19 clinic was operating in the carpark at the north of the site and a return and earn (recycle facility) was located in the southwest corner of the site. The on site building, formerly a bulky goods store, is a large warehouse with slab on grade concrete floor. The building is currently empty and all services were observed to access the buildings through suspension from the ceiling.

A culvert for stormwater/creek was observed on the edge of the existing carpark, identified by raised concrete extending from the carpark. The stormwater/creek runs across the north of the site into an adjoining lake located to the east of the site.

Potential contaminating activities identified on the lot includes the construction of the bulky goods store and installation of asbestos containment cell. The contaminants of potential concern identified in the Phase 1 ESA included:

- Total Recoverable Hydrocarbons (TRHs);
- Benzene, toluene, ethylbenzene and xylenes, Naphthalene (BETX);
- Polyaromatic hydrocarbons (PAHs);
- Organochlorine Pesticides (OCPs); and
- Heavy metals (As, Cd, Cr, Cu, Hg, Ni, Pb and Zn).

To assess for potential soil contamination Geo-Logix completed the following scope of works:

- Collection of subsurface soil samples within the fill from twenty locations on a 40 m sampling grid. The sampling grid will identify circular contamination hotspots equal to or greater than 47.2 m diameter at 95% statistical degree of certainty;

- A sample at each location was analysed for TRH, BTEXN, PAHs OCPs and heavy metals; and
- All fill samples were visually inspected for asbestos containing materials.

With the exception of Benzo(a)pyrene Toxic Equivalents (BaP TEQ) at one location within the drainage swale on the western boundary with Forrester Road, contaminants of concern were not detected at concentrations above sensitive land use criteria.

Whilst B(a)P TEQ was detected at a concentration in exceedance of the adopted residential HIL in the sample from location BH1, the concentration was below the HIL for commercial land use (40 mg/kg). As location BH1 is adjacent to Forrester Road at the western boundary of the site, and is outside of the proposed footprint of the wellness precinct and far from the proposed childcare area, the HIL for commercial land use is considered appropriate for this location. On this basis B(a)P TEQ in soil on the western boundary is not considered a condition that warrants remediation or management.

The site is considered suitable for Home Co.'s health and wellness precinct subject to management of the asbestos containment cell under an Environmental Management Plan.

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1. INTRODUCTION

Geo-Logix Pty Ltd (Geo-Logix) was engaged by Home Co. to conduct a Detailed Site Investigation (DSI) of the property located at 243–261 Forrester Road, North St Marys NSW (Figure 1). Geo-Logix understands that Home Co. plan to develop the site as a health and wellness precinct including childcare.

Geo-Logix completed a Preliminary Site Investigation (PSI) for the subject site in August 2020. The PSI identified the following:

- An asbestos containment cell exists in the north eastern corner of site;
- Fill was likely placed across the site during development as a bulky goods store. The origin of this fill is unknown.

The objective of the DSI was to conduct an investigation to assess the presence or otherwise of contamination to the land associated with the above identified historical activity. The findings of this report are based on a site investigation conducted on 23 and 24 March 2020.

2. SITE INFORMATION

2.1 Site Identification

The investigation area comprises the following properties:

Street Address	Lot and Deposited Plan (DP)	Approximate Area (m^2)
243–261 Forrester Road, North St Marys NSW	Lot 12 DP 1192443	32,500

2.2 Site Zoning and Land Use

Under the Penrith Local Environmental Plan 2010 (PLEP 2010), the site is zoned as Light Industrial (IN2). The Planning Certificate is provided in Attachment A.

2.3 Site Description

The following observations were made during field works conducted by Geo-Logix in March 2021. A photographic log is presented in Attachment B.

The subject site is located in a commercial area in North St Mary's NSW. The site comprises a rectangle shaped lot encompassing an area of 32,500 m^2. The lot is bound by Forrester Road to the north and west, St Marys Leagues Stadium to the east and various restaurants and St Marys Rugby League Club to the south. Entry into the site is via a driveway from Forrester Road to the west.

At the time of the investigation the on-site building was occupied; however, a temporary COVID-19 clinic was operating in the carpark at the north of the site and a return and earn (recycle facility) was located in the southwest corner of the site. The on site building, formerly a bulky goods store, is a large warehouse with slab on grade concrete floor. The building is currently empty and all services were observed to access the buildings through suspension from the ceiling.

A culvert for stormwater/creek was observed on the edge of the existing carpark, identified by raised concrete extending from the carpark. The stormwater/creek runs across the north of the site into an adjoining lake located to the east of the site.

2.4 Surrounding Land Use

At the time of the investigation, the surrounding land use comprised the following:

- **North** – Forrester Road, with rural properties beyond;
- **South** – Tennyson Avenue, with commercial properties beyond;
- **West** – Forrester Road with Sydney weighbridges and industrial area beyond; and
- **East** – St Marys Leagues Stadium and vacant bushland beyond.

2.5 Topography

The site is graded and relatively level with an approximate elevation of 25–26 m Australian Height Datum (AHD).

2.6 Surface Water

The nearest surface water receptor is the channel at the northwest boundary of the site. A dam is located immediately northeast of the site. Ropes Creek is located approximately 386 m northeast of the site.

2.7 Geology

Review of the NSW 1:100,000 Penrith Geology Map (Geological Survey of NSW 1991) indicates the site is underlain by Quaternary age fine grained sand, silt and clay.

2.8 Hydrogeology

Groundwater is expected to follow regional topography and flow toward the north and north east.

Reference to the NSW Groundwater Works Reports (NSW Government, 2019) indicates there are six registered groundwater bores within a 500 m radius of the site. Five of the bores are registered as monitoring bores and are located at the Service Station at the corner of Forrester Road and Christie Street, 350 m southwest of the site. Well depths were approximately eight metres. Depth to water bearing units was not noted. No information was available for the sixth bore, 350m to the east of the site. The groundwater bore search map is presented in Attachment C.

2.9 Underground Utilities

A Dial Before You Dig search was conducted to determine the presence of underground utilities which may act as conduits for contamination migration both onsite and offsite (Attachment D). The plans indicate:

- Telstra utilities enter the site from the south western. One connection runs into the centre of the site and is recorded as dead, whilst the other connection runs slightly towards the south east of the site.

3. PREVIOUS ENVIRONMENTAL INVESTIGATIONS

3.1 Phase I ESA, Geo-Logix 2010

Geo-Logix previously completed a Phase I Environmental Site Assessment (ESA) in April 2010, prior to construction of a bulky goods store at the site. The scope of works included review of historical data, site inspection and limited soil sampling. Geo-Logix concluded that the site was suitable for redevelopment as a bulky goods store.

Historical information gathered for that report was incorporated into the Geo-Logix PSI (2020).

3.2 Asbestos Management Plan, GETEX 2013

GETEX prepared an Asbestos Management Plan (AMP) for the Masters Home Improvement Store in May 2013. The asbestos management approach entailed placing a grey geo-fabric liner over the area of contaminated soil and placement of 1 m thick layer of clean fill over the top. The plan further defined methodologies and control measures to be adhered to in the event future subsurface excavation encounters the contain asbestos impacted soils. The encapsulated asbestos was identified as Non-Friable (Bonded) Asbestos. The frequency and/or concentration of bonded asbestos in the impacted soil was not discussed in the AMP.

3.3 Preliminary Site Investigation, Geo-Logix 2020

Geo-Logix prepared a Preliminary Site Investigation (PSI) in August 2020 to establish whether activities have occurred on site which may have resulted in contamination of the land. The PSI found that the site has been subject to uncontrolled filling and identified a number of contaminants of potential concern (COPCs) associated with this.

Geo-Logix concluded that the site can be made suitable for the proposed development as a health and wellness precinct subject to the implementation of a site-specific Environmental Management Plan (EMP) and completion of this DSI.

4. POTENTIAL SITE CONTAMINATION

Fill of Unknown Origin

Geo-Logix previously identified fill at the site in the 2010 and 2020 investigation and it is expected that additional filling occurred during development of the site as a Masters bulky goods store circa 2013. COPC associated will fill of unknown origin include:

- Petroleum Hydrocarbons;
- Polycyclic Aromatic Hydrocarbons (PAHs);
- Organochlorine Pesticides (OCPs);
- Heavy Metals; and
- Asbestos

Asbestos Containment Cell

As asbestos containment cell is located in the north eastern corner of the site. In its current state, the asbestos is controlled and is not considered to present a risk to human health or the environment. Ongoing management of the cell will be required to prevent any uncontrolled exposure to construction workers and future site occupants.

5. PRELIMINARY CONCEPTUAL SITE MODEL

For site contamination to present a risk to human health and the environment there has to be a link between the contaminant and the receptor as detailed below.

If any of the links do not exist contaminant exposure cannot occur.

The conceptual model below was prepared prior to site investigation and considers construction and operation of a health and wellness precinct with onsite childcare.

Conceptual Site Model – Contaminants in Soil and Groundwater				
Relevant Exposure Pathways	**Receptors**			
	Construction Workers	**Wellness Precinct Occupants**	**Offsite Workers and Residents**	**Other**
Soil Ingestion/Dermal Contact/Dust	✓	✓	✓	Terrestrial Ecology ✓
Indoor inhalation of Vapours derived from Soil	✓	✓	✓	--
Outdoor Inhalation of Vapours derived from Soil	X*	X*	X*	Onsite Trench worker ✓
Indoor Inhalation of Vapours Derived from Groundwater	✓	✓	✓	--
Outdoor Inhalation of Vapours Derived from Groundwater	X*	X*	X*	Onsite Trench worker ✓
Soils Leaching to Groundwater	--	--	--	Ongoing Groundwater Impact ✓
Groundwater Abstraction	--	✓	✓	--
Groundwater Discharge to Surface Water	--	--	--	Recreation/Aquatic ecosystem ✓
Comments				
X – exposure pathway incomplete no unacceptable risk ✓ – exposure pathway complete potential unacceptable risk -- Not relevant * – considered incomplete due to dilution effects				

6. DATA QUALITY OBJECTIVES

The objective of the investigation was to assess the site for contamination that may have originated from historical site activities to determine the suitability of the site for the proposed health and wellness precinct.

To achieve the objective, Geo-Logix has adopted the seven step Data Quality Objective (DQO) process as described in AS 4482.1–2005, US EPA (2000) and DEC (2006).

Step 1: State the problem.

The subject site may be contaminated as a result of previous and current land use. This investigation considers fill of unknown origin place during development of bulky goods store.

Step 2: Identify the decision.

The site is considered suitable for Home Co.'s health and wellness precinct subject to management of the onsite asbestos cell by an EMP .

Step 3: Identify inputs into the decision.

- Identification of issues of potential environmental concern (PSI);
- Appropriate identification of COPCs (PSI);
- Systematic soil sampling and analysis program of shallow soils across the site;
- Visual inspection of systematic shallow soil samples for presence of Asbestos Containing Materials (ACM);
- Appropriate quality assurance/control to enable an evaluation of the reliability of the analytical data; and
- Screening sample analytical results against appropriate assessment criteria for the intended land use (Residential A).

Step 4: Define the boundaries of the site.

The project boundary is defined as the area within the site boundary (243-261 Forrester Road, North St Marys NSW) to a vertical depth to native soils, approximately 1.5–2.0 mbg.

Step 5: Develop a decision rule.

To accept the assessment decision, there may be no complete exposure pathways in the revised site conceptual model following investigation.

Step 6: Specify acceptable limits on decision errors.

The field sampling methodology, sample preservation techniques, and laboratory analytical procedures must be appropriate to provide confidence in data quality so any comparison against assessment criteria can be considered reliable. This is achieved by defining and comparing results against the Data Quality Indicators (DQIs).

Step 7: Optimise the design for obtaining data.

This is achieved by sampling plan design in consideration of the available site history information, area of investigation, contaminant behaviour in the environment, and likely spatial distribution of contamination.

7. ASSESSMENT CRITERIA

The primary reference for environmental site assessment in Australia is the Amended Assessment of Site Contamination (ASC) National Environmental Protection Measure (NEPM) 1999 (NEPC, 2013). This document includes soil, soil vapour and groundwater criteria for use in evaluating potential contamination risk to human health and the environment.

The application of these investigation levels and screening levels is subject to a range of limitations and their selection and use must be in the context of the conceptual site model (CSM) relating to the nature and distribution of impacts and potential exposure pathways. Each relevant guideline is discussed further below and the adopted screening criteria are presented in summary sample analytical tables attached to this report.

7.1 Soil Assessment Criteria

The following soil assessment criteria were adopted for the investigation.

NEPM Health Based Investigation Level B (HILs A)

HILs are Tier 1 risk based generic assessment criteria used for the assessment of potential risks to human health from chronic exposure to contaminants in soil. They are intentionally conservative and based on a reasonable worst-case scenario for generic land use settings including Low Density Residential (HILs A), High Density Residential (HILs B), Open Space/Recreational (HILs C) and Commercial Industrial (HILs D). HILs A soil assessment criteria were adopted on the basis the proposed site use is a childcare.

NEPM Health Screening Levels B (HSLs A/B)

HSLs are Tier 1 risk based generic soil assessment criteria used for the assessment of potential risks to human health from chronic inhalation exposure of petroleum vapour emanating off petroleum contaminated soils (Vapour Risk). They are intentionally conservative and based on a reasonable worst-case scenario for generic soil types, contamination depth and land use settings including Residential (HSLs A/B), Open Space / Recreational (HSLs C) and Commercial Industrial (HSLs D). HSL A/B for sand soil (0 - <1 m) were conservatively adopted.

NEPM Management Limits – Residential

Management Limits for petroleum have been developed for prevention of explosive vapour accumulation, prevention of the formation of observable Light Non-aqueous Phase Liquids (LNAPL) and protection against effects on buried infrastructure. Residential management limits for fine grained soils were adopted based on the proposed land use and geology encountered.

Preliminary Asbestos Assessment Criteria

Asbestos assessment criteria are included in NEPM (1999) Amendment. Those criteria apply to the assessment of known and suspected asbestos contamination in soil and address friable and non-friable forms of asbestos. The presence of asbestos contamination was not known at the time of investigation therefore its investigation was of a preliminary nature. Given the preliminary assessment the following assessment criteria was adopted:

- No visible ACM on the site surface or in the subsurface at soil sampling locations; and
- No asbestos is detected in soil samples.

If ACM is observed further assessment may be warranted.

NEPM Soil Ecological Assessment Levels

Ecological Investigation Levels (EILs) are used for the protection of terrestrial ecosystems and have been derived for common contaminants in soil based on a species sensitivity distribution model developed for Australian conditions. EILs apply principally to contaminants in the top 2m of soil which corresponds to the root zone and habitation zone of many species. EILs have been developed for the following contaminants:

- Arsenic (As);
- Copper (Cu);
- Chromium III (CrIII);
- Nickel (Ni);
- Lead (Pb);
- Zinc (Zn);
- DDT; and
- Naphthalene.

EILs depend on specific soil physicochemical properties and land use scenarios. The protection levels for generic land use settings are:

- 99% for areas of ecological significance;
- 80% for urban residential areas and public open space; and
- 60% for commercial and industrial uses.

80% protection was adopted on the basis the proposed land use is a health and wellness precinct.

A summary of EILs adopted for site and rationale are detailed below.

Contaminant	EIL (mg/kg)	Rationale
As	100	Value for urban residential and public open space irrespective of physicochemical properties.
Cu	240	Value for urban residential and public open space based on an average CEC of 22 and pH of 7.3.
CrIII	410	Value for urban residential and public open space based on average clay content of >10%.
Ni	290	Value for urban residential and public open space based on an average CEC of 22.
Pb	1,300	Value for urban residential and public open space irrespective of physicochemical properties.
Zn	870	Value for urban residential and public open space based on an average CEC of 22 and pH of 7.3.
DDT	180	Value for urban residential and public open space irrespective of physicochemical properties.
Naphthalene	170	

In addition, Ecological Screening Levels (ESLs) have been developed. The ESLs are based on a review of Canadian guidance for petroleum hydrocarbons contamination in coarse and fine grained soil types and

application of the Australian methodology. A summary of ESLs adopted for site and rationale are detailed below.

Contaminant	EIL (mg/kg)	Rationale
F1 C6-C10	180	Value for urban residential / public open space in fine grained soil.
F2 C10-C16	120	
F3 C16-C34	1,300	
F4 C34-C40	5,600	
Benzene	65	
Toluene	105	
Ethylbenzene	125	
Xylenes (Total)	45	
Benzo(a)pyrene	33	

8. INVESTIGATION METHODOLOGIES

Geo-Logix conducted environmental investigation on 24 and 25 March 2021. Sample locations are presented in Figure 2. The investigation methodology for each lot is presented below.

8.1 Sampling Analysis Plan

Potential contaminating activities identified on the lot includes the construction of the bulky goods store and installation of asbestos containment cell. The contaminants of potential concern identified in the Phase 1 ESA included:

- Total Recoverable Hydrocarbons (TRHs);
- Benzene, toluene, ethylbenzene and xylenes, Naphthalene (BETX);
- Polyaromatic hydrocarbons (PAHs);
- Organochlorine Pesticides (OCPs); and
- Heavy metals (As, Cd, Cr, Cu, Hg, Ni, Pb and Zn).

To assess for potential soil contamination Geo-Logix completed the following scope of works:

- Collection of subsurface soil samples within the fill from twenty locations on a 40 m sampling grid. The sampling grid will identify circular contamination hotspots equal to or greater than 47.2 m diameter at 95% statistical degree of certainty;
- A sample at each location was analysed for TRH, BTEXN, PAHs OCPs and heavy metals; and
- All fill samples were visually inspected for asbestos containing materials.

8.2 Soil Sampling Methodology

Soil borings BH4–BH11, BH13–BH17 and BH20 were completed using a Dingo-equipped with solid stem augers. Borings were completed to depths of approximately 0.7–1.0 mbg. Soil samples were collected directly from the auger.

The remaining borings BH1-BH3, BH12, BH18 and BH19 were completed using a hand auger to depths between 0.2 mbg to 0.8 mbg. The soil samples were collected directly from the hand auger.

Soil samples were placed in laboratory prepared jars, labelled and placed on ice in an esky for transport. A chain of custody form was prepared to accompany the esky to a NATA Accredited Laboratory for the analysis of the COPC. Quality Control procedures included the decontamination of the auger between boring locations and changing disposable gloves between samples.

Soil sample descriptions for soil samples are presented in Attachment E.

8.3 Quality Assurance

Quality control (QC) sampling was undertaken in general accordance with specifications outlined in AS4482.1, *Guide to Sampling and Investigation of Potentially Contaminated Soil.* Field QC samples were collected and included the following:

Sample Identification	Sample Type	Sample Matrix	Rate of Collection
DS1	Field duplicate of BH12/0.25-0.35	Soil	1 in 20 samples
TS1	Field triplicate of BH12/0.25-0.35	Soil	1 in 20 samples
RIN1	Soil sampling equipment rinsate	Water	1 per round of borings
Trip Blank	Transport blank sample	Soil	1 per round of borings
Trip Spike	Transport blank sample	Soil	1 per round of borings

Note – Rate of QC sample collection specified as 1 in 20 samples in AS4482.1

The laboratory internal QC procedures are consistent with NEPM policy on laboratory analysis of contaminated soils.

9. INVESTIGATION RESULTS

9.1 Site Geology

Fill material was encountered across the site to a maximum depth of 1.5m. The fill material generally consisted of clayey sand or sandy clay. Anthropogenic material including road base was observed in fill in all borings with the exception of BH1-BH3 and rebar in BH4. ACM was not observed in fill at all sample locations. Fill material generally overlies low plasticity clay.

9.2 Site Hydrogeology

Water was encountered at approximately 0.4 mbg in the western portion of the site in BH1-BH3, however these locations were adjacent to an open stormwater canal that drained into a dam to the east of the site.

9.3 Soil Analytical Results

Soil analytical results are summarised in Tables 1 through 6. Laboratory reports are presented in Attachment F.

Petroleum Hydrocarbons

Petroleum hydrocarbons were not detected at concentrations above the assessment criteria in all soil samples analysed (Table 1).

PAHs

The Benzo(a)pyrene Toxic Equivalency Quotient (TEQ) was calculated to be above residential assessment criteria for the protection of human health in sample BH1/0.3-0.4.

PAHs were not otherwise detected in soil at concentrations above assessment criteria in all samples analysed (Table 2).

OCPs

OCPs were not reported in soil samples at concentrations in excess of laboratory reporting limits (Table 3).

Heavy Metals

Arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc were not detected at concentrations greater than the assessment criteria in all soil samples analysed (Table 4).

Asbestos

ACM was not identified in soil at any sample location.

9.4 QA/QC Results

Soil duplicate/triplicate results are within the adopted acceptance criteria of 30–50% (AS4482.1) relative percent difference (RPD) with the exception of the following:

- Arsenic, nickel and zinc in soil duplicate pair BH12/0.25-0.36 and DS1; and
- TRH Fraction >C_{16}-C_{34}, arsenic, copper, nickel and in soil triplicate pair BH12/0.25-0.35 and TS1.

The RPD outliers are attributed to the heterogeneity of the soils.

COPC were not detected at concentrations above laboratory reporting limits in the rinsate samples collected from the hand auger sampling equipment indicating decontamination procedures were adequate to prevent cross contamination.

COPC were not detected in the field blank samples indicating sample handling and transport techniques were sufficient to prevent cross contamination between samples.

A summary of Laboratory QA/QC data is presented on the following table.

Report #	Analysis Within Holding Time	Surrogate Recovery	Lab. Duplicate RPD %	Lab Matrix Spike Recovery	Lab. Control Sample	Lab Method Blank
783305-S	✓	✓	✓*	✓	✓	✓
783305-W	✓	✓	✓*	✓	✓	✓
783523-S	✓	✓	✓*	✓	✓	✓
785590-S	✓	✓	✓	✓	✓	✓
✓ = Pass X = Fail -- = not required * = refer to report text						

Quality Assurance Criteria	Quality Control Criteria
Holding Times	**Accuracy**
VOCs: 7 days soil, 7 days water SVOCs: 14 days soil, 7 days water TRH and BTEX: 14 days soil, 7 days water Metals: 6 months soil (mercury 28 days), 28 days water. Asbestos: no limit	Surrogate, matrix spike, control sample 70–130% and 30–130% for Phenols. Surrogate recovery 50–150% and 20–130% for Phenols. **Precision** Method Blank Not detected Duplicate – No limit (<10xEQL), 0–50% (10–20xEQL), 0–200% (>20xEQL)

Geo-Logix accepts the integrity of the analytical data.

10. DISCUSSION

Whilst B(a)P TEQ was detected at a concentration in exceedance of the adopted residential HIL in the sample from location BH1, the concentration was below the HIL for commercial land use (40 mg/kg). As location BH1 is adjacent to Forrester Road at the western boundary of the site, outside of the proposed footprint of the wellness precinct and far from the proposed childcare area, the HIL for commercial land use is considered appropriate for this location. On this basis B(a)P TEQ in soil on the western boundary is not considered a condition that warrants remediation or management.

11. REVISED CONCEPTUAL SITE MODEL

A summary of the revised CSM following investigation is presented below.

Conceptual Site Model – Contaminants in Soil and Groundwater				
Relevant Exposure Pathways	**Receptors**			
	Construction Workers	**Wellness Precinct Occupants**	**Offsite Workers and Residents**	**Other**
Soil Ingestion/Dermal Contact/Dust	X	X	X	Terrestrial Ecology X
Indoor inhalation of Vapours derived from Soil	X	X	X	--
Outdoor Inhalation of Vapours derived from Soil	X*	X*	X*	Onsite Trench worker X
Indoor Inhalation of Vapours Derived from Groundwater	✓	✓	✓	--
Outdoor Inhalation of Vapours Derived from Groundwater	X*	X*	X*	Onsite Trench worker X
Soils Leaching to Groundwater	--	--	--	Ongoing Groundwater Impact X
Groundwater Abstraction	--	X	X	--
Groundwater Discharge to Surface Water	--	--	--	Recreation/Aquatic ecosystem ✓
Comments				
X – exposure pathway incomplete no unacceptable risk ✓ – exposure pathway complete potential unacceptable risk -- Not relevant * – considered incomplete due to dilution effects				

12. CONCLUSIONS

The site is considered suitable for Home Co.'s health and wellness precinct subject to management of the onsite asbestos cell under an EMP.

13. LIMITATIONS

This report should be read in full, and no executive summary, conclusion or other section of the report may be used or relied on in isolation, or taken as representative of the report as a whole. No responsibility is accepted by Geo-Logix, and any duty of care that may arise but for this statement is excluded, in relation to any use of any part of this report other than on this basis.

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The works undertaken by Geo-Logix are based solely on the scope of works, as agreed by the Client (Scope of Works). No other investigations, sampling, monitoring works or reporting will be carried out other than as expressly provided in the Scope of Works. **A COPY OF THE SCOPE OF WORKS IS AVAILABLE ON REQUEST.**

To the extent permitted by law, Geo-Logix makes no warranties or representations as to the:

a. suitability of the Site for any specific use, or category of use, or

b. potential statutory requirements for remediation, if any, of the Site,

c. approvals, if any, that may be needed in respect of any use or category of use, or

d. level of remediation, if any, that is warranted to render the Site suitable for any specific use, or category of use, or

e. level of ongoing monitoring of Site conditions, if any, that is required in respect of any specific use, or category of use, or

f. presence, extent or absence of any substance in, on or under the Site, other than as expressly stated in this report.

The conclusions stated in this report are based solely on the information, Scope of Works, analysis and data that are stated or expressly referred to in this report.

To the extent that the information and data relied upon to prepare this report has been conveyed to Geo-Logix by the Client or third parties orally or in the form of documents, Geo-Logix has assumed that the information and data are completely accurate and has not sought independently to verify the accuracy of the information or data. Geo-Logix assumes no responsibility or duty of care in respect of any errors or omissions in the information or data provided to it.

Without limiting the paragraph above, where laboratory tests have been carried out by others on Geo-Logix's behalf, the tests are reproduced in this report on the assumption that the tests are accurate. Geo-Logix has not sought independently to verify the accuracy of those tests and assumes no responsibility in respect of them.

Geo-Logix assumes no responsibility in respect of any changes in the condition of the Site which have occurred since the time when Geo-Logix gathered data and/or took samples from the Site on its site inspections dated **24 to 25 March 2021**.

Given the nature of asbestos, and the difficulties involved in identifying asbestos fibres, despite the exercise of all reasonable due care and diligence, thorough investigations may not always reveal its presence in either buildings or fill. Even if asbestos has been tested for and those tests' results do not reveal the presence of asbestos at those specific points of sampling, asbestos or asbestos containing materials may still be present at the Site, particularly if fill has been imported at any time, buildings constructed prior to 1980 have been demolished on the Site or materials from such buildings have been disposed of on the Site.

Where the Scope of Works does not include offsite investigations, Geo-Logix provides no warranty as to offsite conditions, including the extent if any to which substances in the Site may be emanating off site, and if so whether any adjoining sites have been or may be impacted by contamination originating from the Site.

Where the Scope of Works does not include the investigation, sampling, monitoring or other testing of groundwater in, on or under the Site, Geo-Logix provides no warranty or representation as to the quality of groundwater on the Site or the actual or potential migration of contamination in groundwater across or off the Site.

Subsurface site conditions are typically heterogeneous, and may change with time. Samples taken from different points on the Site may not enable inferences to be drawn about the condition of areas of the Site significantly removed from the sample points, or about the condition of any part of the Site whatsoever, in particular where the proposed inferences are to be drawn a long time after the date of the report.

Geo-Logix has prepared this report with the diligence, care and skill which a reasonable person would expect from a reputable environmental consultancy and in accordance with environmental regulatory authority and industry standards, guidelines and assessment criteria applicable as at the date of this report. Industry standards and environmental criteria change frequently, and may change at any time after the date of this report.

14. REFERENCES

ANZECC & ARMECC (2000) *Australian and New Zealand Guidelines for Freshwater and Marine Water*, Australia and New Zealand Environment Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand.

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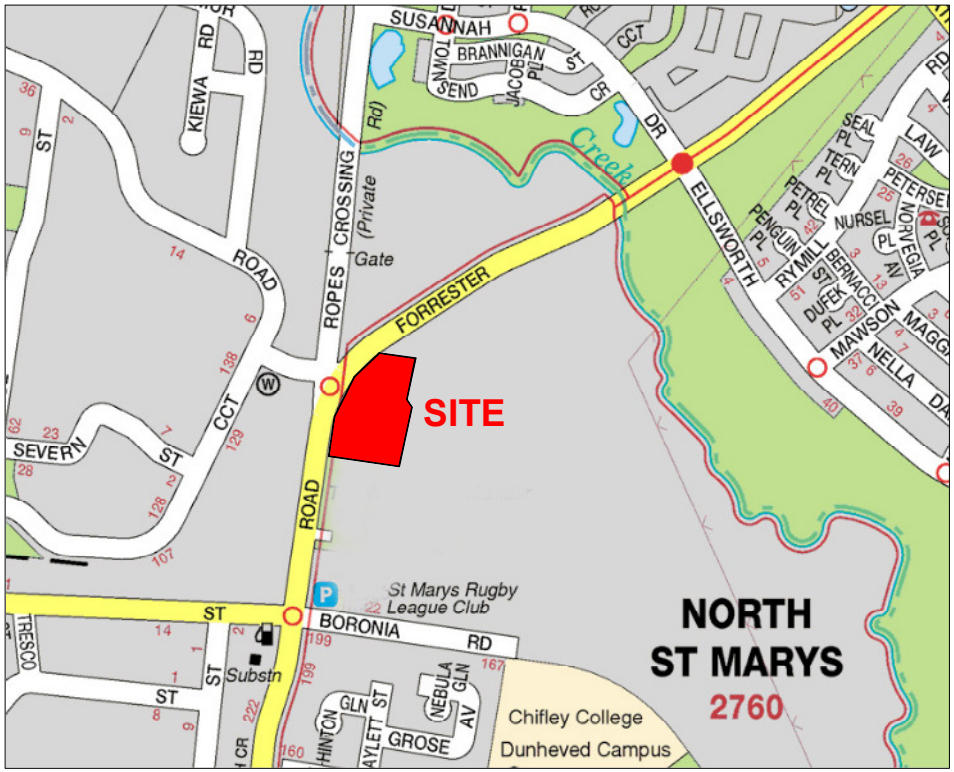
FIGURES



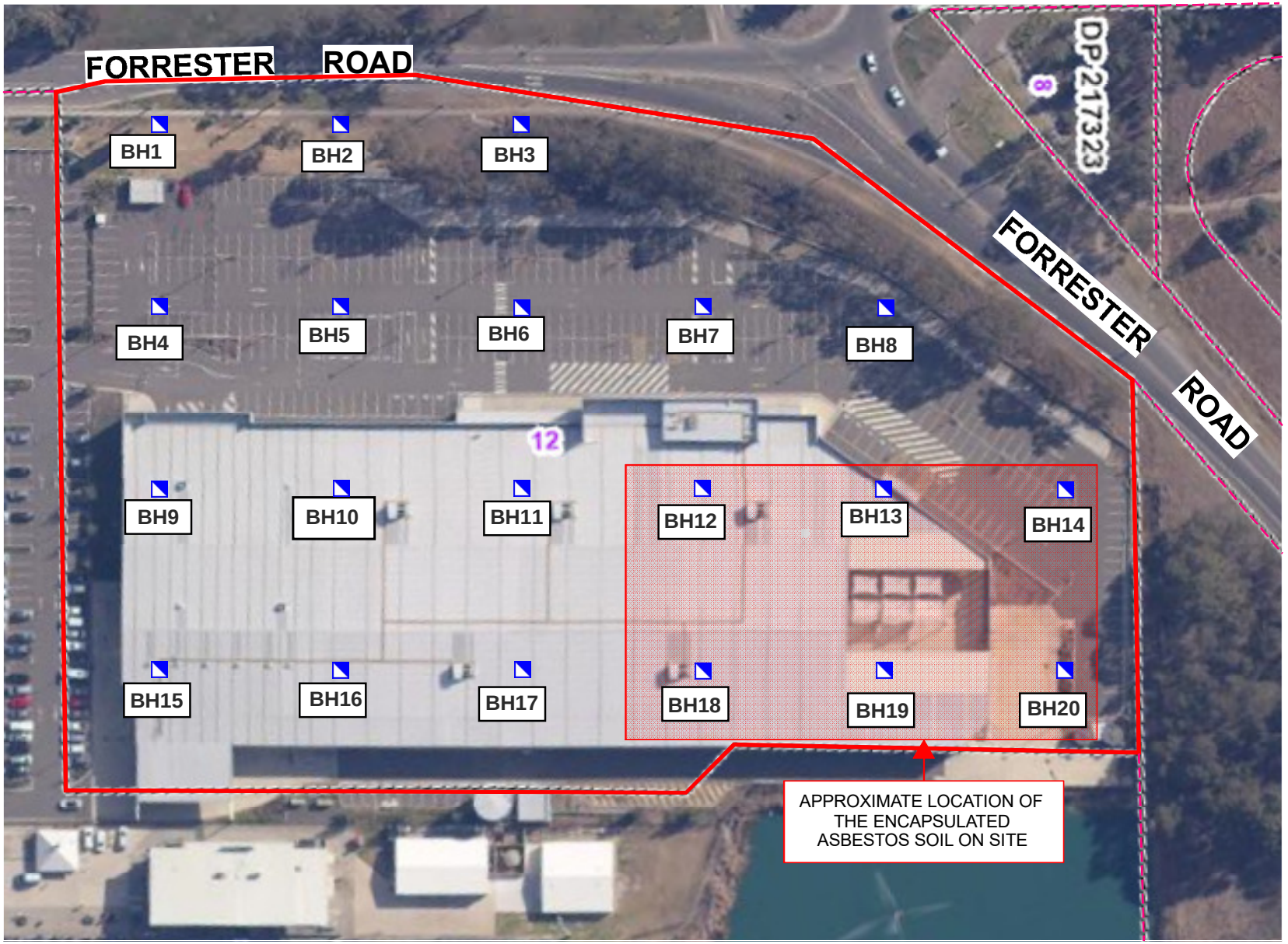
PART MAP ST MARYS

PART MAP NSW

01		ORIGINAL ISSUE		
ISSUE	DATE	AMENDMENTS	DRAWN	CHECKED

Geo-Logix
environment • geotech

DRAWN: J.E.D.	CHECKED: J.I.	**SITE LOCATION MAP**	
APPROVED: B.P.		**DETAILED SITE INVESTIGATION**	
DATE: 23/03/2021		LOT 12 DP1192443, 243-261 FORRESTER ROAD, NORTH ST MARYS NSW 2760	
SHEET SIZE: A4	PROJECT No. **2101028**	REV: 01	FIGURE 1



N

SITE BOUNDARY

ADJACENT BOUNDARY

BOREHOLE

LEGEND

10 0 10 20 30 40 50m

ISSUE	DATE	AMENDMENTS	DRAWN	CHECKED
01		ORIGINAL ISSUE		

Geo-Logix
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DRAWN:	CHECKED:
T.M	T.L

APPROVED:

DATE: 29/03/2021

SITE MAP
Detailed Site Investigation

LOT 12 DP1192443, 243-261 FORRESTER ROAD, NORTH ST MARYS NSW 2760

SHEET SIZE:	PROJECT No.	REV:	
A4	2101028	01	FIGURE 2

TABLES

Table 1 : Summary of Soil Analytical Data - Petroleum Hydrocarbons

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1	Criteria 2	Criteria 3						
	HSLs - A/B	Management	ESLs						
	Sand	Limits	Urban Res	Sample ID	BH1/0.3-0.4	BH2/0.2-0.3	BH3/0.2-0.35	BH4/0.5-0.6	BH5/0.5-0.6
	0 to <1 m	Res/Park	Fine Soil	Date	25/03/2021	24/03/2021	25/03/2021	25/03/2021	25/03/2021
TRH C_6-C_{10}	-	800	-		< 20	< 20	< 20	< 20	< 20
TRH C_6-C_{10} less BTEX (F1)	45	-	180		< 20	< 20	< 20	< 20	< 20
TRH >C_{10}-C_{16}	-	1,000	-		< 50	< 50	< 50	< 50	< 50
TRH >C_{10}-C_{16} less Naphthalene (F2)	110	-	120		< 50	< 50	< 50	< 50	< 50
TRH >C_{16}-C_{34}	-	3,500	1,300		400	< 100	< 100	< 100	190
TRH >C_{34}-C_{40}	-	10,000	5,600		110	< 100	< 100	< 100	< 100
Benzene	0.5	-	65		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	160	-	105		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	55	-	125		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	-	-	-		< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	-	-	-		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	40	-	45		< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene (MAH)	3	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

Notes:

Criteria 1 = NEPC (1999) Amended, 'A/B' Residential Soil Health Screening Levels for vapour intrusion, sand 0 to <1m.
Criteria 2 = NEPC (1999) Amended, Residential and parkland Management Limits for TPH fractions in soil, fine material.
Criteria 3 = NEPC (1999) Amended, Ecological Screening Levels for urban residential/public open space, fine soil.
Total concentrations in mg/kg
- = assessment criteria not available
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed

Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

Table 1 : Summary of Soil Analytical Data - Petroleum Hydrocarbons

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1	Criteria 2	Criteria 3						
	HSLs - A/B	Management	ESLs						
	Sand	Limits	Urban Res	Sample ID	BH6/0.4-0.5	BH7/0.3-0.4	BH8/0.3-0.4	BH9/0.6-0.7	BH10/0.6-0.7
	0 to <1 m	Res/Park	Fine Soil	Date	25/03/2021	25/03/2021	25/03/2021	25/03/2021	25/03/2021
TRH C_6-C_{10}	-	800	-		< 20	< 20	< 20	< 20	< 20
TRH C_6-C_{10} less BTEX (F1)	45	-	180		< 20	< 20	< 20	< 20	< 20
TRH >C_{10}-C_{16}	-	1,000	-		< 50	< 50	< 50	< 50	< 50
TRH >C_{10}-C_{16} less Naphthalene (F2)	110	-	120		< 50	< 50	< 50	< 50	< 50
TRH >C_{16}-C_{34}	-	3,500	1,300		< 100	< 100	< 100	< 100	< 100
TRH >C_{34}-C_{40}	-	10,000	5,600		< 100	< 100	< 100	< 100	< 100
Benzene	0.5	-	65		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	160	-	105		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	55	-	125		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	-	-	-		< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	-	-	-		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	40	-	45		< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene (MAH)	3	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

Notes:

Criteria 1 = NEPC (1999) Amended, 'A/B' Residential Soil Health Screening Levels for vapour intrusion, sand 0 to <1m.
Criteria 2 = NEPC (1999) Amended, Residential and parkland Management Limits for TPH fractions in soil, fine material.
Criteria 3 = NEPC (1999) Amended, Ecological Screening Levels for urban residential/public open space, fine soil.
Total concentrations in mg/kg
- = assessment criteria not available
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed

Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

Table 1 : Summary of Soil Analytical Data - Petroleum Hydrocarbons

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1	Criteria 2	Criteria 3						
	HSLs - A/B	Management	ESLs						
	Sand	Limits	Urban Res	Sample ID	BH11/0.5-0.6	BH12/0.25-0.35	DS1	RPD_DS1	TS1
	0 to <1 m	Res/Park	Fine Soil	Date	25/03/2021	24/03/2021	24/03/2021	-	24/03/2021
TRH C_6-C_{10}	-	800	-		< 20	< 20	< 20	*nc*	< 20
TRH C_6-C_{10} less BTEX (F1)	45	-	180		< 20	< 20	< 20	*nc*	< 20
TRH >C_{10}-C_{16}	-	1,000	-		< 50	< 50	< 50	*nc*	58
TRH >C_{10}-C_{16} less Naphthalene (F2)	110	-	120		< 50	< 50	< 50	*nc*	58
TRH >C_{16}-C_{34}	-	3,500	1,300		< 100	120	130	*8%*	320
TRH >C_{34}-C_{40}	-	10,000	5,600		< 100	< 100	< 100	*nc*	< 100
Benzene	0.5	-	65		< 0.1	< 0.1	< 0.1	*nc*	< 0.1
Toluene	160	-	105		< 0.1	< 0.1	< 0.1	*nc*	< 0.1
Ethylbenzene	55	-	125		< 0.1	< 0.1	< 0.1	*nc*	< 0.1
m&p-Xylenes	-	-	-		< 0.2	< 0.2	< 0.2	*nc*	< 0.2
o-Xylene	-	-	-		< 0.1	< 0.1	< 0.1	*nc*	< 0.1
Xylenes - Total	40	-	45		< 0.3	< 0.3	< 0.3	*nc*	< 0.3
Naphthalene (MAH)	3	-	-		< 0.5	< 0.5	< 0.5	*nc*	< 0.5

Notes:

Criteria 1 = NEPC (1999) Amended, 'A/B' Residential Soil Health Screening Levels for vapour intrusion, sand 0 to <1m.
Criteria 2 = NEPC (1999) Amended, Residential and parkland Management Limits for TPH fractions in soil, fine material.
Criteria 3 = NEPC (1999) Amended, Ecological Screening Levels for urban residential/public open space, fine soil.
Total concentrations in mg/kg
- = assessment criteria not available
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed

Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

Document Set ID: 9552413
Version: 1, Version Date: 19/04/2021

Table 1 : Summary of Soil Analytical Data - Petroleum Hydrocarbons

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1	Criteria 2	Criteria 3						
	HSLs - A/B	Management	ESLs						
	Sand	Limits	Urban Res	Sample ID	RPD_TS1	BH13/0.45-0.55	BH14/1.4-1.5	BH15/0.55-0.65	BH16/0.55-0.65
	0 to <1 m	Res/Park	Fine Soil	Date	-	25/03/2021	25/03/2021	25/03/2021	25/03/2021
TRH C_6-C_{10}	-	800	-		*nc*	< 20	< 20	< 20	< 20
TRH C_6-C_{10} less BTEX (F1)	45	-	180		*nc*	< 20	< 20	< 20	< 20
TRH >C_{10}-C_{16}	-	1,000	-		*nc*	< 50	< 50	< 50	< 50
TRH >C_{10}-C_{16} less Naphthalene (F2)	110	-	120		*nc*	< 50	< 50	< 50	< 50
TRH >C_{16}-C_{34}	-	3,500	1,300		*91%*	< 100	< 100	< 100	< 100
TRH >C_{34}-C_{40}	-	10,000	5,600		*nc*	< 100	< 100	< 100	< 100
Benzene	0.5	-	65		*nc*	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	160	-	105		*nc*	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	55	-	125		*nc*	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	-	-	-		*nc*	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	-	-	-		*nc*	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	40	-	45		*nc*	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene (MAH)	3	-	-		*nc*	< 0.5	< 0.5	< 0.5	< 0.5

Notes:

Criteria 1 = NEPC (1999) Amended, 'A/B' Residential Soil Health Screening Levels for vapour intrusion, sand 0 to <1m.
Criteria 2 = NEPC (1999) Amended, Residential and parkland Management Limits for TPH fractions in soil, fine material.
Criteria 3 = NEPC (1999) Amended, Ecological Screening Levels for urban residential/public open space, fine soil.
Total concentrations in mg/kg
- = assessment criteria not available
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed

Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

Table 1 : Summary of Soil Analytical Data - Petroleum Hydrocarbons

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1	Criteria 2	Criteria 3						
	HSLs - A/B	Management	ESLs						
	Sand	Limits	Urban Res	Sample ID	BH17/0.5-0.65	BH18/0.6-0.75	BH19/0.16-0.25	BH20/0.15-0.25	RIN1
	0 to <1 m	Res/Park	Fine Soil	Date	25/03/2021	24/03/2021	24/03/2021	25/03/2021	25/03/2021
TRH C_6-C_{10}	-	800	-		< 20	< 20	< 20	< 20	--
TRH C_6-C_{10} less BTEX (F1)	45	-	180		< 20	< 20	< 20	< 20	--
TRH >C_{10}-C_{16}	-	1,000	-		< 50	< 50	< 50	< 50	< 0.05
TRH >C_{10}-C_{16} less Naphthalene (F2)	110	-	120		< 50	< 50	< 50	< 50	--
TRH >C_{16}-C_{34}	-	3,500	1,300		< 100	< 100	< 100	< 100	< 0.1
TRH >C_{34}-C_{40}	-	10,000	5,600		< 100	< 100	< 100	< 100	< 0.1
Benzene	0.5	-	65		< 0.1	< 0.1	< 0.1	< 0.1	--
Toluene	160	-	105		< 0.1	< 0.1	< 0.1	< 0.1	--
Ethylbenzene	55	-	125		< 0.1	< 0.1	< 0.1	< 0.1	--
m&p-Xylenes	-	-	-		< 0.2	< 0.2	< 0.2	< 0.2	--
o-Xylene	-	-	-		< 0.1	< 0.1	< 0.1	< 0.1	--
Xylenes - Total	40	-	45		< 0.3	< 0.3	< 0.3	< 0.3	--
Naphthalene (MAH)	3	-	-		< 0.5	< 0.5	< 0.5	< 0.5	--

Notes:

Criteria 1 = NEPC (1999) Amended, 'A/B' Residential Soil Health Screening Levels for vapour intrusion, sand 0 to <1m.
Criteria 2 = NEPC (1999) Amended, Residential and parkland Management Limits for TPH fractions in soil, fine material.
Criteria 3 = NEPC (1999) Amended, Ecological Screening Levels for urban residential/public open space, fine soil.
Total concentrations in mg/kg
- = assessment criteria not available
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed

Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

Table 2 : Summary of Soil Analytical Data - Polyaromatic Hydrocarbons

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	HSLs - A/B		ESLs	EILS						
	Sand	HILs - A	Urban Res	Urban	Sample ID	BH1/0.3-0.4	BH2/0.2-0.3	BH3/0.2-0.35	BH4/0.5-0.6	BH5/0.5-0.6
	0 to <1 m		Fine Soil	Residential	Date	25/03/2021	24/03/2021	25/03/2021	25/03/2021	25/03/2021
Acenaphthene	-	-	-	-		1.2	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	-	-	-	-		2.6	< 0.5	< 0.5	< 0.5	0.7
Benz(a)anthracene	-	-	-	-		6.7	< 0.5	< 0.5	< 0.5	< 2
Benzo(a)pyrene	-	-	33[1]	-		9.3	< 0.5	< 0.5	< 0.5	< 2
Benzo(b&j)fluoranthene	-	-	-	-		7.2	< 0.5	< 0.5	< 0.5	< 2
Benzo(g.h.i)perylene	-	-	-	-		5.6	< 0.5	< 0.5	< 0.5	< 2
Benzo(k)fluoranthene	-	-	-	-		6.7	< 0.5	< 0.5	< 0.5	< 2
Chrysene	-	-	-	-		6.9	< 0.5	< 0.5	< 0.5	< 2
Dibenz(a.h)anthracene	-	-	-	-		1.3	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	-	-	-	-		24	< 0.5	< 0.5	< 0.5	3.8
Fluorene	-	-	-	-		2.1	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	-	-	-	-		5.7	< 0.5	< 0.5	< 0.5	< 2
Naphthalene (PAH)	3	-	-	170		2	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	-	-	-	-		19	< 0.5	< 0.5	< 0.5	3.5
Pyrene	-	-	-	-		21	< 0.5	< 0.5	< 0.5	3.6
Benzo(a)pyrene TEQ	-	3	-	-		**13**	0.6	0.6	0.6	< 2
Total PAH	-	300	-	-		121.3	< 0.5	< 0.5	< 0.5	11.6

Notes:

Criteria 1 = NEPC (1999) Amended, 'A/B' Residential Soil Health Screening Levels for vapour intrusion, sand 0 to <1m.
Criteria 2 = NEPC (1999) Amended, 'A' Residential Health-based Investigation Levels for soil contaminants.
Criteria 3 = NEPC (1999) Amended, Ecological Screening Levels for urban residential/public open space, fine soil.
Criteria 4 = NEPC (1999) Amended, Ecological Investigation Levels for urban residential/public open space, minimum ACLs.
Total concentrations in mg/kg
- = assessment criteria not available
[1]CRC CARE High Reliability Ecological Guideline for fresh benzo(a)pyrene
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

Document Set ID: 9552413
Version: 1, Version Date: 19/04/2021

Table 2 : Summary of Soil Analytical Data - Polyaromatic Hydrocarbons

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	HSLs - A/B		ESLs	EILS						
	Sand	HILs - A	Urban Res	Urban	Sample ID	BH6/0.4-0.5	BH7/0.3-0.4	BH8/0.3-0.4	BH9/0.6-0.7	BH10/0.6-0.7
	0 to <1 m		Fine Soil	Residential	Date	25/03/2021	25/03/2021	25/03/2021	25/03/2021	25/03/2021
Acenaphthene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	-	-	33[1]	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene (PAH)	3	-	-	170		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ	-	3	-	-		0.6	0.6	0.6	0.6	0.6
Total PAH	-	300	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

Notes:

Criteria 1 = NEPC (1999) Amended, 'A/B' Residential Soil Health Screening Levels for vapour intrusion, sand 0 to <1m.
Criteria 2 = NEPC (1999) Amended, 'A' Residential Health-based Investigation Levels for soil contaminants.
Criteria 3 = NEPC (1999) Amended, Ecological Screening Levels for urban residential/public open space, fine soil.
Criteria 4 = NEPC (1999) Amended, Ecological Investigation Levels for urban residential/public open space, minimum ACLs.
Total concentrations in mg/kg
- = assessment criteria not available
[1]CRC CARE High Reliability Ecological Guideline for fresh benzo(a)pyrene
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

Document Set ID: 9552413
Version: 1, Version Date: 19/04/2021

Table 2 : Summary of Soil Analytical Data - Polyaromatic Hydrocarbons

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	HSLs - A/B		ESLs	EILS						
	Sand	HILs - A	Urban Res	Urban	Sample ID	BH11/0.5-0.6	BH12/0.25-0.35	DS1	RPD_DS1	TS1
	0 to <1 m		Fine Soil	Residential	Date	25/03/2021	24/03/2021	24/03/2021	-	24/03/2021
Acenaphthene	-	-	-	-		< 0.5	< 0.5	< 0.5	*nc*	< 0.5
Acenaphthylene	-	-	-	-		< 0.5	< 0.5	< 0.5	*nc*	< 0.5
Anthracene	-	-	-	-		< 0.5	< 0.5	< 0.5	*nc*	< 0.5
Benz(a)anthracene	-	-	-	-		< 0.5	< 0.5	< 0.5	*nc*	< 0.5
Benzo(a)pyrene	-	-	33[1]	-		< 0.5	< 0.5	< 0.5	*nc*	< 0.5
Benzo(b&j)fluoranthene	-	-	-	-		< 0.5	< 0.5	< 0.5	*nc*	< 0.5
Benzo(g.h.i)perylene	-	-	-	-		< 0.5	< 0.5	< 0.5	*nc*	< 0.5
Benzo(k)fluoranthene	-	-	-	-		< 0.5	< 0.5	< 0.5	*nc*	< 0.5
Chrysene	-	-	-	-		< 0.5	< 0.5	< 0.5	*nc*	< 0.5
Dibenz(a.h)anthracene	-	-	-	-		< 0.5	< 0.5	< 0.5	*nc*	< 0.5
Fluoranthene	-	-	-	-		< 0.5	< 0.5	< 0.5	*nc*	0.7
Fluorene	-	-	-	-		< 0.5	< 0.5	< 0.5	*nc*	< 0.5
Indeno(1.2.3-cd)pyrene	-	-	-	-		< 0.5	< 0.5	< 0.5	*nc*	< 0.5
Naphthalene (PAH)	3	-	-	170		< 0.5	< 0.5	< 0.5	*nc*	< 0.5
Phenanthrene	-	-	-	-		< 0.5	< 0.5	< 0.5	*nc*	0.7
Pyrene	-	-	-	-		< 0.5	< 0.5	< 0.5	*nc*	0.7
Benzo(a)pyrene TEQ	-	3	-	-		0.6	0.6	0.6	*0%*	0.6
Total PAH	-	300	-	-		< 0.5	< 0.5	< 0.5	*nc*	2.1

Notes:

Criteria 1 = NEPC (1999) Amended, 'A/B' Residential Soil Health Screening Levels for vapour intrusion, sand 0 to <1m.
Criteria 2 = NEPC (1999) Amended, 'A' Residential Health-based Investigation Levels for soil contaminants.
Criteria 3 = NEPC (1999) Amended, Ecological Screening Levels for urban residential/public open space, fine soil.
Criteria 4 = NEPC (1999) Amended, Ecological Investigation Levels for urban residential/public open space, minimum ACLs.
Total concentrations in mg/kg
- = assessment criteria not available
[1]CRC CARE High Reliability Ecological Guideline for fresh benzo(a)pyrene
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit
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Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

Document Set ID: 9552413
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Table 2 : Summary of Soil Analytical Data - Polyaromatic Hydrocarbons

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	HSLs - A/B		ESLs	EILS						
	Sand	HILs - A	Urban Res	Urban	Sample ID	RPD_TS1	BH13/0.45-0.55	BH14/1.4-1.5	BH15/0.55-0.65	BH16/0.55-0.65
	0 to <1 m		Fine Soil	Residential	Date	-	25/03/2021	25/03/2021	25/03/2021	25/03/2021
Acenaphthene	-	-	-	-		*nc*	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	-	-	-	-		*nc*	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	-	-	-	-		*nc*	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	-	-	-	-		*nc*	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	-	-	33[1]	-		*nc*	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene	-	-	-	-		*nc*	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	-	-	-	-		*nc*	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	-	-	-	-		*nc*	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	-	-	-	-		*nc*	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	-	-	-	-		*nc*	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	-	-	-	-		*nc*	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	-	-	-	-		*nc*	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	-	-	-	-		*nc*	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene (PAH)	3	-	-	170		*nc*	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	-	-	-	-		*nc*	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	-	-	-	-		*nc*	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ	-	3	-	-		*0%*	0.6	0.6	0.6	0.6
Total PAH	-	300	-	-		*nc*	< 0.5	< 0.5	< 0.5	< 0.5

Notes:

Criteria 1 = NEPC (1999) Amended, 'A/B' Residential Soil Health Screening Levels for vapour intrusion, sand 0 to <1m.
Criteria 2 = NEPC (1999) Amended, 'A' Residential Health-based Investigation Levels for soil contaminants.
Criteria 3 = NEPC (1999) Amended, Ecological Screening Levels for urban residential/public open space, fine soil.
Criteria 4 = NEPC (1999) Amended, Ecological Investigation Levels for urban residential/public open space, minimum ACLs.
Total concentrations in mg/kg
- = assessment criteria not available
[1]CRC CARE High Reliability Ecological Guideline for fresh benzo(a)pyrene
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

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Table 2 : Summary of Soil Analytical Data - Polyaromatic Hydrocarbons

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1	Criteria 2	Criteria 3	Criteria 4						
	HSLs - A/B		ESLs	EILS						
	Sand	HILs - A	Urban Res	Urban	Sample ID	BH17/0.5-0.65	BH18/0.6-0.75	BH19/0.16-0.25	BH20/0.15-0.25	RIN1
	0 to <1 m		Fine Soil	Residential	Date	25/03/2021	24/03/2021	24/03/2021	25/03/2021	25/03/2021
Acenaphthene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.001
Acenaphthylene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.001
Anthracene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.001
Benz(a)anthracene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.001
Benzo(a)pyrene	-	-	33[1]	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.001
Benzo(b&j)fluoranthene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.001
Benzo(g.h.i)perylene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.001
Benzo(k)fluoranthene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.001
Chrysene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.001
Dibenz(a.h)anthracene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.001
Fluoranthene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.001
Fluorene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.001
Indeno(1.2.3-cd)pyrene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.001
Naphthalene (PAH)	3	-	-	170		< 0.5	< 0.5	< 0.5	< 0.5	< 0.001
Phenanthrene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.001
Pyrene	-	-	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.001
Benzo(a)pyrene TEQ	-	3	-	-		0.6	0.6	0.6	0.6	--
Total PAH	-	300	-	-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.001

Notes:

Criteria 1 = NEPC (1999) Amended, 'A/B' Residential Soil Health Screening Levels for vapour intrusion, sand 0 to <1m.
Criteria 2 = NEPC (1999) Amended, 'A' Residential Health-based Investigation Levels for soil contaminants.
Criteria 3 = NEPC (1999) Amended, Ecological Screening Levels for urban residential/public open space, fine soil.
Criteria 4 = NEPC (1999) Amended, Ecological Investigation Levels for urban residential/public open space, minimum ACLs.
Total concentrations in mg/kg
- = assessment criteria not available
[1]CRC CARE High Reliability Ecological Guideline for fresh benzo(a)pyrene
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit

< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

Table 3 : Summary of Soil Analytical Data - Organochlorine Pesticides

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1						
	HILs - A	Sample ID	BH1/0.3-0.4	BH2/0.2-0.3	BH3/0.2-0.35	BH4/0.5-0.6	BH5/0.5-0.6
		Date	25/03/2021	24/03/2021	25/03/2021	25/03/2021	25/03/2021
4.4'-DDD	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chlordanes - Total	50		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
d-BHC	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	10		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	6		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	10		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Notes:

Criteria 1 = NEPC (1999) Amended, 'A' Residential Health-based Investigation Levels for soil contaminants.
Total concentrations in mg/kg
- = assessment criteria not available
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

Table 3 : Summary of Soil Analytical Data - Organochlorine Pesticides

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1						
	HILs - A	Sample ID	BH1/0.3-0.4	BH2/0.2-0.3	BH3/0.2-0.35	BH4/0.5-0.6	BH5/0.5-0.6
		Date	25/03/2021	24/03/2021	25/03/2021	25/03/2021	25/03/2021
Methoxychlor	300		< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Toxaphene	20		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aldrin + Dieldrin	6		ND	ND	ND	ND	ND
Endosulfans - Total	270		ND	ND	ND	ND	ND
DDD + DDE + DDT	240		ND	ND	ND	ND	ND
Scheduled Chemical Wastes	-		ND	ND	ND	ND	ND

Notes:

Criteria 1 = NEPC (1999) Amended, 'A' Residential Health-based Investigation Levels for soil contaminants.
Total concentrations in mg/kg
- = assessment criteria not available
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

Document Set ID: 9552413
Version: 1, Version Date: 19/04/2021

Table 3 : Summary of Soil Analytical Data - Organochlorine Pesticides

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1						
	HILs - A	Sample ID	BH6/0.4-0.5	BH7/0.3-0.4	BH8/0.3-0.4	BH9/0.6-0.7	BH10/0.6-0.7
		Date	25/03/2021	25/03/2021	25/03/2021	25/03/2021	25/03/2021
4.4'-DDD	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chlordanes - Total	50		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
d-BHC	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	10		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	6		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	10		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Notes:

Criteria 1 = NEPC (1999) Amended, 'A' Residential Health-based Investigation Levels for soil contaminants.
Total concentrations in mg/kg
- = assessment criteria not available
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

Table 3 : Summary of Soil Analytical Data - Organochlorine Pesticides

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1						
	HILs - A	Sample ID	BH6/0.4-0.5	BH7/0.3-0.4	BH8/0.3-0.4	BH9/0.6-0.7	BH10/0.6-0.7
		Date	25/03/2021	25/03/2021	25/03/2021	25/03/2021	25/03/2021
Methoxychlor	300		< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Toxaphene	20		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aldrin + Dieldrin	6		ND	ND	ND	ND	ND
Endosulfans - Total	270		ND	ND	ND	ND	ND
DDD + DDE + DDT	240		ND	ND	ND	ND	ND
Scheduled Chemical Wastes	-		ND	ND	ND	ND	ND

Notes:

Criteria 1 = NEPC (1999) Amended, 'A' Residential Health-based Investigation Levels for soil contaminants.
Total concentrations in mg/kg
- = assessment criteria not available
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

Table 3 : Summary of Soil Analytical Data - Organochlorine Pesticides

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1					
	HILs - A	Sample ID	BH11/0.5-0.6	BH12/0.25-0.35	DS1	RPD_DS1	TS1
		Date	25/03/2021	24/03/2021	24/03/2021	-	24/03/2021
4.4'-DDD	-		< 0.05	< 0.05	< 0.05	*nc*	< 0.05
4.4'-DDE	-		< 0.05	< 0.05	< 0.05	*nc*	< 0.05
4.4'-DDT	-		< 0.05	< 0.05	< 0.05	*nc*	< 0.05
a-BHC	-		< 0.05	< 0.05	< 0.05	*nc*	< 0.05
Aldrin	-		< 0.05	< 0.05	< 0.05	*nc*	< 0.05
b-BHC	-		< 0.05	< 0.05	< 0.05	*nc*	< 0.05
Chlordanes - Total	50		< 0.1	< 0.1	< 0.1	*nc*	< 0.1
d-BHC	-		< 0.05	< 0.05	< 0.05	*nc*	< 0.05
Dieldrin	-		< 0.05	< 0.05	< 0.05	*nc*	< 0.05
Endosulfan I	-		< 0.05	< 0.05	< 0.05	*nc*	< 0.05
Endosulfan II	-		< 0.05	< 0.05	< 0.05	*nc*	< 0.05
Endosulfan sulphate	-		< 0.05	< 0.05	< 0.05	*nc*	< 0.05
Endrin	10		< 0.05	< 0.05	< 0.05	*nc*	< 0.05
Endrin aldehyde	-		< 0.05	< 0.05	< 0.05	*nc*	< 0.05
Endrin ketone	-		< 0.05	< 0.05	< 0.05	*nc*	< 0.05
g-BHC (Lindane)	-		< 0.05	< 0.05	< 0.05	*nc*	< 0.05
Heptachlor	6		< 0.05	< 0.05	< 0.05	*nc*	< 0.05
Heptachlor epoxide	-		< 0.05	< 0.05	< 0.05	*nc*	< 0.05
Hexachlorobenzene	10		< 0.05	< 0.05	< 0.05	*nc*	< 0.05

Notes:

Criteria 1 = NEPC (1999) Amended, 'A' Residential Health-based Investigation Levels for soil contaminants.
Total concentrations in mg/kg
- = assessment criteria not available
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

Table 3 : Summary of Soil Analytical Data - Organochlorine Pesticides

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1						
	HILs - A	Sample ID	BH11/0.5-0.6	BH12/0.25-0.35	DS1	RPD_DS1	TS1
		Date	25/03/2021	24/03/2021	24/03/2021	-	24/03/2021
Methoxychlor	300		< 0.2	< 0.2	< 0.2	*nc*	< 0.05
Toxaphene	20		< 0.1	< 0.1	< 0.1	*nc*	< 0.1
Aldrin + Dieldrin	6		ND	ND	ND	*nc*	ND
Endosulfans - Total	270		ND	ND	ND	*nc*	ND
DDD + DDE + DDT	240		ND	ND	ND	*nc*	ND
Scheduled Chemical Wastes	-		ND	ND	ND	*nc*	ND

Notes:

Criteria 1 = NEPC (1999) Amended, 'A' Residential Health-based Investigation Levels for soil contaminants.
Total concentrations in mg/kg
- = assessment criteria not available
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

Document Set ID: 9552413
Version: 1, Version Date: 19/04/2021

Table 3 : Summary of Soil Analytical Data - Organochlorine Pesticides

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1					
	HILs - A	Sample ID	RPD_TS1	BH13/0.45-0.55	BH14/1.4-1.5	BH15/0.55-0.65	BH16/0.55-0.65
		Date	-	25/03/2021	25/03/2021	25/03/2021	25/03/2021
4.4'-DDD	-		*nc*	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	-		*nc*	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	-		*nc*	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	-		*nc*	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	-		*nc*	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	-		*nc*	< 0.05	< 0.05	< 0.05	< 0.05
Chlordanes - Total	50		*nc*	< 0.1	< 0.1	< 0.1	< 0.1
d-BHC	-		*nc*	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	-		*nc*	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	-		*nc*	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	-		*nc*	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	-		*nc*	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	10		*nc*	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	-		*nc*	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	-		*nc*	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	-		*nc*	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	6		*nc*	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	-		*nc*	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	10		*nc*	< 0.05	< 0.05	< 0.05	< 0.05

Notes:

Criteria 1 = NEPC (1999) Amended, 'A' Residential Health-based Investigation Levels for soil contaminants.
Total concentrations in mg/kg
- = assessment criteria not available
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

Table 3 : Summary of Soil Analytical Data - Organochlorine Pesticides

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1					
	HILs - A	Sample ID	RPD_TS1	BH13/0.45-0.55	BH14/1.4-1.5	BH15/0.55-0.65	BH16/0.55-0.65
		Date	-	25/03/2021	25/03/2021	25/03/2021	25/03/2021
Methoxychlor	300		*nc*	< 0.2	< 0.2	< 0.2	< 0.2
Toxaphene	20		*nc*	< 0.1	< 0.1	< 0.1	< 0.1
Aldrin + Dieldrin	6		*nc*	ND	ND	ND	ND
Endosulfans - Total	270		*nc*	ND	ND	ND	ND
DDD + DDE + DDT	240		*nc*	ND	ND	ND	ND
Scheduled Chemical Wastes	-		*nc*	ND	ND	ND	ND

Notes:

Criteria 1 = NEPC (1999) Amended, 'A' Residential Health-based Investigation Levels for soil contaminants.
Total concentrations in mg/kg
- = assessment criteria not available
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

Table 3 : Summary of Soil Analytical Data - Organochlorine Pesticides

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1					
	HILs - A	Sample ID	BH17/0.5-0.65	BH18/0.6-0.75	BH19/0.16-0.25	BH20/0.15-0.25	RIN1
		Date	25/03/2021	24/03/2021	24/03/2021	25/03/2021	25/03/2021
4.4'-DDD	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.0001
4.4'-DDE	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.0001
4.4'-DDT	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.0001
a-BHC	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.0001
Aldrin	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.0001
b-BHC	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.0001
Chlordanes - Total	50		< 0.1	< 0.1	< 0.1	< 0.1	< 0.002
d-BHC	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.0001
Dieldrin	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.0001
Endosulfan I	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.0001
Endosulfan II	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.0001
Endosulfan sulphate	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.0001
Endrin	10		< 0.05	< 0.05	< 0.05	< 0.05	< 0.0001
Endrin aldehyde	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.0001
Endrin ketone	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.0001
g-BHC (Lindane)	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.0001
Heptachlor	6		< 0.05	< 0.05	< 0.05	< 0.05	< 0.0001
Heptachlor epoxide	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.0001
Hexachlorobenzene	10		< 0.05	< 0.05	< 0.05	< 0.05	< 0.0001

Notes:

Criteria 1 = NEPC (1999) Amended, 'A' Residential Health-based Investigation Levels for soil contaminants.
Total concentrations in mg/kg
- = assessment criteria not available
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

Table 3 : Summary of Soil Analytical Data - Organochlorine Pesticides

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1						
	HILs - A	Sample ID	BH17/0.5-0.65	BH18/0.6-0.75	BH19/0.16-0.25	BH20/0.15-0.25	RIN1
		Date	25/03/2021	24/03/2021	24/03/2021	25/03/2021	25/03/2021
Methoxychlor	300		< 0.2	< 0.2	< 0.2	< 0.2	< 0.0002
Toxaphene	20		< 0.1	< 0.1	< 0.1	< 0.1	< 0.001
Aldrin + Dieldrin	6		ND	ND	ND	ND	ND
Endosulfans - Total	270		ND	ND	ND	ND	ND
DDD + DDE + DDT	240		ND	ND	ND	ND	ND
Scheduled Chemical Wastes	-		ND	ND	ND	ND	ND

Notes:

Criteria 1 = NEPC (1999) Amended, 'A' Residential Health-based Investigation Levels for soil contaminants.
Total concentrations in mg/kg
- = assessment criteria not available
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

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Table 4 : Summary of Soil Analytical Data - Heavy Metals

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1	Criteria 2						
		EILS						
	HILs - A	Urban	Sample ID	BH1/0.3-0.4	BH2/0.2-0.3	BH3/0.2-0.35	BH4/0.5-0.6	BH5/0.5-0.6
		Residential	Date	25/03/2021	24/03/2021	25/03/2021	25/03/2021	25/03/2021
Arsenic	100	100		12	16	14	11	9.2
Cadmium	20	-		< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	100[1]	410[2]		41	37	43	24	30
Copper	6,000	240		33	14	17	31	19
Lead	300	1,300		130	29	80	35	26
Mercury	40	-		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	400	290		18	10	12	22	15
Zinc	7,400	870		130	16	120	78	47

Notes:

Criteria 1 = NEPC (1999) Amended, 'A' Residential Health-based Investigation Levels for soil contaminants.
Criteria 2 = NEPC (1999) Amended, Ecological Investigation Levels for urban residential/public open space, minimum ACLs.
Total concentrations in mg/kg
- = assessment criteria not available
[1]Guideline for Cromium (VI) used conservatively.
[2]Guideline for Chromium (III) used conservatively.
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

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Version: 1, Version Date: 19/04/2021

Table 4 : Summary of Soil Analytical Data - Heavy Metals

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1	Criteria 2						
		EILS						
	HILs - A	Urban	Sample ID	BH6/0.4-0.5	BH7/0.3-0.4	BH8/0.3-0.4	BH9/0.6-0.7	BH10/0.6-0.7
		Residential	Date	25/03/2021	25/03/2021	25/03/2021	25/03/2021	25/03/2021
Arsenic	100	100		7.1	6	11	9.7	14
Cadmium	20	-		< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	100[1]	410[2]		16	26	32	16	13
Copper	6,000	240		19	19	20	43	49
Lead	300	1,300		23	24	33	29	36
Mercury	40	-		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	400	290		13	19	13	8.3	30
Zinc	7,400	870		52	72	48	43	160

Notes:

Criteria 1 = NEPC (1999) Amended, 'A' Residential Health-based Investigation Levels for soil contaminants.
Criteria 2 = NEPC (1999) Amended, Ecological Investigation Levels for urban residential/public open space, minimum ACLs.
Total concentrations in mg/kg
- = assessment criteria not available
[1]Guideline for Cromium (VI) used conservatively.
[2]Guideline for Chromium (III) used conservatively.
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

Document Set ID: 9552413
Version: 1, Version Date: 19/04/2021

Table 4 : Summary of Soil Analytical Data - Heavy Metals

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1	Criteria 2						
		EILS						
	HILs - A	Urban	Sample ID	BH11/0.5-0.6	BH12/0.25-0.35	DS1	RPD_DS1	TS1
		Residential	Date	25/03/2021	24/03/2021	24/03/2021	-	24/03/2021
Arsenic	100	100		11	12	6.5	*59%*	4.5
Cadmium	20	-		< 0.4	< 0.4	< 0.4	*nc*	< 0.4
Chromium	100[1]	410[2]		18	14	15	*7%*	16
Copper	6,000	240		24	59	45	*27%*	38
Lead	300	1,300		36	33	26	*24%*	43
Mercury	40	-		< 0.1	< 0.1	< 0.1	*nc*	< 0.1
Nickel	400	290		7.6	28	19	*38%*	17
Zinc	7,400	870		45	120	84	*35%*	110

Notes:

Criteria 1 = NEPC (1999) Amended, 'A' Residential Health-based Investigation Levels for soil contaminants.
Criteria 2 = NEPC (1999) Amended, Ecological Investigation Levels for urban residential/public open space, minimum ACLs.
Total concentrations in mg/kg
- = assessment criteria not available
[1]Guideline for Cromium (VI) used conservatively.
[2]Guideline for Chromium (III) used conservatively.
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

Document Set ID: 9552413
Version: 1, Version Date: 19/04/2021

Table 4 : Summary of Soil Analytical Data - Heavy Metals

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1	Criteria 2						
		EILS						
	HILs - A	Urban	Sample ID	RPD_TS1	BH13/0.45-0.55	BH14/1.4-1.5	BH15/0.55-0.65	BH16/0.55-0.65
		Residential	Date	-	25/03/2021	25/03/2021	25/03/2021	25/03/2021
Arsenic	100	100		*91%*	6.8	8.8	8.3	25
Cadmium	20	-		*nc*	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	100[1]	410[2]		*13%*	12	24	35	13
Copper	6,000	240		*43%*	87	28	62	45
Lead	300	1,300		*26%*	36	41	30	38
Mercury	40	-		*nc*	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	400	290		*49%*	55	13	26	59
Zinc	7,400	870		*9%*	250	47	130	400

Notes:

Criteria 1 = NEPC (1999) Amended, 'A' Residential Health-based Investigation Levels for soil contaminants.
Criteria 2 = NEPC (1999) Amended, Ecological Investigation Levels for urban residential/public open space, minimum ACLs.
Total concentrations in mg/kg
- = assessment criteria not available
[1]Guideline for Cromium (VI) used conservatively.
[2]Guideline for Chromium (III) used conservatively.
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

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Version: 1, Version Date: 19/04/2021

Table 4 : Summary of Soil Analytical Data - Heavy Metals

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1	Criteria 2						
		EILS						
	HILs - A	Urban	Sample ID	BH17/0.5-0.65	BH18/0.6-0.75	BH19/0.16-0.25	BH20/0.15-0.25	RIN1
		Residential	Date	25/03/2021	24/03/2021	24/03/2021	25/03/2021	25/03/2021
Arsenic	100	100		6.7	2.4	4.5	8.7	< 0.001
Cadmium	20	-		< 0.4	< 0.4	< 0.4	< 0.4	< 0.0002
Chromium	100[1]	410[2]		13	< 5	14	19	< 0.001
Copper	6,000	240		51	11	37	34	< 0.001
Lead	300	1,300		32	7.9	46	24	< 0.001
Mercury	40	-		< 0.1	< 0.1	< 0.1	< 0.1	< 0.0001
Nickel	400	290		10	< 5	10	12	< 0.001
Zinc	7,400	870		54	16	250	52	< 0.005

Notes:

Criteria 1 = NEPC (1999) Amended, 'A' Residential Health-based Investigation Levels for soil contaminants.
Criteria 2 = NEPC (1999) Amended, Ecological Investigation Levels for urban residential/public open space, minimum ACLs.
Total concentrations in mg/kg
- = assessment criteria not available
[1]Guideline for Cromium (VI) used conservatively.
[2]Guideline for Chromium (III) used conservatively.
DS1 = duplicate of BH12/0.25-0.35
TS1 = triplicate of BH12/0.25-0.35
RIN1 = rinsate sample
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

Document Set ID: 9552413
Version: 1, Version Date: 19/04/2021

Table 5 : Summary of QA/QC Analytical Data - Spike/Blank

Detailed Site Investigation

Project No.: 2101028

243-261 Forrester Road
North St Marys NSW 2760

	Criteria 1			
		Sample ID	TRIP BLANK	TRIP SPIKE
		Date	24/03/2021	24/03/2021
Benzene	-		< 0.1	*94%*
Toluene	-		< 0.1	*95%*
Ethylbenzene	-		< 0.1	*94%*
m&p-Xylenes	-		< 0.2	*92%*
o-Xylene	-		< 0.1	*91%*
Xylenes - Total	-		< 0.3	*91%*
Naphthalene	-		< 0.5	*81%*

Notes:

Total concentrations in mg/kg
- = assessment criteria not available
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
Rinsate concentrations in mg/l

ATTACHMENT B

Plate 1 – View north, empty warehouse floor.

Plate 2 – Outdoor garden store area.

Plate 3 – Outdoor carpark north of warehouse.

Plate 4 – Looking north-east towards the former bulky goods store.

Plate 5 – View towards Forrester Road of stormwater drainage and drainage on the edge of the site.

Plate 6 – Solid flight auger attachment on the Dingo.

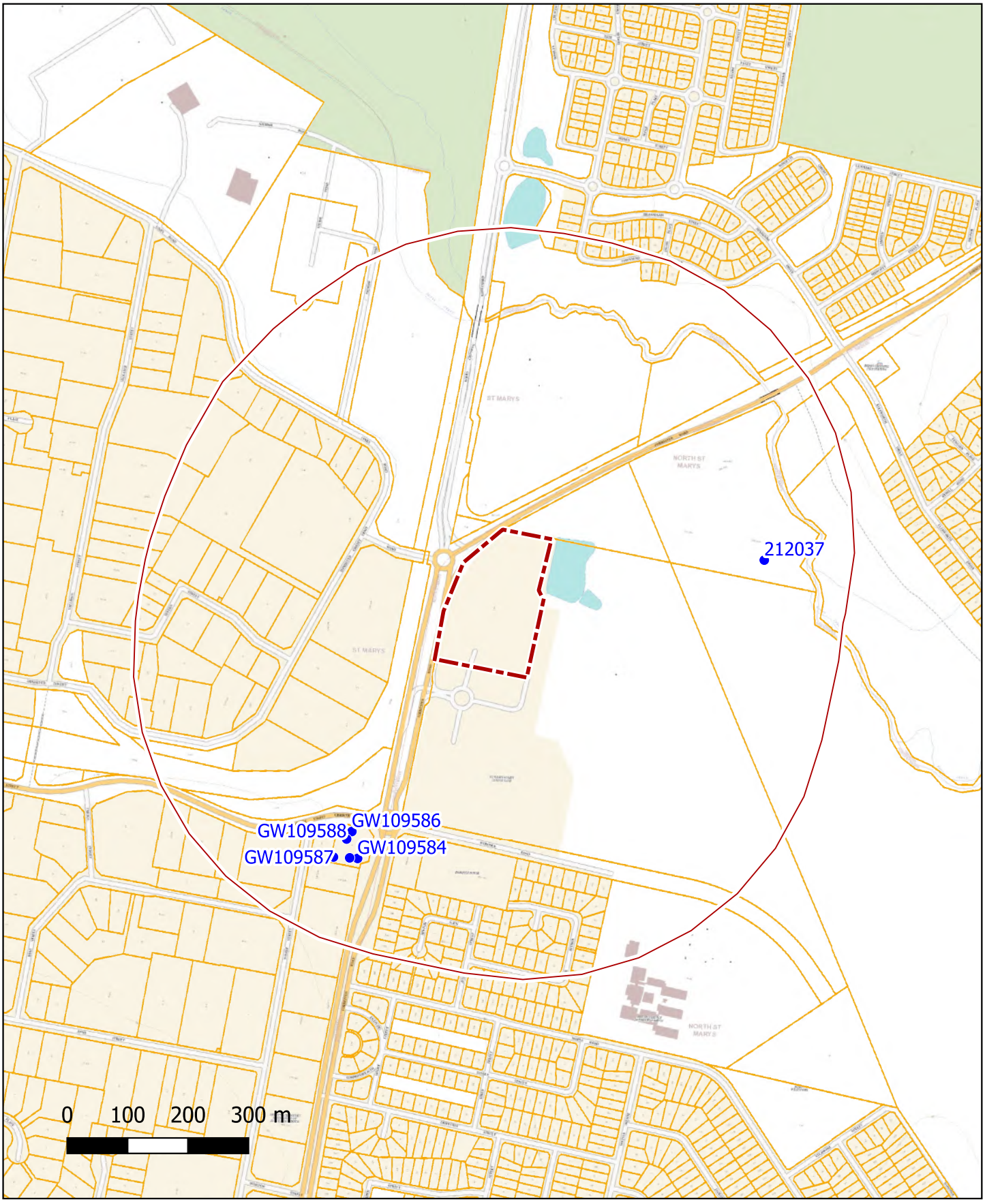
Plate 7 – Fill material encountered.

Plate 8 – Road base material encountered.

ATTACHMENT C

Groundwater Bore Search

243–261 Forrester Road,



25-6-2020

ATTACHMENT D

Job No 21294566

Phone: 1100
www.1100.com.au

Caller Details

Contact: Miss Tiffany Mabbott
Company: Geo-Logix
Address: Unit 2309/4 Daydream Street
Warriewood NSW 2102

[redacted]

Dig Site and Enquiry Details

WARNING: The map below only displays the location of the proposed dig site and does not display any asset owners' pipe or cables. The area highlighted has been used only to identify the participating asset owners, who will send information to you directly.

User Reference: 2101028
Working on Behalf of: Private

Enquiry Date:	Start Date:	End Date:
19/03/2021	23/03/2021	24/03/2021

Address:
243 Forrester Road
North St Marys NSW 2760

Job Purpose:	Onsite Activity:
Excavation	Vertical Boring
Location of Workplace:	**Location in Road:**
Private Property	Not Supplied

- Check the location of the dig site is correct. If not submit a new enquiry.
- If the scope of works change, or plan validity dates expire, resubmit your enquiry.
- Do NOT dig without plans. Safe excavation is your responsibility. If you do not understand the plans or how to proceed safely, please contact the relevant asset owners.

Notes/Description of Works:

Your Responsibilities and Duty of Care

- The lodgement of an enquiry does not authorise the project to commence. You must obtain all necessary information from any and all likely impacted asset owners prior to excavation.
- If plans are not received within 2 working days, contact the asset owners directly & quote their Sequence No.
- ALWAYS perform an onsite inspection for the presence of assets. Should you require an onsite location, contact the asset owners directly. Please remember, plans do not detail the exact location of assets.
- Pothole to establish the exact location of all underground assets using a hand shovel, before using heavy machinery.
- Ensure you adhere to any State legislative requirements regarding Duty of Care and safe digging requirements.
- If you damage an underground asset you MUST advise the asset owner immediately.
- By using this service, you agree to Privacy Policy and the terms and disclaimers set out at **www.1100.com.au**
- **For more information on safe excavation practices, visit www.1100.com.au**

Asset Owner Details

The assets owners listed below have been requested to contact you with information about their asset locations within 2 working days.
Additional time should be allowed for information issued by post. It is **your responsibility** to identify the presence of any underground assets in and around your proposed dig site. Please be aware, that not all asset owners are registered with the Dial Before You Dig service, so it is **your responsibility** to identify and contact any asset owners not listed here directly.
** Asset owners highlighted by asterisks ** require that you visit their offices to collect plans.
# Asset owners highlighted with a hash require that you call them to discuss your enquiry or to obtain plans.

Seq. No.	Authority Name	Phone	Status
107818326	Endeavour Energy	0298534161	NOTIFIED
107818328	Jemena Gas West	1300880906	NOTIFIED
107818330	NBN Co, NswAct	1800626329	NOTIFIED
107818329	Sydney Water	132092	NOTIFIED
107818327	Telstra NSW, Central	1800653935	NOTIFIED

END OF UTILITIES LIST

Lodge Your Free Enquiry Online – 24 Hours a Day, Seven Days a Week [NSW]

If further clarification is required, please contact:
Endeavour Energy
Phone: (02) 9853 4161 (8:00am-4:30pm Mon-Fri)
Emergency Phone Number: 131 003

DBYD Underground Search Report

Date: 19/03/2021

DBYD Sequence No: 107818326 **DBYD Job No:** 21294566

ENDEAVOUR ENERGY ASSETS AFFECTED

[redacted]

Our Search has shown that **UNDERGROUND ASSETS ARE PRESENT** on our plans within the nominated enquiry location. This search is based on the graphical position of the excavation site as denoted in the DBYD customer confirmation sheet.

WARNING

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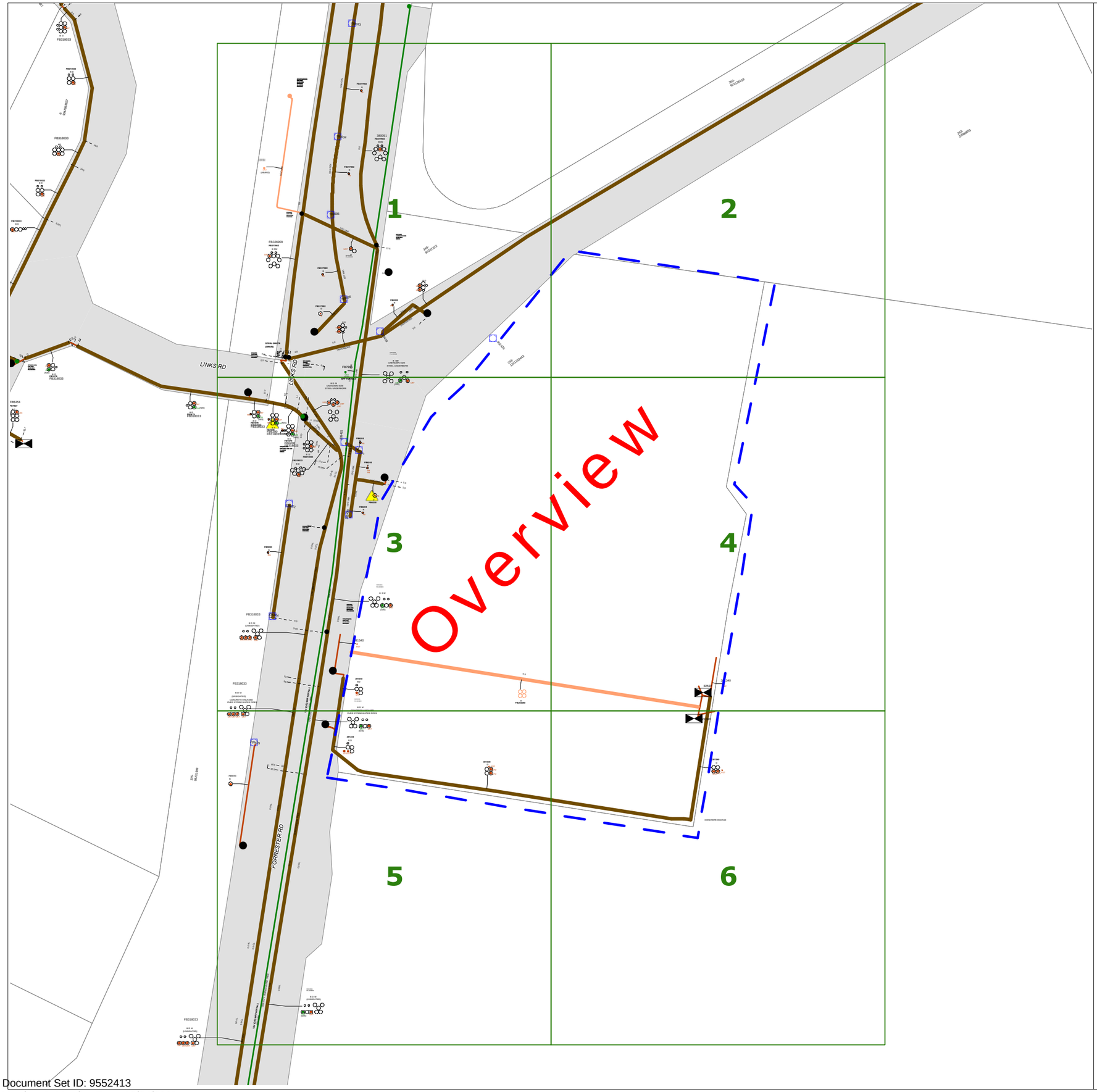
SUPPLEMENTARY MATERIAL

Material	Purpose	Location
DBYD Cover Letter	Endeavour Energy DBYD response Cover Letter	Attached
DBYD Important Information & Disclaimer	Endeavour Energy disclaimer, responsibilities and information on understanding plans	Attached
DBYD Response Plans	Endeavour Energy DBYD plans	Attached
Work Cover NSW *"Work near underground assets: Guide"*	Guideline for anyone involved in construction work near underground assets	Contact Work Cover NSW for a copy
Work Cover NSW *"Excavation work: Code of practice"*	Practical guidance on managing health and safety risks associated with excavation	URL [Click Here]
Safe Work Australia *"Working in the vicinity of overhead and underground electric lines guidance material"*	Provides information on how to manage risks when working in the vicinity of overhead and underground electric lines at a workplace	URL [Click Here]
Endeavour Energy Safety Brochures & Guides	To raise awareness of dangers of working on or near Endeavour Energy's assets	URL [Click Here]



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LEGEND

- Street light column (or)
- Padmount substation
- Overground pillar (O.G.Box) (or)
- Underground pit
- Duct run
- Cable run
- Typical duct section
- Asbestos warning

N

NOT TO SCALE

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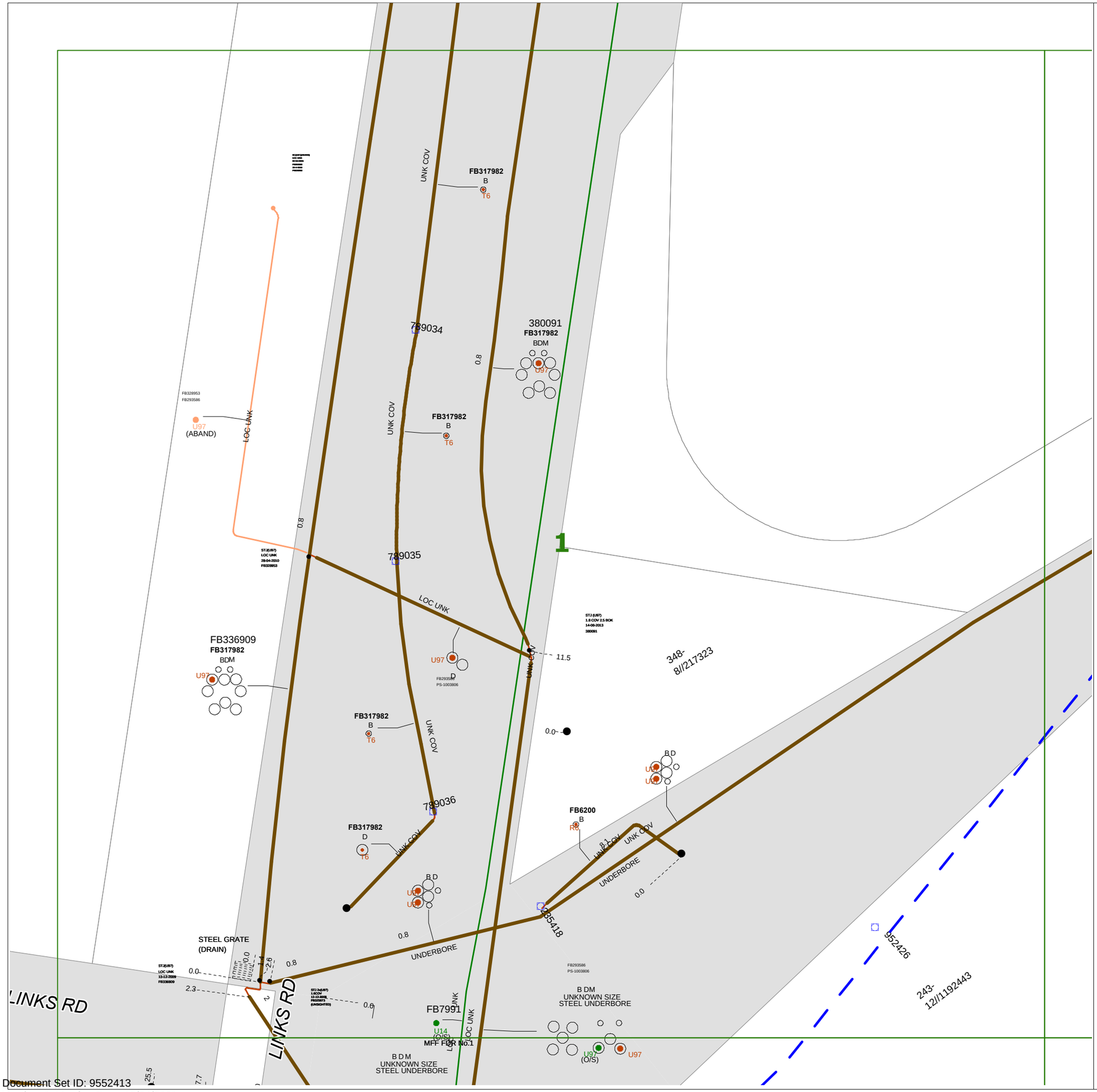

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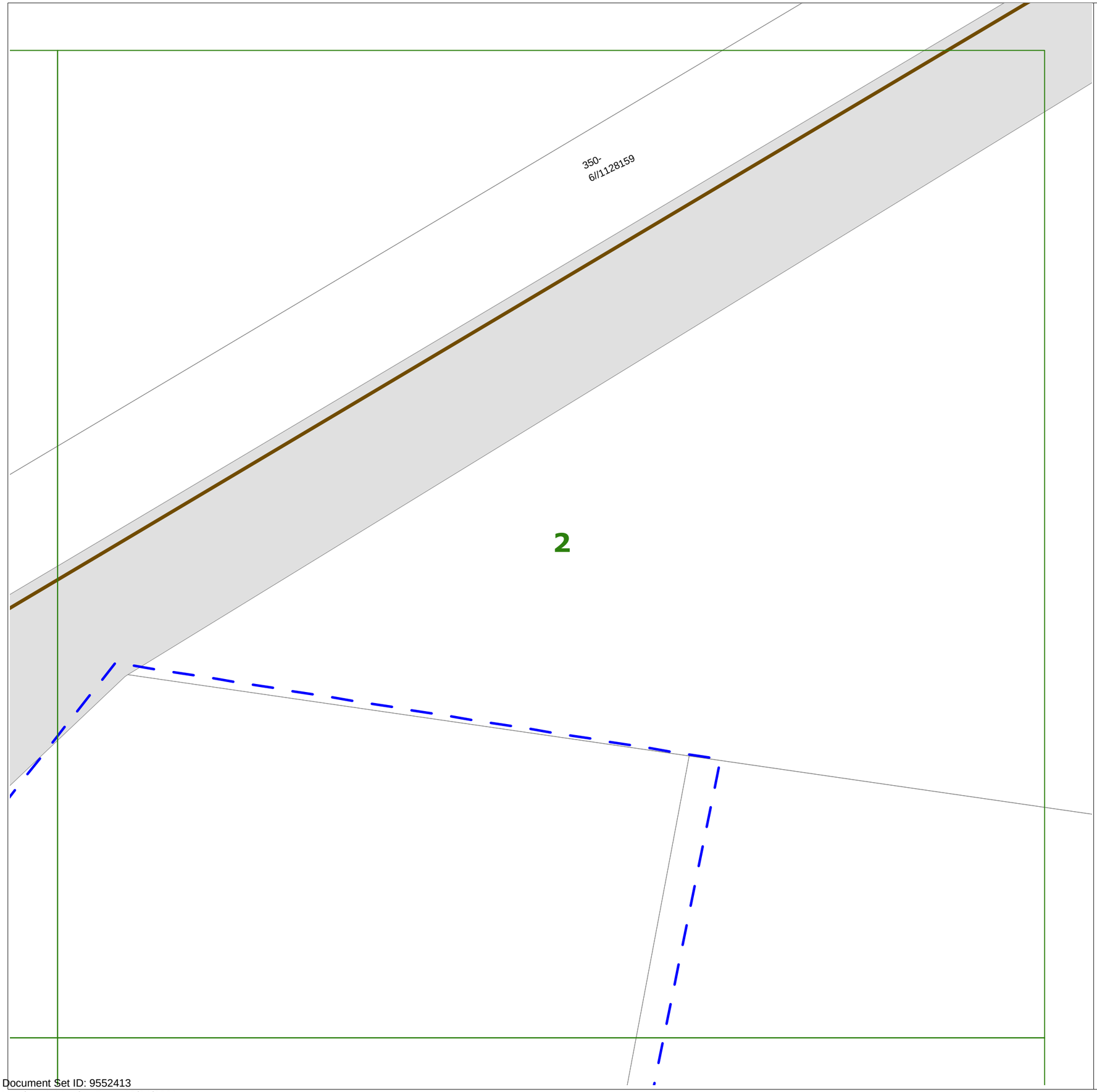

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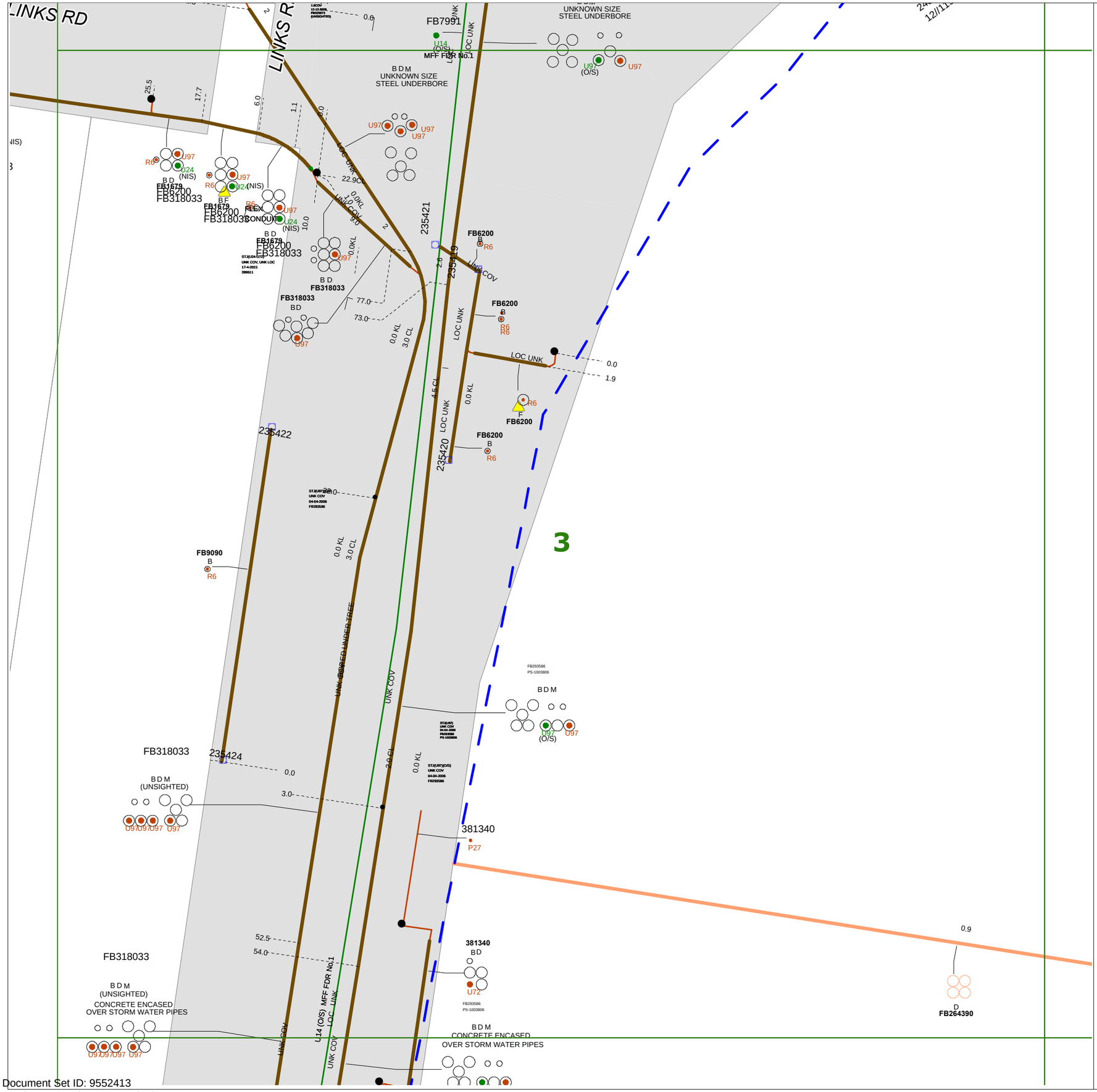

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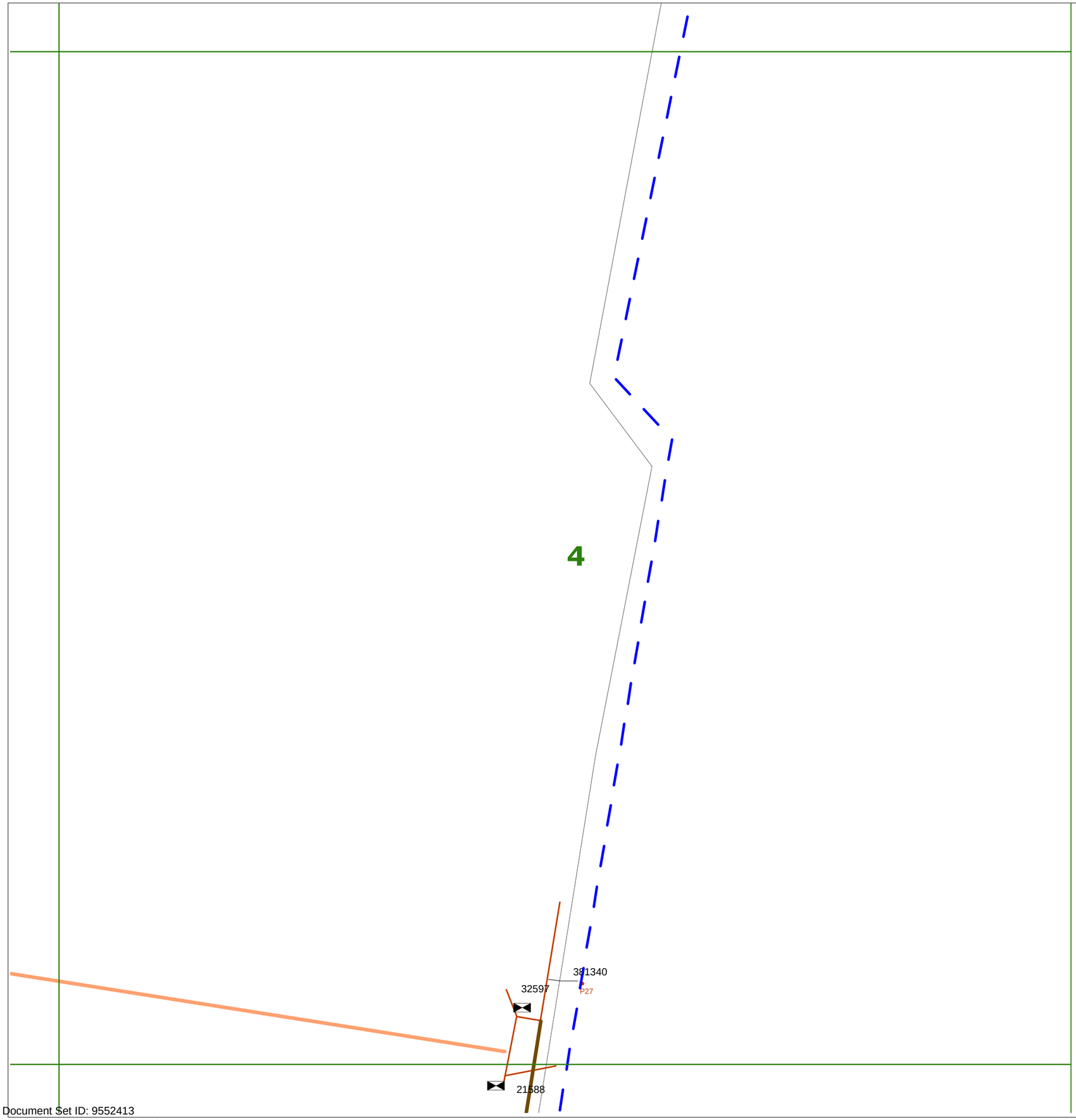

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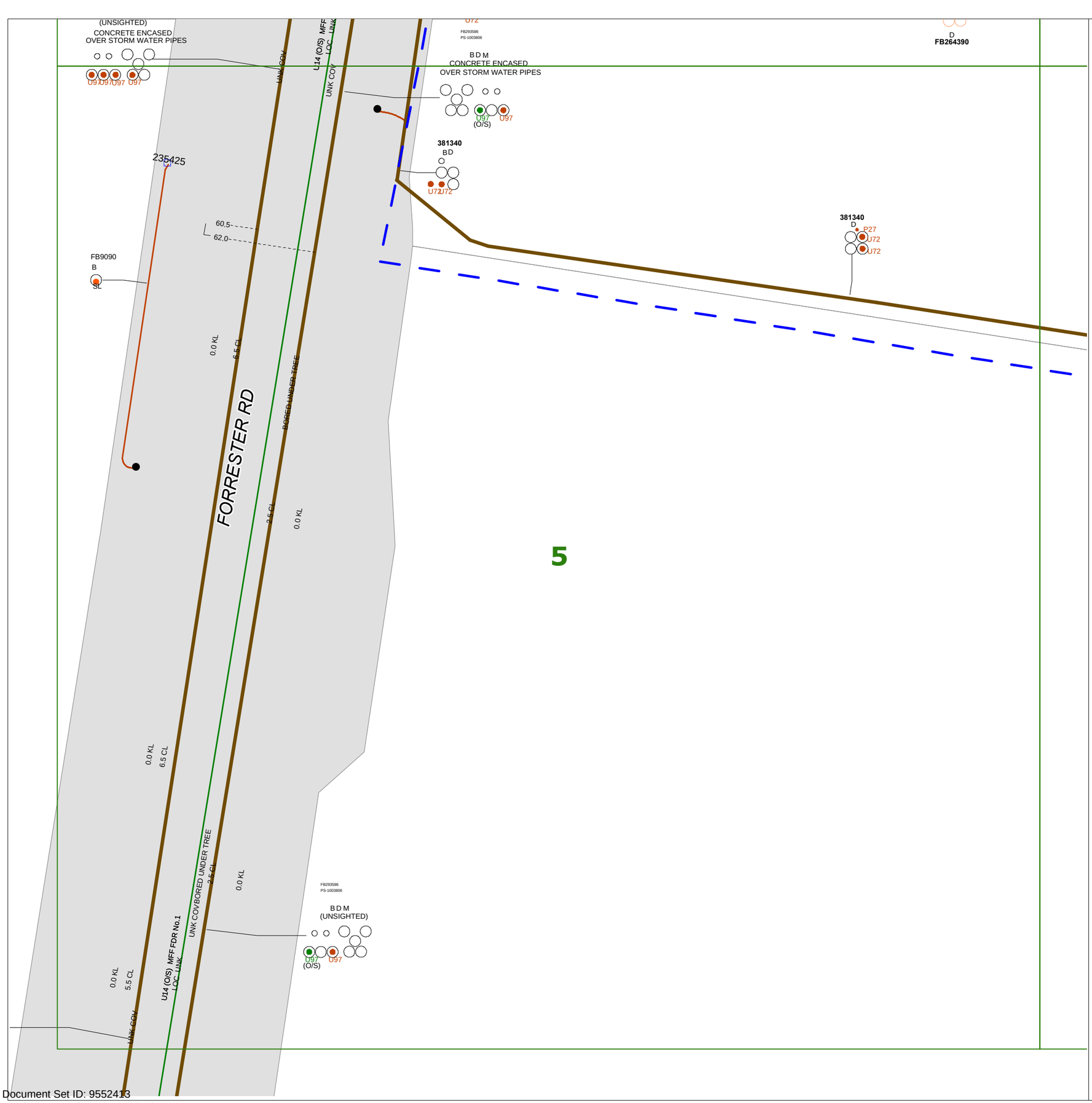

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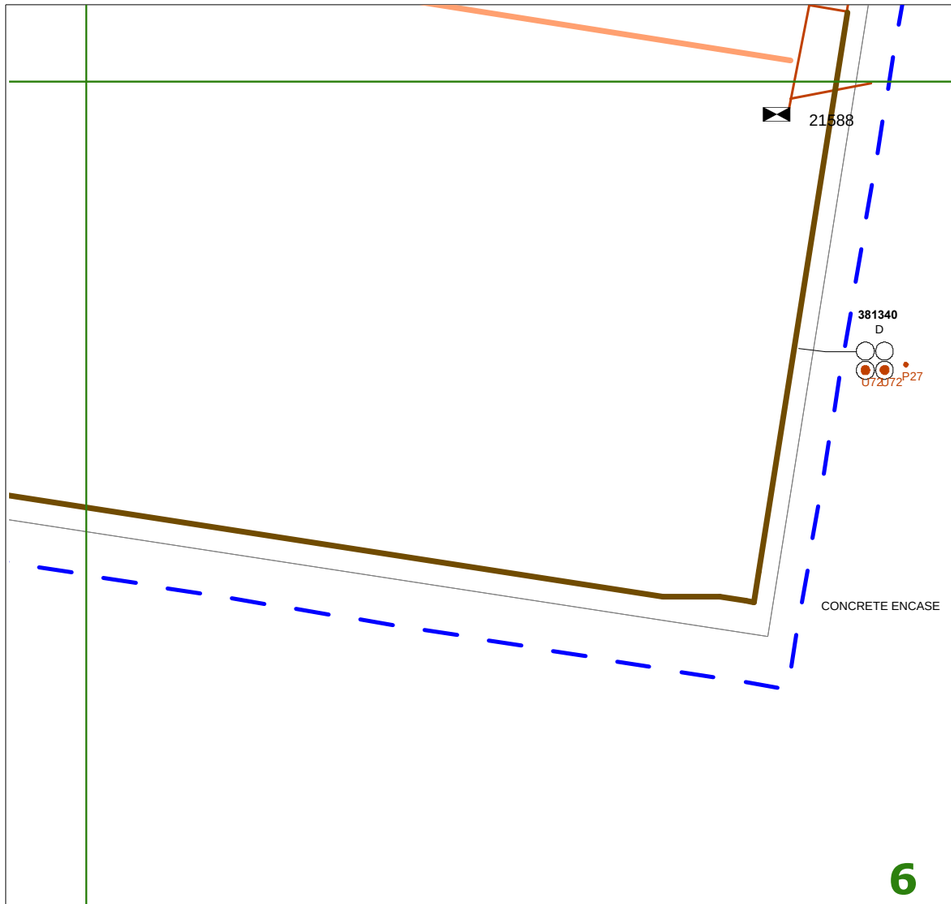

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Endeavour Energy
Phone: (02) 9853 4161 (8:00am-4:30pm Mon-Fri)
Emergency Phone Number: 131 003

BEFORE COMMENCING EXCAVATION YOU MUST READ AND UNDERSTAND ALL INFORMATION PROVIDED IN THE DBYD RESPONSE AND LISTED BELOW

BACKGROUND

Endeavour Energy is able to make available plans of its underground assets to persons who intend to undertake excavation works in Endeavour Energy's distribution area. Any plans provided to you are made available subject to the provisions set out below, in the provided plans, and in the Endeavour Energy DBYD response Cover Letter.

We have set out below important information regarding the recommended procedures that should be followed when using this service and also the extent of our responsibility in respect of any plans provided. It is very important that you read and understand all the information and disclaimers provided below before excavating.

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CUSTOMER REQUESTS AND RESPONSIBILITIES

- Endeavour Energy expects to be able to provide relevant plans within 48 hours after a request is made.
- If the enquiry falls within the Transmission Mains area, additional notification requirements shall be complied with as per the instructions in the response Cover Letter.
- Endeavour Energy retains copyright over all plans and details provided in response to a customer's request.
- Persons excavating are expected to exercise all due care in the vicinity where underground assets are indicated and will be held responsible for any damage to any underground assets (including any Endeavour Energy property) or any other loss caused (including consequential losses) as a result of such excavations.
- All underground assets should be visually located by soft digging (pot holing) or hand digging.
- A person who undertakes excavation work is subject to duties and responsibilities under the *Work Health and Safety Act 2011* and *Work Health and Safety Regulation 2011*. Please refer to the Work Cover NSW "*Work near underground assets: Guide*" and "*Excavation work: Code of practice*" which contain practical advice for working near underground utility services.
- Any damage to Endeavour Energy's assets must be immediately reported on **131 003**.
- In all cases of electric shock or suspected electric shock the victim shall immediately be transported to hospital or medical centre for treatment.
- If conduit material cannot be identified, it should be assumed to contain asbestos material.
- Endeavour Energy plans are frequently updated to record changes to underground assets. All plans are valid for **20** working days from the date of issue.

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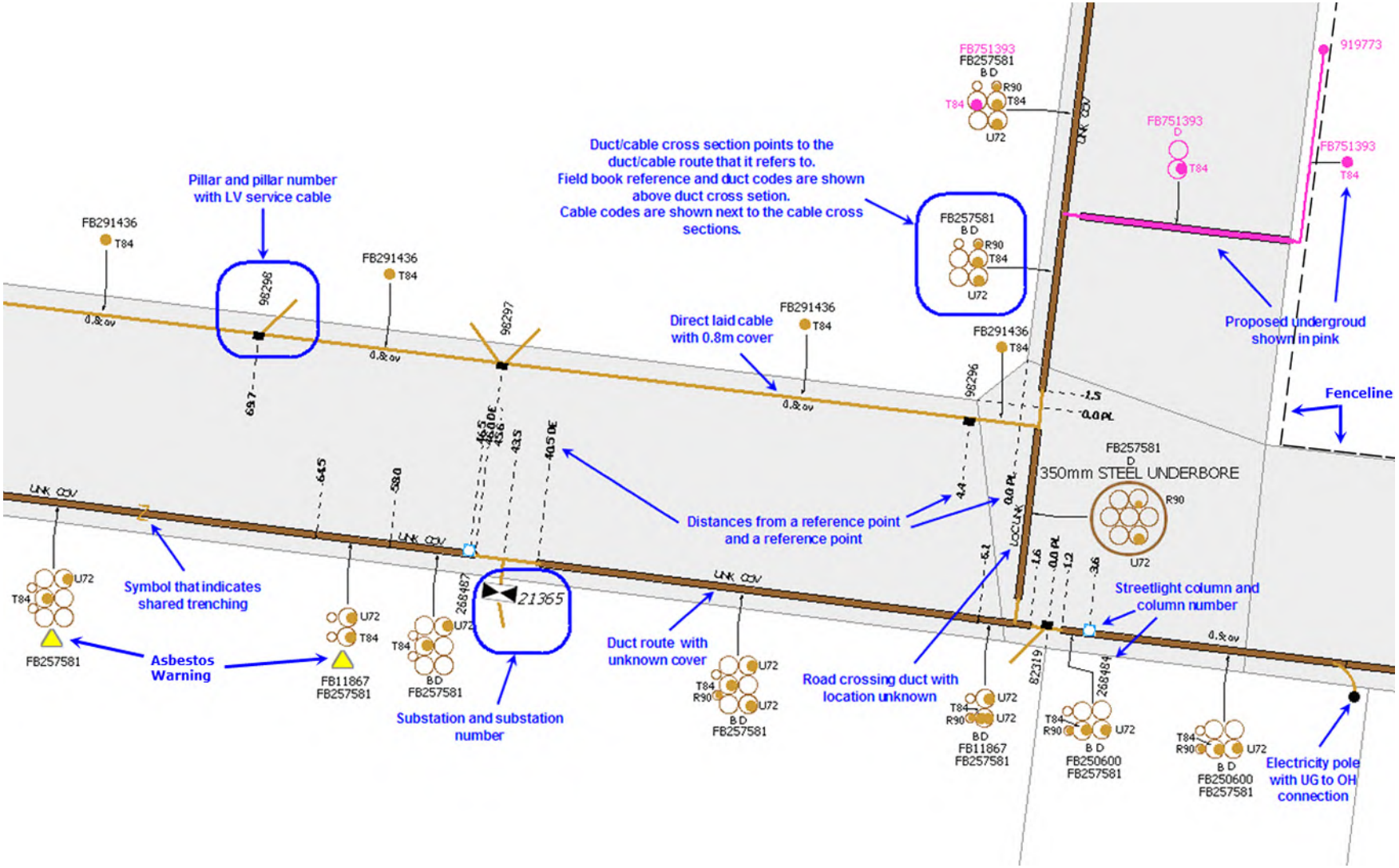
EXAMPLE OF HOW TO READ ENDEAVOUR ENERGY PLANS



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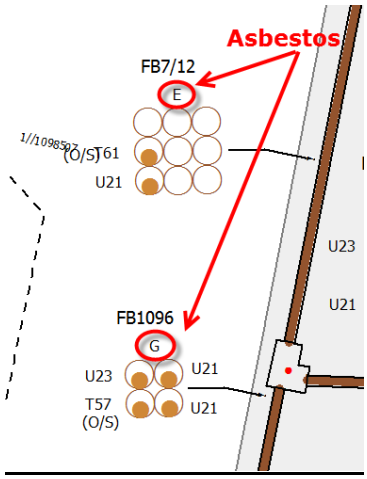
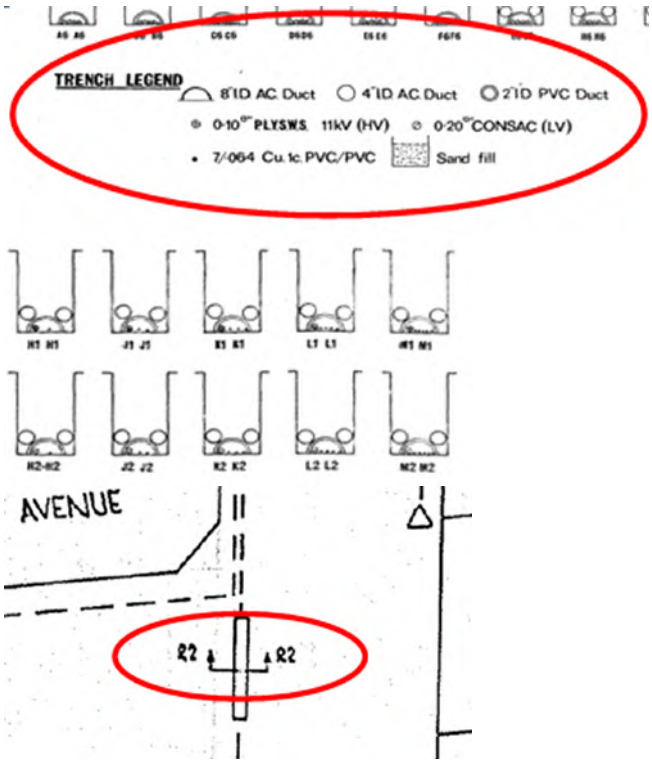
IDENTIFYING ASBESTOS DUCTS

1. Duct codes **E, F** and **G** identify Fibro Conduits

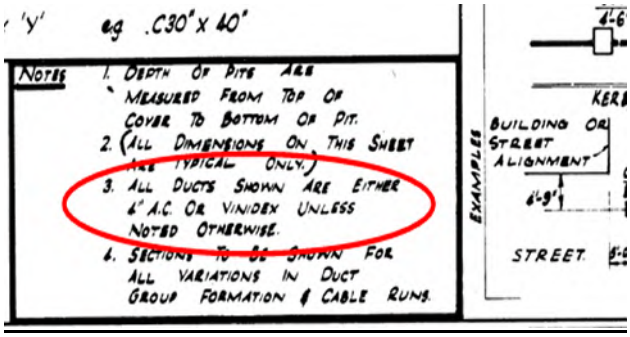


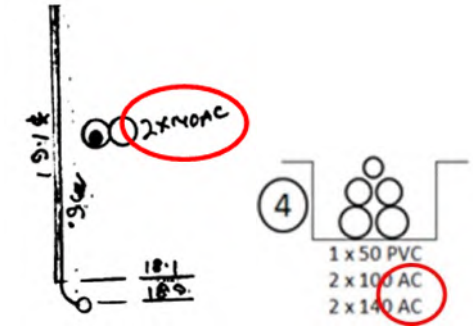
If underground details have not been captured and drawings are used, the method for identifying asbestos ducts and standards are different for the different utilities that amalgamated with Endeavour Energy. Using Reticulation Drawings, there are numerous ways to determine if a duct route has asbestos ducts, refer to following examples:

2. The duct codes **G,H,J,K,L,M Q,R,S,T,U,V,W & X** under each configuration are used on old Blue Mountains drawings to identify Asbestos

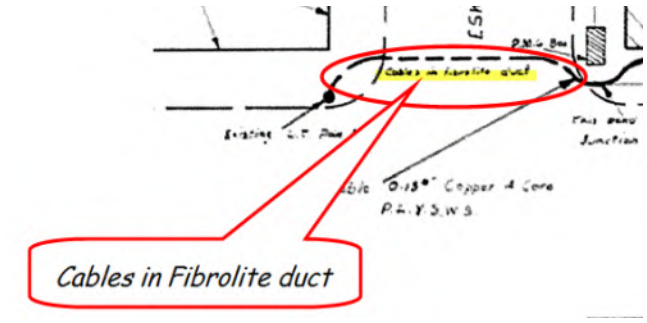


3. **AC** (Asbestos Cement) acronym

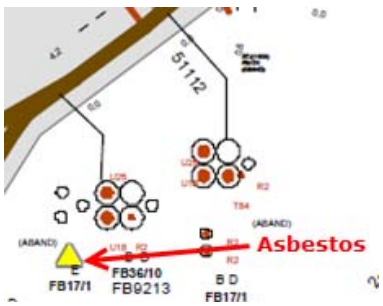




4. **Fibrolite** (asbestos) ducts



5. Yellow **triangle** identifies Fibro Conduits



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STANDARD UNDERGROUND SYMBOLS / LABELS

NOTE: *If symbology has not been provided on the plan use symbols as shown below.*

SYMBOLS & ACRONYMS

- or — Street light column
- Padmount substation
- or — Overground pillar (O.G.Box)
- Underground pit
- Duct run
- Cable run
- Typical duct section
- Typical underbore section
- Blocked duct
- Cable section
- Asbestos warning
- STJ, PBJ, TTJ
- **STJ** Straight through joint
- **PBJ** Parallel branch joint
- **TTJ** Transition through joint
- Underground to overhead pole
- **SL** Streetlight conductor
- **SC** Service cable
- **SE** Cable sealed end
- **SF** Service Feeder
- **OS** Out of Service
- **O.A.M.** Over awning main
- **U.A.M.** Under awning main
- **N.I.S.** Not in service
- Fence/dimensioning
- Shared trenching
- Service point of attachment

DUCT CODE LABLES

B = 50 mm PVC

D = 125mm PVC

E = 100mm Fibro Conduit (Asbestos)

F = 140mm Fibro Conduit (Asbestos)

G = 150mm Fibro Conduit (Asbestos)

DEPTH & LOCATION LABELS

0.5- 0.7 COV = 0.5m – 0.7m

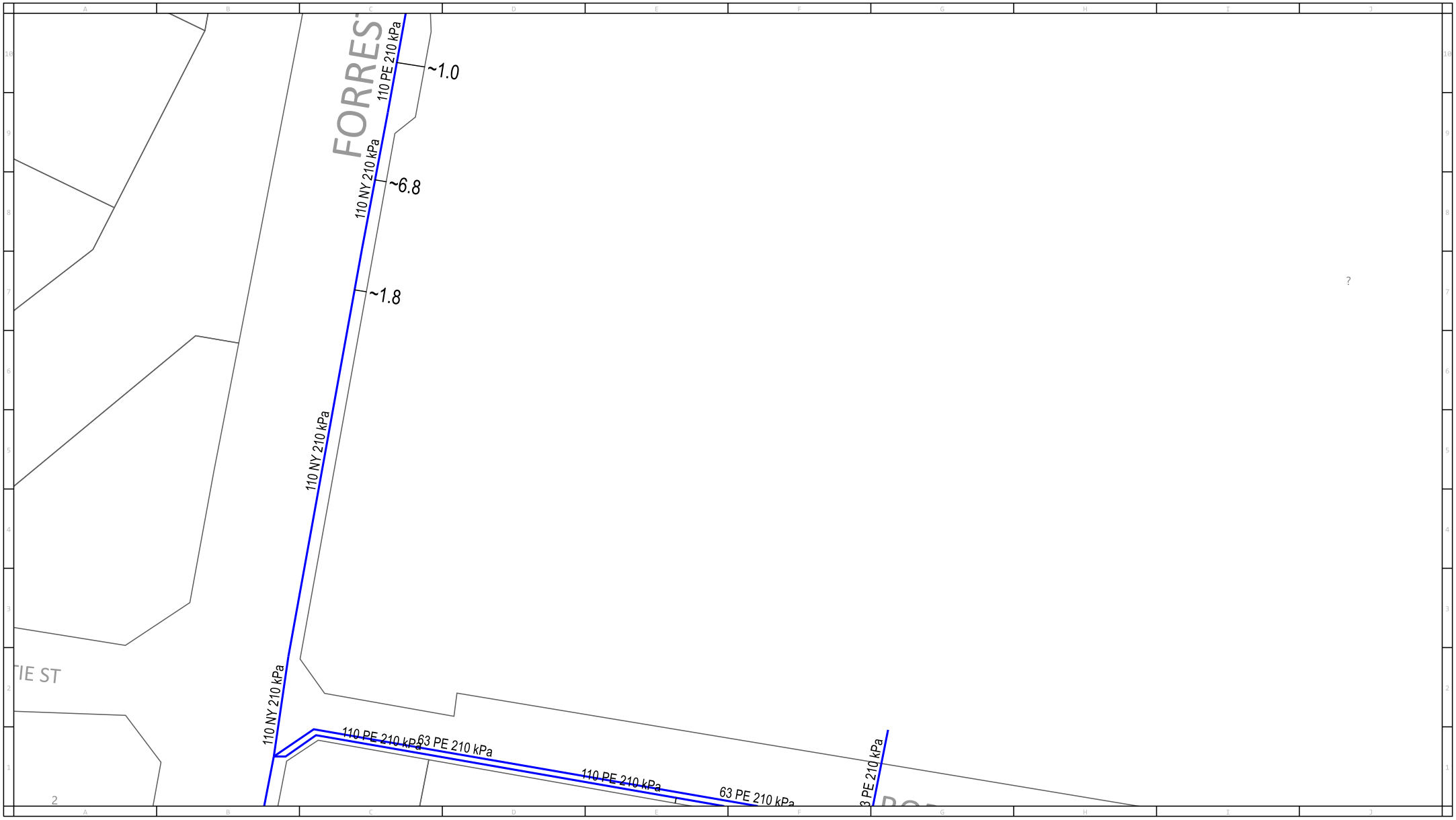
0.9 COV = 0.9m Depth

UNK COV = Depth Unknown

LOC UNK = Location Unknown

0.9 PL = Located 0.9m from Property Line

DBYD Authority: Jemena Gas Networks (NSW) **DBYD Location:** 243 Forrester Road North St Marys NSW, 2760



Jemena
ABN 87 003 004 322

For legend details, please refer to the Coversheet attachment provided as part of this DBYD response.

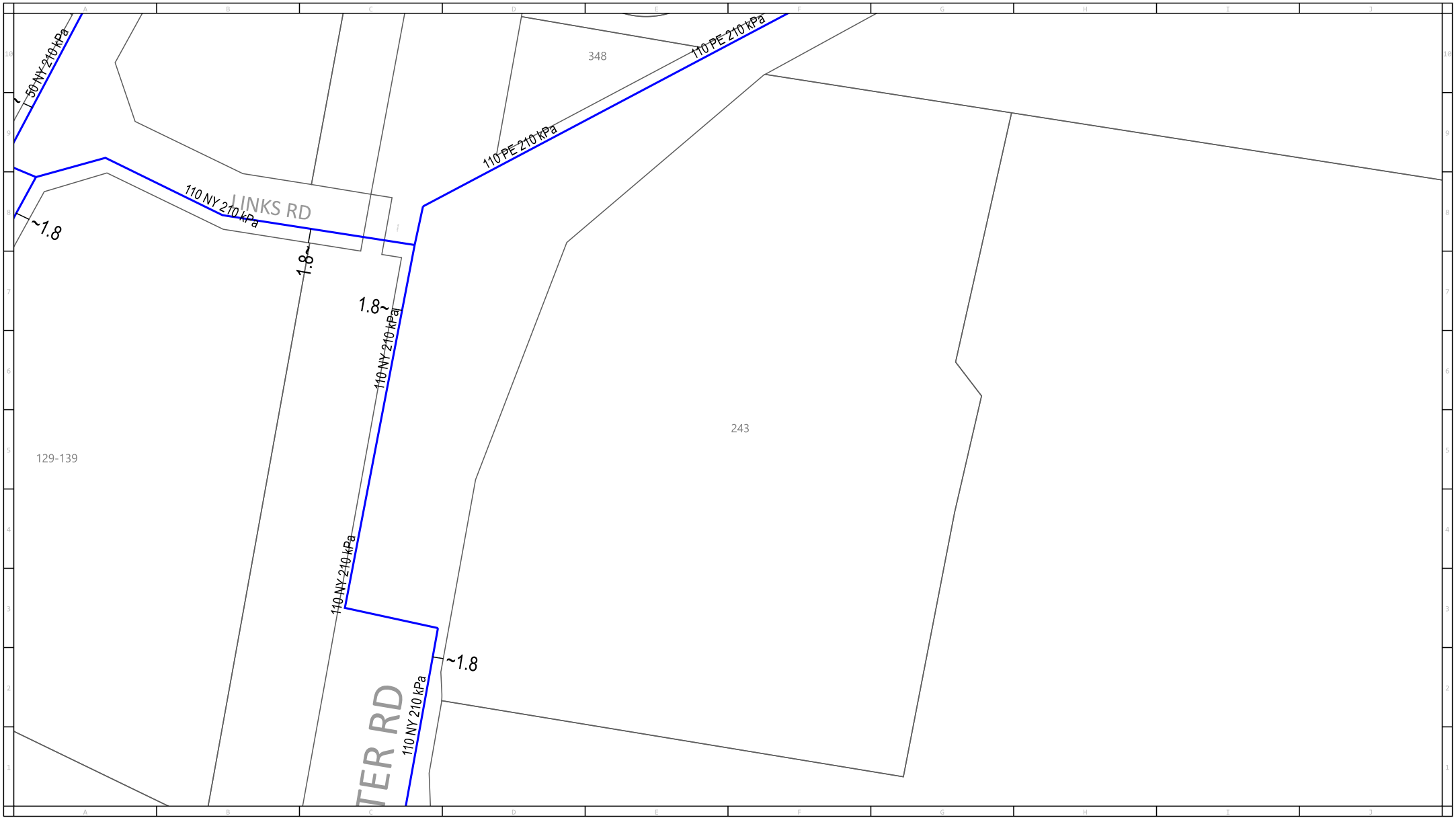
Issue Date: 19/03/2021
DBYD Seq No: 107818328
DBYD Job No: 21294566

Scale: 1:2000

0m 10m 20m 30m 40m 50m 60m 70m 80m

WARNING: This is a representation of Jemena Gas Networks underground assets only and may not indicate all assets in the area. It must not be used for the purpose of exact asset location in order to undertake any type of excavation. This plan is diagramatic only, and distances scaled from this plan may not be accurate. Please read all conditions and information on the attached information sheet. This extract is subject to those conditions. The information contained on this plan is only valid for 28 days from the date of issue.

DBYD Authority: Jemena Gas Networks (NSW) **DBYD Location:** 243 Forrester Road North St Marys NSW, 2760



Jemena
ABN 87 003 004 322

For legend details, please refer to the Coversheet attachment provided as part of this DBYD response.

N W E S

Issue Date: 19/03/2021
DBYD Seq No: 107818328
DBYD Job No: 21294566

0m 10m 20m 30m 40m 50m 60m 70m 80m

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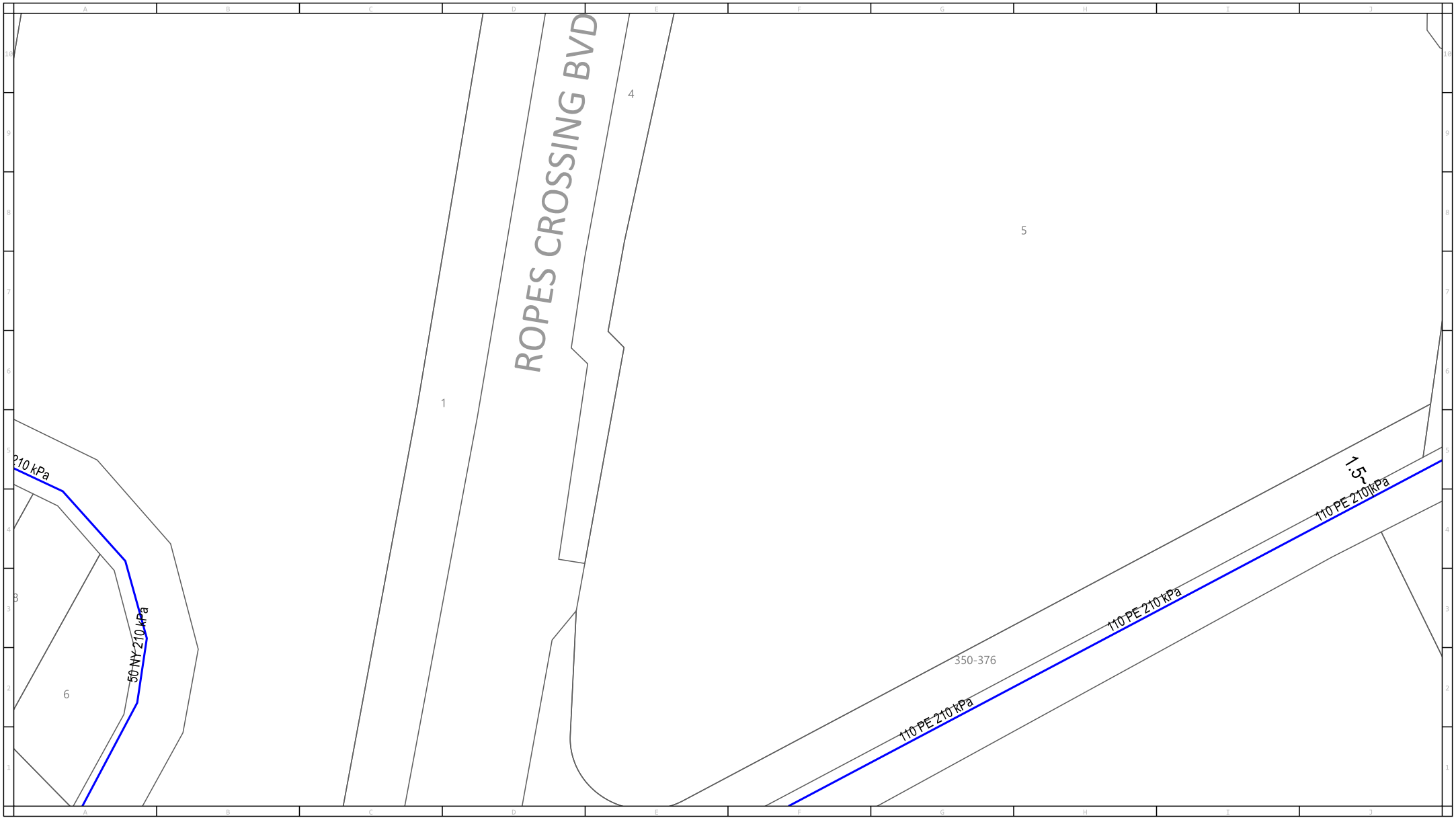
DBYD Location: 243 Forrester Road North St Marys NSW, 2760



Jemena
ABN 87 003 004 322

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N
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Issue Date: 19/03/2021

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Jemena Gas Network Protection

Assets Affected

This information is only valid for 28 days from the date of issue

In reply to your enquiry, there are **Gas Mains** in the vicinity of your intended work, as generally illustrated on the attached map. There may also be other mains or services at the location, as discussed in the warning below.
For an explanation of the map, please see the information below and the legend attachment.

Please note that you have a duty of care to ensure that Jemena gas mains are not compromised or damaged during any future development or construction work.

Excavation Guidelines

It is essential the location of gas pipe/s are confirmed by carefully pot-holing by hand excavation prior to proceeding with mechanical excavation in the vicinity of gas pipes. If you cannot locate the gas main, contact the local depot.

In accordance with clause 34(5) of the Gas Supply (Safety and Network Management) Regulation 2013 (NSW), you should be informed that all excavation, (including pot-holing by hand to confirm the location of pipes) should be performed in accordance with "***Work Near Underground Assets Guideline"*** *published in 2007 by the Work Cover Authority.*

A copy of this Guideline is available at: www.safework.nsw.gov.au

DBYD Administration 1300 880 906

Warning: The enclosed plans show the position of Jemena Gas Networks (NSW) Ltd's underground gas mains and installations in public gazetted roads only. **Individual customers' services and services belonging to other third parties are not included** on these plans. These plans have been prepared solely for the use of Jemena Gas Networks (NSW) Ltd and Jemena Asset Management Pty Ltd (together "**Jemena**") and any reliance placed on these plans by you is entirely at your own risk. The plans may show the position of underground mains and installations relative to fences, buildings etc., as they existed at the time the mains etc were installed. The plans may not have been updated to take account of any subsequent change in the location or style of those features since the time at which the plans were initially prepared. Jemena makes no warranty as to the accuracy or completeness of the enclosed plans and does not assume any duty of care to you nor any responsibility for the accuracy, adequacy, suitability or completeness of the plans or for any error, omission, lack of detail, transmission failure or corruption in the information provided. Jemena does not accept any responsibility for any loss that you or anyone else may suffer in connection with the provision of these plans, however that loss may arise (including whether or not arising from the negligence of Jemena, its employees, agents, officers or contractors).

The recipient of these plans must use their own care and diligence in carrying out their works and must carry out further surveys to locate services at their work site. Persons excavating or carrying out other earthworks will be held responsible for any damage caused to Jemena's underground mains and equipment. In accordance with the Work Near Underground Assets Guideline published in 2007 by Work Cover Authority, Jemena recommends that you carry out potholing by hand to accurately confirm the location of gas mains and installation prior to commencing excavations.

In case of Emergency Phone 131 909 (24 hours)

Admin 1300 880 906

Jemena Gas Networks
Dial Before You Dig Map Legend

Dec 2020 ver2

Network Mains

- Proposed New Main (coloured as per kPa)
- Proposed Isolate (coloured as per kPa)
- Unknown kPa
- 2kPa Low Pressure gas main
- 7kPa Low Pressure gas main
- 30kPa Medium pressure gas main
- 100kPa Medium Pressure gas main
- 210kPa Medium Pressure gas main
- 300kPa Medium Pressure gas main
- 400kPa Medium Pressure gas main
- 1050kPa High Pressure gas main
- 3500kPa High Pressure gas main
- 7000kPa High Pressure gas main
- >7000kPa Transmission pipeline
- Isolated Service - Former Med/High Pressure
- Isolated Steel Main -**Treat as High Pressure**

100 PVC — Conduit or Casing Size & Material (see conduit material codes)

Critical Main -**Treat as High Pressure** (Main coloured as per kPa)

EXPOSED — Exposed Main section

SHALLOW-SP — Shallow Main section: see Protection Code below, no code assume no protection

SP	Steel Plate	CE	Concrete Encased
PP	PE Plate	UNK	Unknown Type
CS	Concrete Slab		

Network Assets

- Siphon
- Network Valve
- High Pressure Main Line Valve (=>1050kPa)
- High Pressure Automatic Line Break Valve (>1050kPa)
- Distribution Regulator Set (=<1050kPa)
- High Pressure Regulating Station (>1050kPa)

Annotations

Pipe and Conduit Material Codes

NY	Nylon	NB	Nominal Bore – Cast Iron
PE	Polyethylene	ST	Steel
P/PL	Plastic (undefined)	C/CO	Copper
PVC	Polyvinyl Chloride		

Pipe code combinations and dimension references

6NB 50MM NY — 50mm Nylon main inserted into 6 inch (Nominal Bore) Cast Iron pipe

50MM 32MM NY — 32mm Nylon main inserted into 50mm Steel pipe

~1.5 — Distance (in metres) of main from Boundary Line (MBL)

MBK	Distance in Metres Back of Kerb
MKL	Distance in Metres from Kerb Line
MEBL	Distance in Metres from Eastern Boundary Line (North/South/West)
MCL	Distance in Metres from Centre Line of Road
MFL	Distance in Metres from Fence Line

Document Set ID: 9552413
Version: 1, Version Date: 19/04/2021

Working near nbn™ cables

nbn has partnered with Dial Before You Dig to give you a single point of contact to get information about **nbn** underground services owned by **nbn** and other utility/service providers in your area including communications, electricity, gas and other services. Contact with underground power cables and gas services can result in serious injury to the worker, and damage and costly repairs. You must familiarise yourself with all of the Referral Conditions (meaning the referral conditions referred to in the DBYD Notice provided by **nbn**).

Practice safe work habits

Once the DBYD plans are reviewed, the Five P's of Excavation should be adopted in conjunction with your safe work practices (which must be compliant with the relevant state Electrical Safety Act and Safe Work Australia "Excavation Work Code of Practice", as a minimum) to ensure the risk of any contact with underground **nbn** assets are minimised.

Plan: Plan your job by ensuring the plans received are current and apply to the work to be performed. Also check for any visual cues that may indicate the presence of services not covered in the DBYD plans.

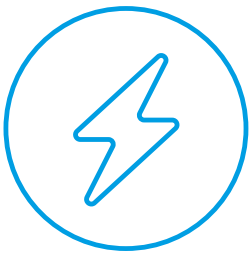
Prepare: Prepare for your job by engaging a DBYD qualified Plant Locator to help interpret plans and identify on-site assets. Contact **nbn** should you require further assistance.

Pothole: Non-destructive potholing (i.e. hand digging or hydro excavation) should be used to positively locate **nbn** underground assets with minimal risk of contact and service damage.

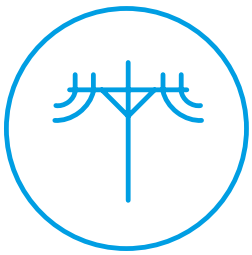
Protect: Protecting and supporting the exposed **nbn** underground asset is the responsibility of the worker. Exclusion zones for **nbn** assets are clearly stated in the plan and appropriate controls must be implemented to ensure that encroachment into the exclusion zone by machinery or activities with the potential to damage the asset is prevented.

Proceed: Proceed only when the appropriate planning, preparation, potholing and protective measures are in place.

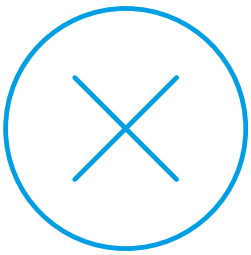
Working near nbn™ cables



Identify all electrical hazards, assess the risks and establish control measures.



When using excavators and other machinery, also check the location of overhead power lines.



Workers and equipment must maintain safety exclusion zones around power lines.

Once all work is completed, the excavation should be re-instated with the same type of excavated material unless specified by **nbn**. Please note:

- Construction Partners of **nbn** may require additional controls to be in place when performing excavation activities.
- The information contained within this pamphlet must be used in conjunction with other material supplied as part of this request for information to adequately control the risk of potential asset damage.

Contact

All nbn™ network facility damages must be reported online here.
For enquiries related to your DBYD request please call 1800 626 329.

DIAL BEFORE YOU DIG www.1100.com.au

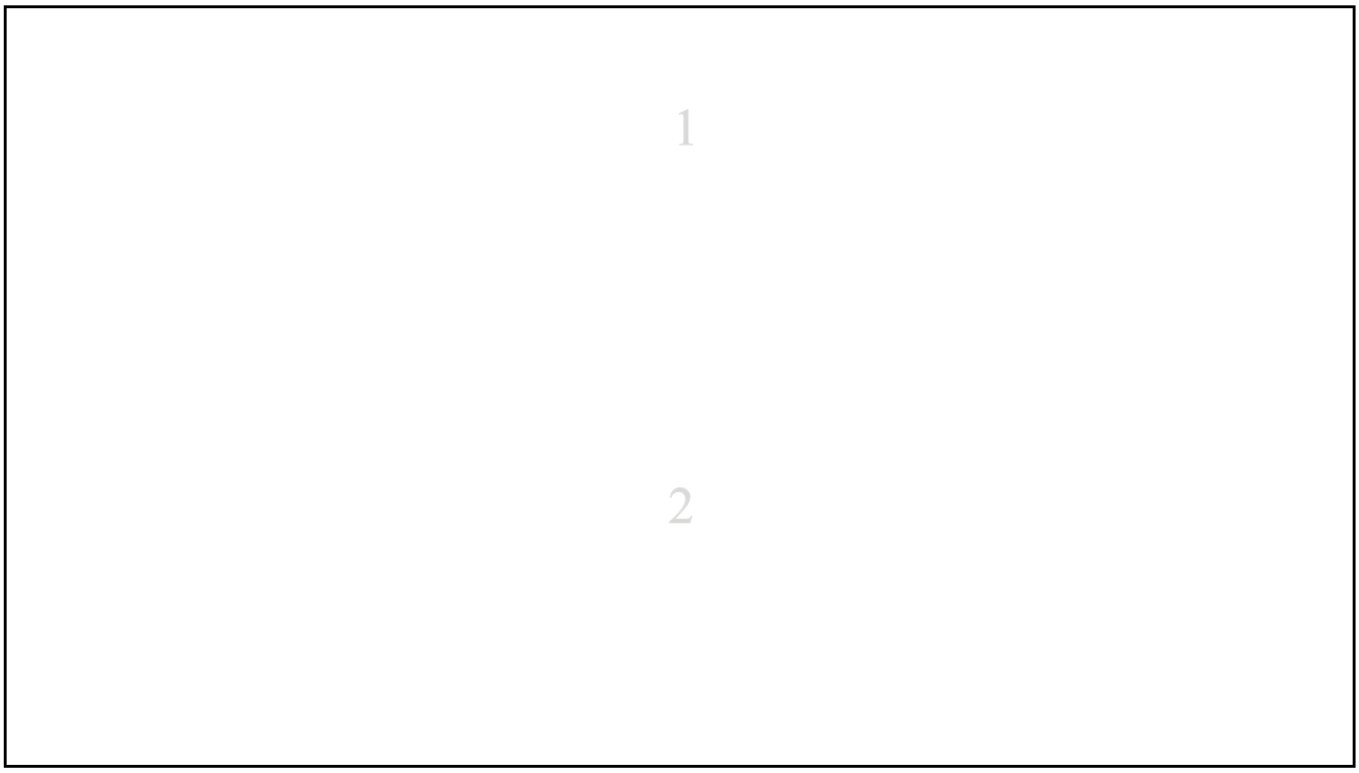
Document Set ID: 9552413
Version: 1, Version Date: 19/04/2021

To: Miss Tiffany Mabbott
Phone: Not Supplied
Fax: Not Supplied

[redacted]

Dial before you dig Job #:	21294566
Sequence #	107818330
Issue Date:	19/03/2021
Location:	243 Forrester Road , North St Marys , NSW , 2760

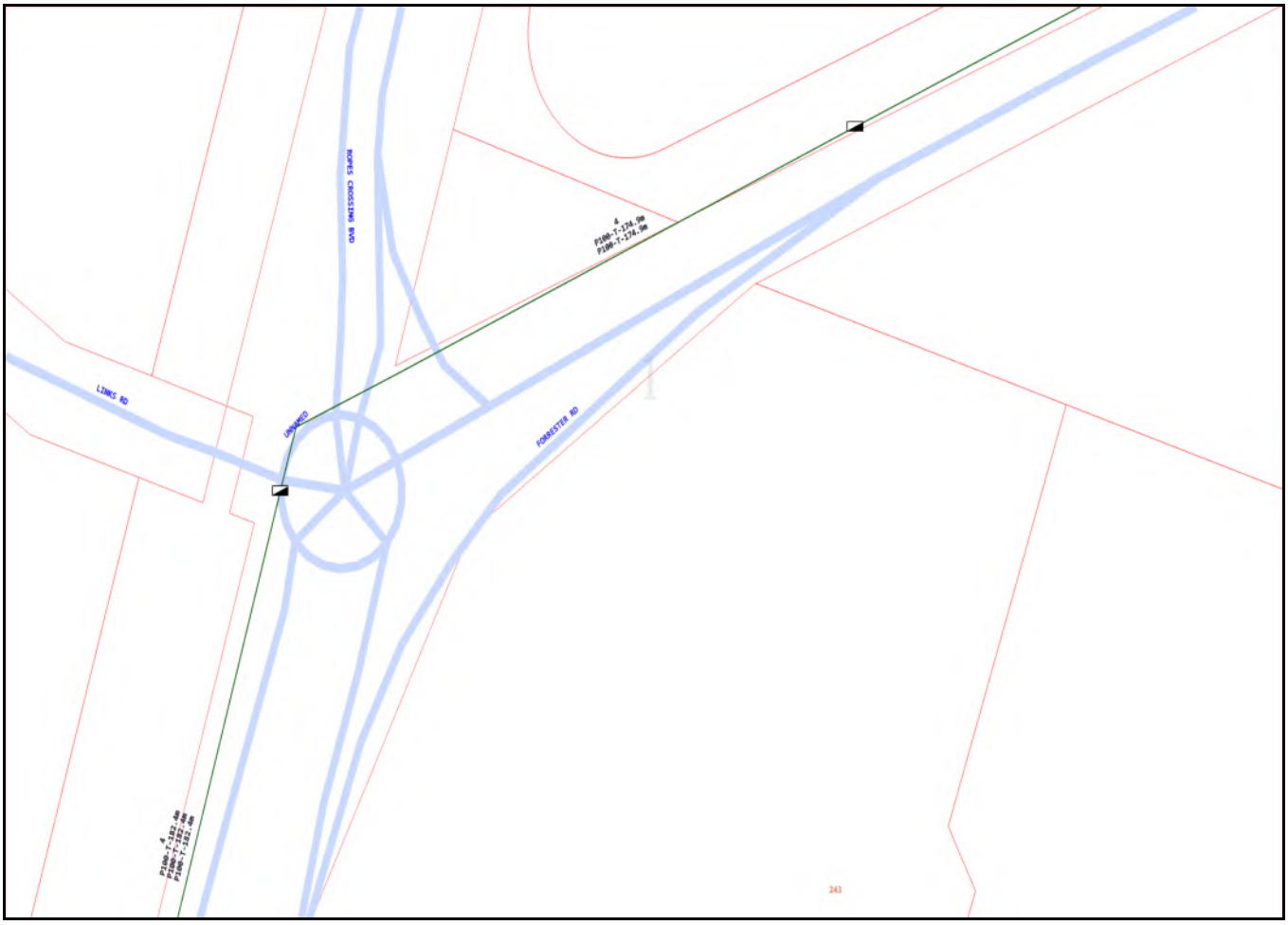
Indicative Plans



LEGEND

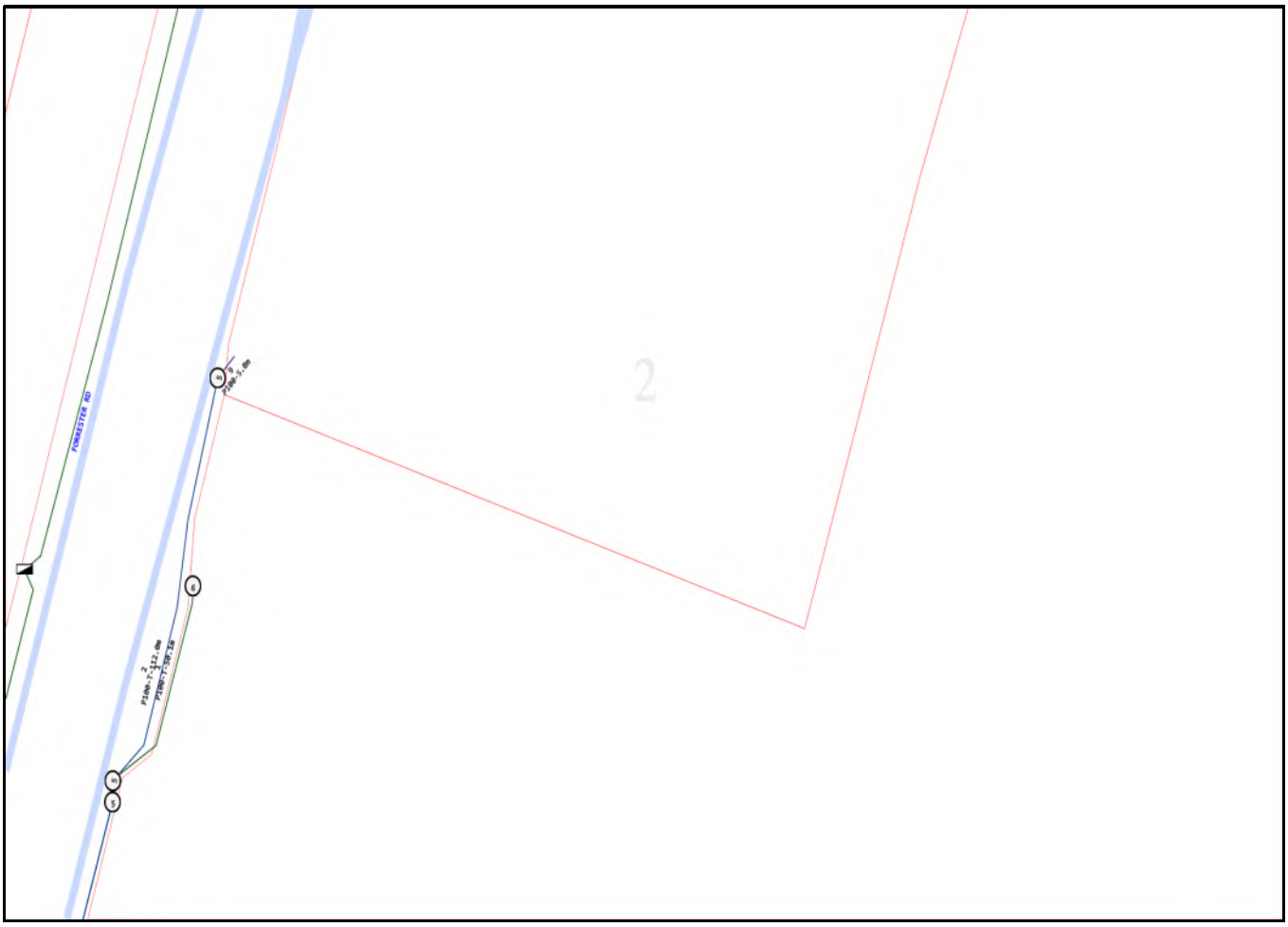
34	Parcel and the location
5	Pit with size "5"
2E	Power Pit with size "2E". Valid PIT Size: e.g. 2E, 5E, 6E, 8E, 9E, E, null.
	Manhole
	Pillar
2 PO – T- 25.0m P40 – 20.0m 5 9	Cable count of trench is 2. One "Other size" PVC conduit (PO) owned by Telstra (-T-), between pits of sizes, "5" and "9" are 25.0m apart. One 40mm PVC conduit (P40) owned by NBN, between pits of sizes, "5" and "9" are 20.0m apart.
2 10.0m 5 9	2 Direct buried cables between pits of sizes ,"5" and "9" are 10.0m apart.
5 9	Trench containing any INSERVICE/CONSTRUCTED (Copper/RF/Fibre) cables.
5 9	Trench containing only DESIGNED/PLANNED (Copper/RF/Fibre/Power) cables.
5 9	Trench containing any INSERVICE/CONSTRUCTED (Power) cables.
BROADWAY ST	Road and the street name "Broadway ST"
Scale	0 20 40 60 Meters 1:2000 1 cm equals 20 m

Email dbyd@nbnco.com.au Web www.nbn.com.au



Level 13, 100 Mount Street, North Sydney NSW 2060

Email dbyd@nbnco.com.au Web www.nbn.com.au



Emergency Contacts

You must immediately report any damage to the **nbn™** network that you are/become aware of. Notification may be by telephone - 1800 626 329.

To:	Miss Tiffany Mabbott
Phone:	Not Supplied
Fax:	Not Supplied
[redacted]	

Dial before you dig Job #:	21294566
Sequence #	107818330
Issue Date:	19/03/2021
Location:	243 Forrester Road , North St Marys , NSW , 2760

Information

The area of interest requested by you contains one or more assets.

nbn™ Assets	Search Results
Communications	Asset identified
Electricity	No assets

In this notice **nbn™ Facilities** means *underground fibre optic, telecommunications and/or power facilities, including but not limited to cables, owned and controlled by* ***nbn™***

Location of **nbn™** Underground Assets

We thank you for your enquiry. In relation to your enquiry at the above address:

- **nbn's** records indicate that there **ARE** **nbn™** Facilities in the vicinity of the location identified above ("Location").
- **nbn** indicative plan/s are attached with this notice ("Indicative Plans").
- The Indicative Plan/s show general depth and alignment information only and are not an exact, scale or accurate depiction of the location, depth and alignment of **nbn™** Facilities shown on the Plan/s.
- In particular, the fact that the Indicative Plans show that a facility is installed in a straight line, or at uniform depth along its length cannot be relied upon as evidence that the facility is, in fact, installed in a straight line or at uniform depth.
- You should read the Indicative Plans in conjunction with this notice and in particular, the notes below.
- You should note that, at the present time, the Indicative Plans are likely to be more accurate in showing location of fibre optics and telecommunications cables than power cables. There may be a variation between the line depicted on the Indicative Plans and the location of any power cables. As such, consistent with the notes below, particular care must be taken by you to make your own enquiries and investigations to precisely locate any power cables and manage the risk arising from such cables accordingly.
- The information contained in the Indicative Plan/s is valid for 28 days from the date of issue set out above.You are expected to make your own inquiries and perform your own investigations (including engaging appropriately qualified plant locators at your cost to locate **nbn™** Facilities during any activities

you carry out on site).

We thank you for your enquiry and appreciate your continued use of the Dial Before You Dig Service. For any enquiries related to moving assets or Planning and Design activities, please visit the **nbn** Commercial Works website to complete the online application form. If you are planning to excavate and require further information, please email dbyd@nbnco.com.au or call 1800 626 329.

Notes:

1. You are now aware that there are **nbn™** Facilities in the vicinity of the above property that could be damaged as a result activities carried out (or proposed to be carried out) by you in the vicinity of the Location.
2. You should have regard to section 474.6 and 474.7 of the *Criminal Code Act 1995* (CoA) which deals with the consequences of interfering or tampering with a telecommunications facility. Only persons authorised by **nbn** can interact with **nbn's** network facilities.
3. Any information provided is valid only for **28 days** from the date of issue set out above.

Referral Conditions

The following are conditions on which **nbn** provides you with the Indicative Plans. By accepting the plans,you are agreeing to these conditions. These conditions are in addition, and not in replacement of, any duties and obligations you have under applicable law.

1. **nbn** does not accept any responsibility for any inaccuracies of its plans including the Indicative Plans. You are expected to make your own inquiries and perform your own investigations (including engaging appropriately qualified plant locators at your expense to locate **nbn™** Facilities during any activities you carry out on site).
2. You acknowledge that **nbn** has specifically notified you above that the Indicative Plans are likely to be more accurate in showing location of fibre optics and telecommunications cables than power cables. There may be a variation between the line depicted on the Indicative Plans and the location of any power cables.
3. You should not assume that **nbn™** Facilities follow straight lines or are installed at uniformed depths along their lengths, even if they are indicated on plans provided to you. Careful onsite investigations are essential to locate the exact position of cables.
4. In carrying out any works in the vicinity of **nbn™** Facilities, you must maintain the following minimum clearances:
   - 300mm when laying assets inline, horizontally or vertically.
   - 500mm when operating vibrating equipment, for example: jackhammers or vibrating plates.
   - 1000mm when operating mechanical excavators.
   - Adherence to clearances as directed by other asset owner's instructions and take into account any uncertainty for power cables.
5. You are aware that there are inherent risks and dangers associated with carrying out work in the vicinity of underground facilities (such as **nbn™** fibre optic,copper and coaxial cables,and power cable feed to **nbn™** assets).Damage to underground electric cables may result in:
   - Injury from electric shock or severe burns, with the possibility of death.
   - Interruption of the electricity supply to wide areas of the city.
   - Damage to your excavating plant.
   - Responsibility for the cost of repairs.
6. You must take all reasonable precautions to avoid damaging **nbn™** Facilities. These precautions may include but not limited to the following:
   - All excavation sites should be examined for underground cables by careful hand excavation. Cable cover slabs if present must not be disturbed. Hand excavation needs to be undertaken with extreme care to minimise the likelihood of damage to the cable, for example: the blades of hand equipment should be aligned parallel to the line of the cable rather than digging across the cable.
   - If any undisclosed underground cables are located, notify **nbn** immediately.
   - All personnel must be properly briefed, particularly those associated with the use of earth-moving

equipment, trenching, boring and pneumatic equipment.
- The safety of the public and other workers must be ensured.
- All excavations must be undertaken in accordance with all relevant legislation and regulations.

7. You will be responsible for all damage to **nbn™** Facilities that are connected whether directly, or indirectly with work you carry out (or work that is carried out for you or on your behalf) at the Location. This will include, without limitation, all losses expenses incurred by **nbn** as a result of any such damage.
8. You must immediately report any damage to the **nbn™** network that you are/become aware of. Notification may be by telephone - 1800 626 329.
9. Except to the extent that liability may not be capable of lawful exclusion, **nbn** and its servants and agents and the related bodies corporate of **nbn** and their servants and agents shall be under no liability whatsoever to any person for any loss or damage (including indirect or consequential loss or damage) however caused (including, without limitation, breach of contract negligence and/or breach of statute) which may be suffered or incurred from or in connection with this information sheet or any plans(including Indicative Plans) attached hereto. Except as expressly provided to the contrary in this information sheet or the attached plans(including Indicative Plans), all terms, conditions, warranties, undertakings or representations (whether expressed or implied) are excluded to the fullest extent permitted by law.

All works undertaken shall be in accordance with all relevant legislations, acts and regulations applicable to the particular state or territory of the Location. The following table lists all relevant documents that shall be considered and adhered to.

State/Territory	Documents
National	Work Health and Safety Act 2011
	Work Health and Safety Regulations 2011
	Safe Work Australia - Working in the Vicinity of Overhead and Underground Electric Lines (Draft)
	Occupational Health and Safety Act 1991
NSW	Electricity Supply Act 1995
	Work Cover NSW - Work Near Underground Assets Guide
	Work Cover NSW - Excavation Work: Code of Practice
VIC	Electricity Safety Act 1998
	Electricity Safety (Network Asset) Regulations 1999
QLD	Electrical Safety Act 2002
	Code of Practice for Working Near Exposed Live Parts
SA	Electricity Act 1996
TAS	Tasmanian Electricity Supply Industry Act 1995
WA	Electricity Act 1945
	Electricity Regulations 1947
NT	Electricity Reform Act 2005
	Electricity Reform (Safety and Technical) Regulations 2005
ACT	Electricity Act 1971

Thank You,

nbn DBYD

Date: 19/03/2021

Guide to reading Sydney Water DBYD Plans

February 2015

Asset Information

Legend

Sewer

- Sewer Main (with flow arrow & size type text) — 225 PVC
- Disused Main
- Rising Main
- Maintenance Hole (with upstream depth to invert) — 1.7
- Sub-surface chamber
- Maintenance Hole with Overflow chamber
- Ventshalft EDUCT — VSE
- Ventshaft INDUCT — VS
- Property Connection Point (with chainage to downstream MH) — 10.5
- Concrete Encased Section — Concrete Encased
- Terminal Maintenance Shaft — TMS
- Maintenance Shaft — MS
- Rodding Point — RP
- Lamphole
- Vertical — VERT
- Pumping Station — SP0882
- Sewer Rehabilitation

Pressure Sewer

- Pressure Sewer Main
- Pump Unit (Alarm, Electrical Cable, Pump Unit) — A
- Property Valve Boundary Assembly
- Stop Valve
- Reducer / Taper
- Flushing Point — FP

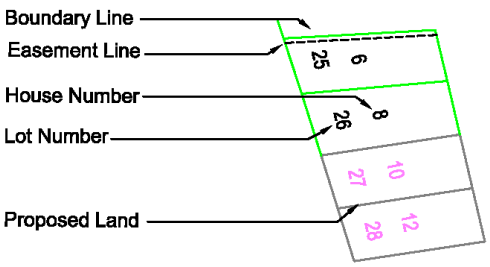
Vacuum Sewer

- Pressure Sewer Main
- Division Valve
- Vacuum Chamber
- Clean Out Point

Stormwater

- Stormwater Pipe
- Stormwater Channel
- Stormwater Gully
- Stormwater Maintenance Hole

Property Details



Sydney Water Heritage Site (please call **132 092** and ask for the **Heritage Unit**)

Water

- WaterMain - Potable (with size type text) — 200 PVC
- Disconnected Main - Potable
- Proposed Main - Potable
- Water Main - Recycled
- Special Supply Conditions - Potable
- Special Supply Conditions - Recycled
- Restrained Joints - Potable
- Restrained Joints - Recycled
- Hydrant
- Maintenance Hole
- Stop Valve
- Stop Vale with By-pass
- Stop Valve with Tapers
- Closed Stop Valve
- Air Valve
- Valve
- Scour
- Reducer / Taper
- Vertical Bends
- Reservoir
- Recycled Water is shown as per Potable above. Colour as indicated

Private Mains

- Potable Water Main
- Recycled Water Main
- Sewer Main
- Symbols for Private Mains shown grey

Asset Information

Pipe Types

ABS	Acrylonitrile Butadiene Styrene	**AC**	Asbestos Cement
BRICK	Brick	**CI**	Cast Iron
CICL	Cast Iron Cement Lined	**CONC**	Concrete
COPPER	Copper	**DI**	Ductile Iron
DICL	Ductile Iron Cement (mortar) Lined	**DIPL**	Ductile Iron Polymeric Lined
EW	Earthenware	**FIBG**	Fibreglass
FL BAR	Forged Locking Bar	**GI**	Galvanised Iron
GRP	Glass Reinforced Plastics	**HDPE**	High Density Polyethylene
MS	Mild Steel	**MSCL**	Mild Steel Cement Lined
PE	Polyethylene	**PC**	Polymer Concrete
PP	Polypropylene	**PVC**	Polyvinylchloride
PVC - M	Polyvinylchloride, Modified	**PVC - O**	Polyvinylchloride, Oriented
PVC - U	Polyvinylchloride, Unplasticised	**RC**	Reinforced Concrete
RC-PL	Reinforced Concrete Plastics Lined	**S**	Steel
SCL	Steel Cement (mortar) Lined	**SCL IBL**	Steel Cement Lined Internal Bitumen Lined
SGW	Salt Glazed Ware	**SPL**	Steel Polymeric Lined
SS	Stainless Steel	**STONE**	Stone
VC	Vitrified Clay	**WI**	Wrought Iron
WS	Woodstave		

Further Information

Please consult the Dial Before You Dig enquiries page on the Sydney Water website

For general enquiries please call the Customer Contact Centre on **132 092**

In an emergency, or to notify Sydney Water of damage or threats to its structures, call 13 20 90 (24 hours, 7 days)

IMPORTANT INFORMATION - DIAL BEFORE YOU DIG

Attention: You must read the information below

The material provided or made available to you by Sydney Water (including on the Sydney Water website) in relation to your Dial Before You Dig enquiry (**Information**) is provided on each of the following conditions, which you are taken to have accepted by using the Information:

1 The Information has been generated by an automated system based on the area highlighted in the "Locality Indication Only" window on your Caller Confirmation. It is your responsibility to ensure that the dig site is properly defined when submitting your Dial Before You Dig enquiry and, if the Information does not match the dig site, to resubmit your enquiry for the correct dig site.

2 Neither Sydney Water nor Dial Before You Dig make any representation or give any guarantee, warranty or undertaking (express or implied) as to the currency, accuracy, completeness, effectiveness or reliability of the Information. The Information, including Sydney Water plans and work-as-executed diagrams, amongst other things:

(a) may not show all existing structures, including Sydney Water's pipelines, particularly in relation to newer developments and in relation to structures owned by parties who do not participate in the Dial Before You Dig service;

(b) may be out of date and not show changes to surface levels, road alignments, fences, buildings and the like;

(c) is approximate only and is therefore not suitable for scaling purposes; and

(d) does not show locations of property services (often called house service lines) belonging to or servicing individual customers, which are usually connected to Sydney Water's structures.

3 You are responsible for, amongst other things:

(a) exposing underground structures, including Sydney Water's pipelines, by pot-holing using hand-held tools or vacuum techniques so as to determine the precise location and extent of structures before any mechanical means of excavation are used;

(b) the safe and proper excavation of and for underground works and structures, including having regard to the fact that asbestos cement pipelines, which can pose a risk to health, may form part of Sydney Water's water and sewerage reticulation systems;

(c) protecting underground structures, including Sydney Water's pipelines, from damage and interference;

(d) maintaining minimum clearances between Sydney Water's structures and structures belonging to others;

(e) ensuring that backfilling of excavation work in the vicinity of Sydney Water's structures complies with Sydney Water's standards contained on its website or otherwise communicated to you;

(f) notifying Sydney Water immediately of any damage caused or threat of damage to Sydney Water's structures;

(g) ensuring that plans are approved by Sydney Water (usually signified by stamping) prior to landscaping or building over or in the vicinity of any Sydney Water structure; and

(h) ensuring that the Information is used only for the purposes for which Sydney Water and Dial Before You Dig intended.

4 You acknowledge that you use the Information at your own risk. In consideration for the provision of the Dial Before You Dig service and the Information by Sydney Water and Dial Before You Dig, to the fullest extent permitted by law:

(a) all conditions and guarantees concerning the Information (whether as to quality, outcome, fitness, care, skill or otherwise) expressed or implied by statute, common law, equity, trade, custom or usage or otherwise are expressly excluded and to the extent that those statutory guarantees cannot be excluded, the liability of Sydney Water and Dial Before You Dig to you is limited to either of the following as nominated by Sydney Water in its discretion, which you agree is your only remedy:

(i) the supplying of the Information again; or

(ii) payment of the cost of having the Information supplied again;

(b) in no event will Sydney Water or Dial Before You Dig be liable for, and you release Sydney Water and Dial Before You Dig from, any Loss arising from or in connection with the Information, including the use of or inability to use the Information and delay in the provision of the Information:

(i) whether arising under statute or in contract, tort or any other legal doctrine, including any negligent act, omission or default (including wilful default) by Sydney Water or Dial Before You Dig; and

(ii) regardless of whether Sydney Water or Dial Before You Dig are or ought to have been aware of, or advised of, the possibility of such loss, costs or damages;

(c) you will indemnify Sydney Water and Dial Before You Dig against any Loss arising from or in connection with Sydney Water providing incorrect or incomplete information to you in connection with the Dial Before You Dig service; and

(d) you assume all risks associated with the use of the Dial Before You Dig and Sydney Water websites, including risk to your computer, software or data being damaged by any virus, and you release and discharge Sydney Water and Dial Before You Dig from all Loss which might arise in respect of your use of the websites.

5 "**Sydney Water**" means Sydney Water Corporation and its employees, agents, representatives and contractors. "**Dial Before You Dig**" means Dial Before You Dig Incorporated and its employees, agents, representatives and contractors. References to "**you**" include references to your employees, agents, representatives, contractors and anyone else using the Information. References to "**Loss**" include any loss, cost, expense, claim, liability or damage (including arising in connection with personal injury, death or any damage to or loss of property and economic or consequential loss, lost profits, loss of revenue, loss of management time, opportunity costs or special damages). To the extent of any inconsistency, the conditions in this document will prevail over any other information provided to you by Sydney Water and Dial Before You Dig.

In an emergency, or to notify Sydney Water of damage or threats to its structures, call 13 20 90 (24 hours, 7 days)

Further information and guidance is available in the Building Development and Plumbing section of Sydney Water's website at www.sydneywater.com.au, where you will find the following documents under 'Dial Before You Dig':

- Avoid Damaging Water and Sewer Pipelines
- Water Main Symbols
- Depths of Mains
- Guidelines for Building Over/Adjacent to Sydney Water Assets
- Clearances Between Underground Services

Or call **13 20 92** for Customer Enquires.

Note: The lodging of enquiries via **www.1100.com.au** will enable you to receive colour plans in PDF format 24 hours a day, 7 days a week via email.

A3

ROPES CROSSING

FORRESTER

LINKS RD

RD

FORRESTER

LOT 5

LOT 6

LOT 8

LOT 11

243

300 DICL

375 DICL

450 DICL

200 DICL

150 uPVC

150 VC

300 VC

450 SCL

500 SCL Encased Pipe

300 MSCL Conc Encased

375 MSCL Conc Encased

Conc Encased 225 PVC

Conc Encased 300 PVC

Thrust Bored

Conc. Encased

300 PVC

Position Subject to Final Subdl

DBYD Address:
243 Forrester Road
North St Marys NSW 2760

DBYD Job No: 21294566

DBYD Sequence No: 107818329

Scale: 1:1500

Date of Production: 19/03/2021

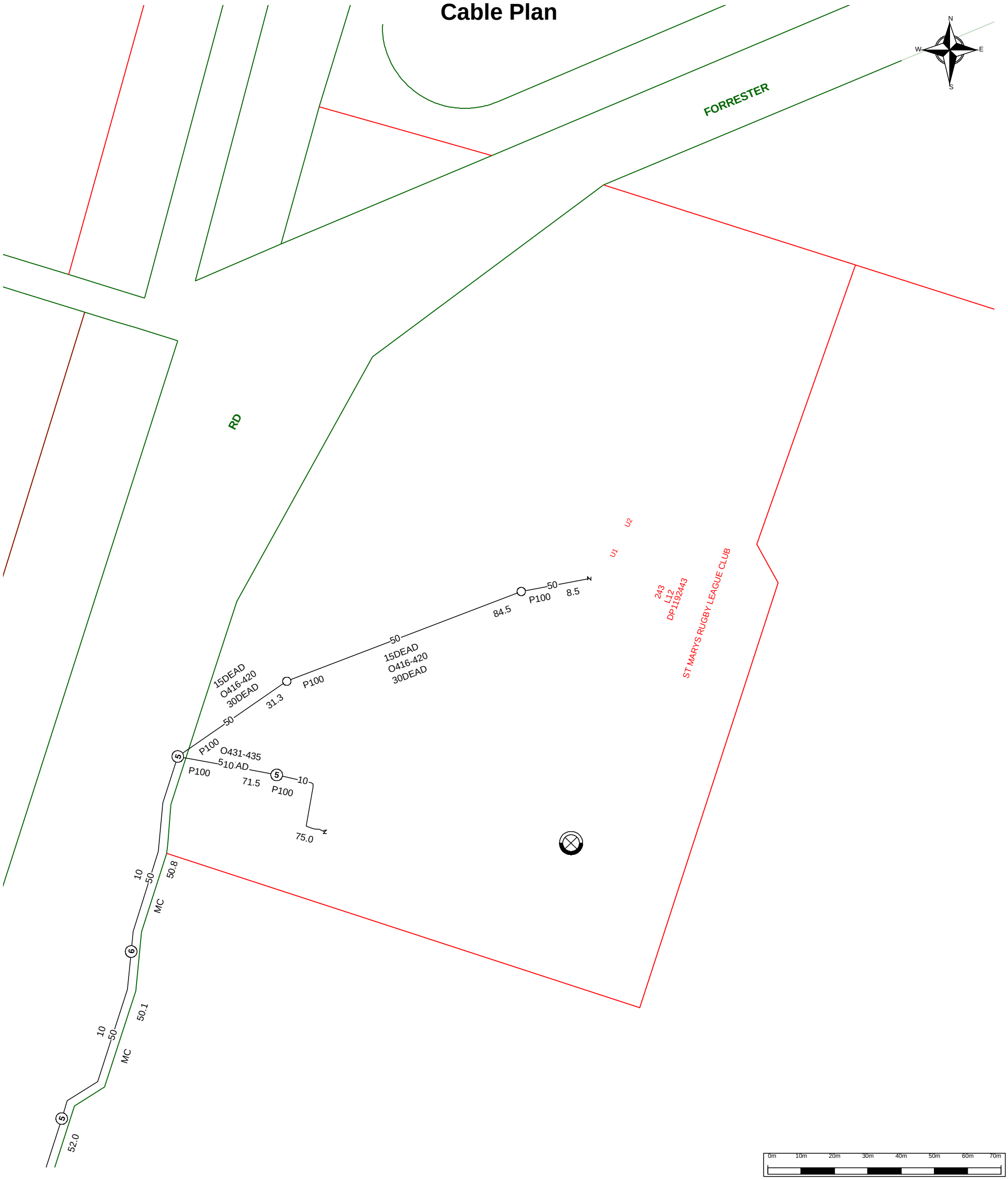
Plan 1 of 1

N

0m 7m 14m 21m 28m

Document Set ID: 9552413
Version: 1, Version Date: 19/04/2021

Cable Plan



For all Telstra DBYD plan enquiries -
email - Telstra.Plans@team.telstra.com
For urgent onsite contact only - ph 1800 653 935 (bus hrs)

Sequence Number: 107818327

TELSTRA CORPORATION LIMITED A.C.N. 051 775 556

Generated On 19/03/2021 15:14:17

CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.

The above plan must be viewed in conjunction with the Mains Cable Plan on the following page

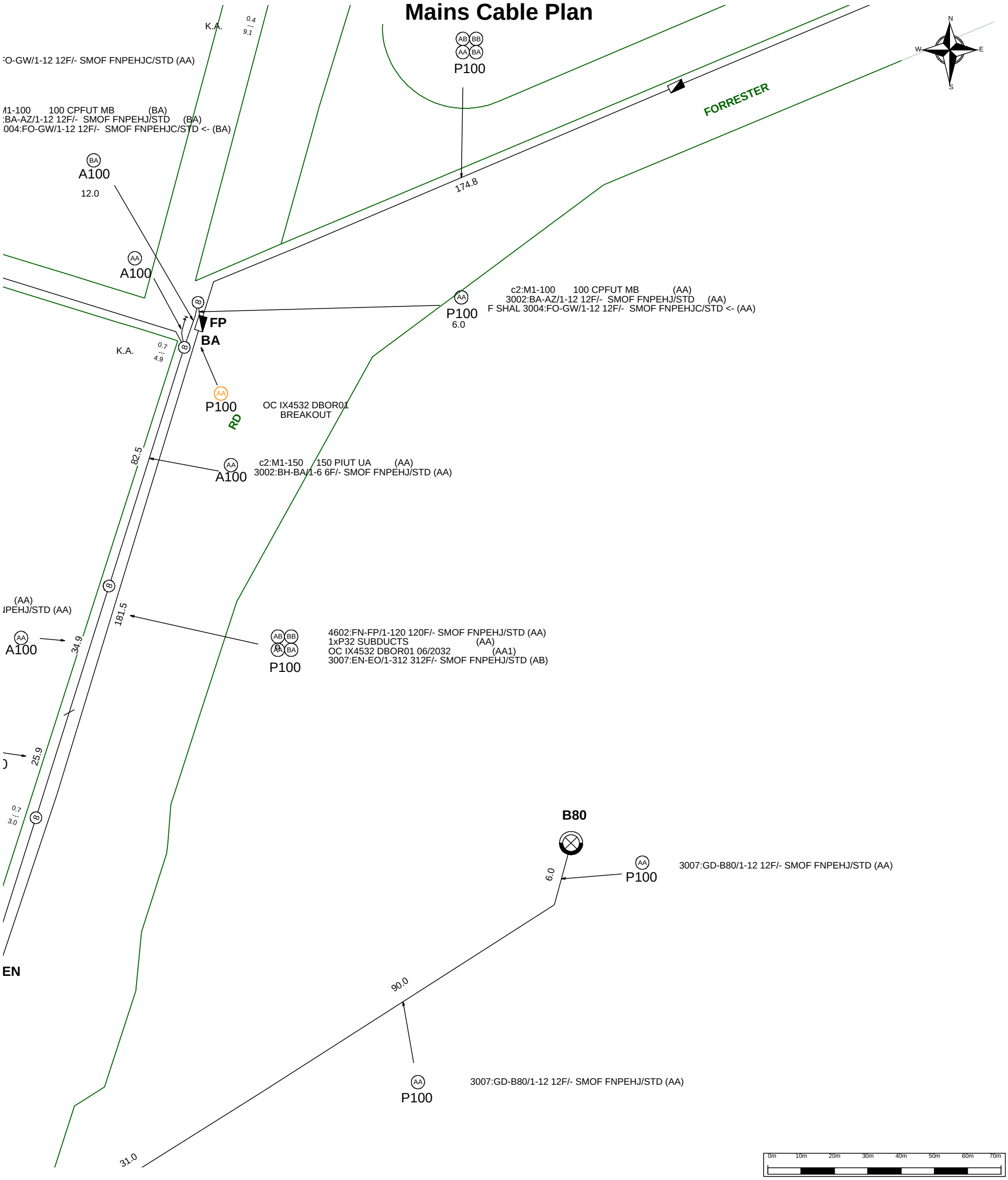
WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.

Mains Cable Plan



Telstra	For all Telstra DBYD plan enquiries - email - Telstra.Plans@team.telstra.com For urgent onsite contact only - ph 1800 653 935 (bus hrs)
TELSTRA CORPORATION LIMITED A.C.N. 051 775 556	
Generated On 19/03/2021 15:14:19	

Sequence Number: 107818327

CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.

WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

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Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

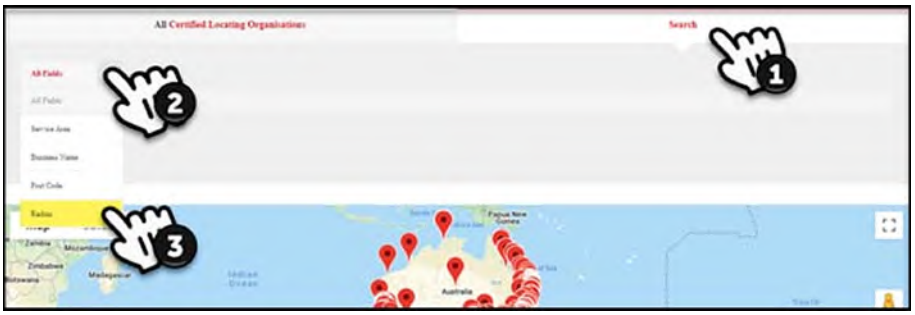
Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.

Search for the closest Certified Locating Organisation (CLO) to your work-site at the following website: https://dbydlocator.com/certified-locating-organisation/

Read the terms of use - Click accept.

A national map and an A-Z list of all Certified Locating Organisations is now available.
You have filtering options.
Make the map full screen, 'fly' around and zoom into your district.

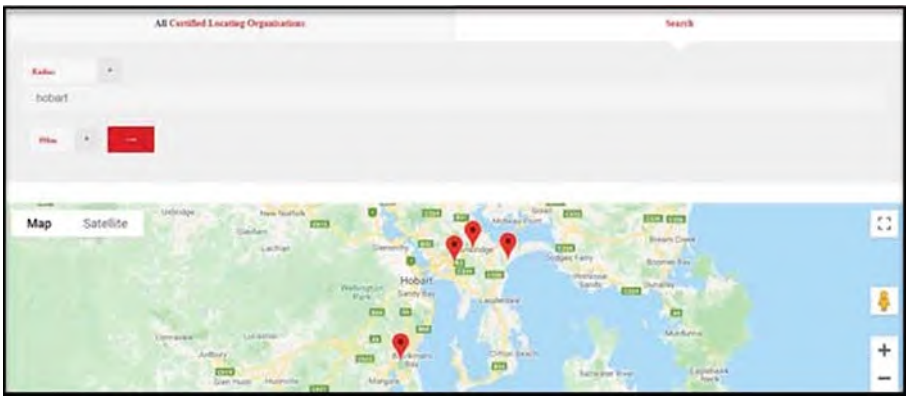
Click the nearest marker to link to that CLO's details
OR click **1.**Search **2**.Dropdown Menu **3**.Radius



Type the town name for Example: Hobart **and choose the radius** for Example: 50klms (as below)

This example search brings four results. Scroll down to see all four CLO's details at once

OR click the map marker to go directly to that organisations contact details.



Chose the closest Locator indicated OR simply scroll down to see them all.

Telstra is aware of each Certified Locating Organisation **and** their employee locators.

Locator skills have been tested, and the Organisation has calibrated location and safety equipment.

Each Certified Locator working for a CLO is issued with a photo ID Card, authorising them to access Telstra pits and manholes for the purpose of cable and plant locations.

Please ask to see your Locators' CLO ID Card.

DUTY OF CARE

IT'S HOW WE CONNECT

TELSTRA CORPORATION ACN 051 775 556

IMPORTANT:

When working in the vicinity of telecommunications plant you have a "Duty of Care" that must be observed. Please read and understand all the information and disclaimers provided below.

Telstra network is complex and requires expert knowledge to interpret information, to identify and locate components, to pothole underground assets for validation and to safely work around assets without causing damage. If you are not an expert and/or qualified in these areas, then you must not attempt these activities. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers. The 5 P's to prevent damage to Telstra assets are listed below. Construction activities and/or any activities that potentially may impact on Telstra's assets must not commence without first undertaking these steps. Construction activities can include anything that involves breaking ground, potentially affecting Telstra assets.

If you are designing a project it is recommended that you also undertake these steps to validate underground assets prior to committing to your design.

All damages to Telstra Network must be reported immediately

- Call **13 22 03** Say "Damages" at the voice prompt, then press 1 to speak to an Operator
- Or report online https://service.telstra.com.au/customer/general/forms/report-damage-to-telstra-equipment

(The following pages contain more detail on each step below and the contact details to seek further advice. AS5488-2013 is the Australian Standard for the Classification of Subsurface Utility Information.)

1 PLAN:

The essential first step in preventing damage -
You must have current Telstra plans via the DBYD process. Telstra advises that the accuracy of the information provided by Telstra conforms to Quality Level D as defined in AS5488-2013. This means the information is indicative only, not a precise location. **The actual location may differ substantially from that shown on the plans** - refer to steps 2 & 3 to determine actual location prior to proceeding with construction.

2 PREPARE:

The essential second step in preventing damage -
Engage a Telstra Accredited Plant Locator. To be able to trace and identify individual subsurface cables and ducts requires access to Telstra pits and manholes. Only a Telstra Accredited Plant Locator (TAPL) is authorised to access Telstra network for locating purposes. A TAPL can interpret plans, validate visible assets and access pits and manholes to undertake electronic detection of underground assets prior to further validation. All Telstra assets must be located, validated and protected prior to commencing construction. If you are not authorised to do so by Telstra, you must not access Telstra network or locate Telstra network. All Telstra Accredited Plant Locators are required to have DBYD Locator Certification.

3 POTHOLE:

The essential third step in preventing damage -
All Telstra assets must be positively identified (i.e. validated), by physically sighting them. For underground assets this can be done by potholing by hand or using non-destructive vacuum extraction methods (Refer to 'validation' as defined in AS5488-2013 QL-A). **Underground assets located by electronic detection alone (step 2), are not deemed to be 'validated' and must not be used for construction purposes.** Some TAPL's can assist with non-destructive potholing for validation purposes. **If you cannot validate the Telstra network, you must not proceed with construction**. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.

4 PROTECT:

The essential fourth step in preventing damage -
Telstra assets must be protected to avoid damage from construction activities. Minimum working distances around Telstra network must be maintained. These distances are provided in this document. Telstra can also provide advice and assistance in regards to protection – refer to the following pages.

5 PROCEED:

Only proceed when the above steps have been completed.

STEP 1 - PLAN
Dial Before You Dig / Telstra Plans

The actual location of Telstra assets may differ substantially from that shown on the plans. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for the accuracy shown on the plans. Steps 2 and 3 must also be undertaken to determine actual location of network.

- Telstra DBYD plans are not suitable for displaying Telstra network within a Telstra exchange site. For advice on Telstra network within a Telstra exchange site contact Telstra Plan Service on 1800 653 935.
- Telstra owns and retains the copyright in all plans and details provided in conjunction with the applicant's request. The applicant is authorised to use the plans and details only for the purpose indicated in the applicant's request. The applicant must not use the plans or details for any other purpose.
- Telstra plans or other details are provided only for the use of the applicant, its servants, agents or Telstra Accredited Plant Locators. The applicant must not give the plans or details to any parties other than these, and must not generate profit from commercialising the plans or details.
- Please contact Telstra Plan Services immediately should you locate Telstra assets not indicated on these plans.
- Telstra, its servants or agents shall not be liable for any loss or damage caused or occasioned by the use of plans and or details so supplied to the applicant, its servants and agents, and the applicant agrees to indemnify Telstra against any claim or demand for any such loss or damage.
- Please ensure Telstra plans and information provided remains on-site at all times throughout the inspection, location and construction phase of any works.
- Telstra plans are valid for 60 days after issue and must be replaced if required after the 60 days.
- **Emergency situations - receiving Telstra plans** Telstra's automated mapping system (TAMS) will provide a fast response for emergency situations (faster than an operator can provide manually via a phone call - see below for fast response requirements). Automated responses are normally available 24/7.

  To receive a fast automated response from Telstra your request must **-**

  - Be a web request lodged at DBYD (**www.1100.com.au**). The request will be then forwarded to Telstra.
  - Contain your current email address so you can receive the automated email response.
  - Be for the purposes of 'mechanical excavation' or other ground breaking DBYD activity. (Requests with activity types such as conveyancing, planning & design or other non-digging activities may not be responded to until the next business day).
  - Be for an area less than 350 metres in size to obtain a PDF map (over 350 metres will default to DWF due to size) this does not include congested CBD areas where only DWF may be supplied.
  - Be for an area less than 2500 metres in size to obtain a DWF map (CBD's less)

- **Data Extraction Fees.** In some instances a data extraction fee may be applicable for the supply of Telstra information. Typically a data extraction fee may apply to large projects, planning and design requests or requests to be supplied in non-standard formats. For further details contact Telstra Plan Services.

- **Electronic plans - PDF and DWF maps** If you have received Telstra maps via email you will have received the maps as either a PDF file (for smaller areas) or DWF file (for larger area requests). All requests over approximately *350m or in congested CBD areas can only be supplied in DWF format. There are size limits on what can be provided. (* actual size depends on geographic location of requested area). If you are unable to launch any one of the softcopy files for viewing and printing, you may need to download and install one or more of the free viewing and printing products such as Adobe Acrobat Reader (for PDF files) or Autodesk Design Review (for DWF files) available from the internet

- **Pdf files -** PDF is the default softcopy format for all requests for areas up to approx *350m in length. (*depends on geographic location of request). The PDF file is nominally formatted to A3 portrait sheet however it can be printed on any size sheet that your printer supports, e.g. either as the full sheet or selected areas to suit needs and legibility. (to print a selected area zoom up and print 'current view') If there are multiple layers of Telstra network you may receive up to 2 sheets in the single PDF file attachment supplied. There are three types or layers of network normally recorded - local network, mains cables or a combined layer of local and mains (usually displayed for rural or semi-rural areas). If mains cable network is present in addition to local cables (i.e. as separate layer in a particular area), the mains will be shown on a separate sheet. The mains cable information should be read in conjunction with the local cable information.

- **DWF files** – DWF is the default softcopy format for all requests for areas that are over 350m in length. Maximum length for a DWF automated response is approx 2500m - depending on geographic location of request (manually-processed plans may provide larger coverage). The DWF files differ from PDF in that DWF are vector files made up of layers that can be turned on or off and are not formatted to a specific sheet size. This makes them ideal for larger areas and for transmitting electronically.
  - ***How to view Telstra DWF files –***
    Telstra DWF files come with all layers turned on. You may need to turn individual layers on or off for viewing and printing clarity. Individual layer names are CC (main cable/conduit), DA (distribution area network) and sometimes a combined layer - CAC. Layer details can be viewed by either picking off the side menu or by selecting 'window' then 'layers' off the top menu bar. Use 'layers' to turn individual layers off or on (double click or right click on layer icon).
  - ***How to print Telstra DWF files –***
    DWF files can be printed on any size sheet – either their entirety or by selected areas of interest. Some DWF coverage areas are large and are not suited to printing legibly on a single A4 sheet - you may need several prints if you only have an A4 printer. Alternatively, an A3, A1 or larger printer could be used. To print, zoom in or out and then, by changing the 'print range' settings, you can print what is displayed on your screen to suit your paper size. If you only have a small printer, e.g. A4, you may need to zoom until the text is legible for printing (which is why you may need several prints). To print what is displayed on your screen the 'view' setting should be changed from 'full page' to 'current view'. The 'current sheet' setting should also be selected. You may need to print layers separately for clarity and legibility. (Details above on how to turn layers on or off)
  - ***How to change the background colour from white to black (when viewing) Telstra DWF files –***
    If using Autodesk Design Review the background colour can be changed by selecting 'Tools' then 'options' then 'sheet'. Tick the box 'override published paper colours' and select the colour required using the tab provided.

STEP 2 – PREPARE
Telstra Accredited Plant Locator (TAPL):

Utilising a TAPL is an essential part of the process to identify network and to trace subsurface network prior to validating. A TAPL can provide plan interpretation, identification and electronic detection. This will assist in determining the position of subsurface assets prior to potholing (validating). Some TAPL's can also assist in validating underground detected network. Electronic detection is only an indication of the existence of underground network and can be subject to interference from other services and local conditions. Electronic detection must not be used solely to determine location for construction purposes. The electronic (indicative) subsurface measurements must be proven by physically sighting the asset (see step 3 – Pothole).

- All TAPL's locating Telstra network must be able to produce a current photo ID card issued by Telstra. A list of TAPL's is provided with the Telstra Dial Before You Dig plans.
- All TAPL's in addition to the Telstra photo ID card must also have current DBYD Locator Certification with ID card.

- Telstra does not permit external parties (non-Telstra) to access or conduct work on Telstra network. Only Telstra staff, Telstra contractors or locators whom are correctly accredited are authorised to work on or access Telstra manholes, pits, ducts, cables etc. This is for safety as well as for legal reasons.
- The details of any contract, agreement or retainer for site assistance to locate telecommunications plant shall be for you to decide and agree with the Telstra Accredited Plant Locator engaged. Telstra is not a party to any contract entered into between you and a Telstra Accredited Plant Locator.
- Payment for the site assistance will be your responsibility and payment details must be agreed before the engagement is confirmed.
- Telstra does not accept any liability or responsibility for the performance of or advice given by a Telstra Accredited Plant Locator. Accreditation is an initiative taken by Telstra towards the establishment and maintenance of competency standards. However, performance and the advice given will always depend on the nature of the individual engagement.
- Neither the Telstra Accredited Plant Locator nor any of its employees are an employee or agent for Telstra. Telstra is not liable for any damage or loss caused by the Telstra Accredited Plant Locator or its employees.

- **Electronically derived subsurface measurements (e.g. depths/alignments by locating devices)**

All locator provided measurements for Telstra assets must have the AS5488-2013 quality level specified - (e.g. QL-A, B, C or D). These quality levels define the accuracy of subsurface information and are critical for determining how the information is later used – for example if suitable for excavation purposes.

1) ***An example of a subsurface measurement with no quality level specified – (i.e. not to be used)***

Telstra cover - **0.9m**

*The measurement above has no AS5488-2013 quality level specified and **must not** be provided by a locator or used for design or construction. This is because it is not known whether the measurement is actual or derived (where 'actual' means validated and 'derived' means assumed and not validated, e.g. electronic or other). Typically damages occur by constructors incorrectly using unvalidated measurements as actual measurements.*

2) ***An example of a subsurface measurement with quality level B specified –***

Telstra cover - **0.9m** (QL-B)

Where (QL-B) complies with AS5488-2013 QL-B (for example an electronic location that complies with QL-B)

(Note QL-B means it has not been validated and must not be used for construction purposes around Telstra network, however it would assist further investigation to determine the actual location)

3) ***An example of a subsurface measurement with the quality level A specified –***

Telstra cover - **0.6m** (QL-A)

Where (QL-A) complies with AS5488-2013 QL-A (and is deemed suitable for excavation purposes). *In this example the asset has been electronically located first, (QL-B) and then physically exposed (QL-A).*

Note -Telstra will seek compensation for damages caused to it its property and losses caused to Telstra and its customers if unvalidated subsurface measurements are used for construction and subsequently result in damage to Telstra assets. Only measurements conforming to AS5488-2013 (QL-A) are deemed by Telstra to be validated measurements.

- **Rural landowners - Rural Locations Subsidy Scheme** Where Telstra-owned cable crosses agricultural land, Telstra may provide on-site assistance with cable location. **You must contact Telstra Plan Services to determine eligibility and to request the service**.

Please note the following –

- If eligible, the location assistance must be approved and organised by Telstra. Telstra will not pay for a location that has not been approved and facilitated by Telstra (Telstra is not responsible for payment assistance when a customer engages a locator directly).
- Telstra will only "subsidise" the location up to $330 (Incl. GST). This will cover one hour on-site location only, private lead-in locations are for lead-ins 100m or longer. Any time required in addition to Telstra-funded time can be purchased directly from the assigned Telstra Accredited Plant Locator.
- This service does NOT include the use Mechanical Aids or Hydro Excavation (Vac Trucks) to locate and should be discussed between the Accredited Plant Locator and the private rural landowner
- The exact location, including depth of cables**,** must be validated by potholing, which may not be covered by this service.

- This service is nominally only available to assist private rural land owners.
- This service nominally covers one hour on-site only, private lead-in locations are for lead-ins 100m or longer. Any time required in addition to Telstra-funded time can be purchased directly from the assigned Telstra Accredited Plant Locator.
- This service does not apply to previously located network at the same location (i.e. it is a once off).
- This service does not apply to other carriers' cables (marked as 'OC' on Telstra plans).

STEP 3 – POTHOLE

Validation as defined in AS5488-2013 (QL-A).

After utilising a Telstra Accredited Plant Locator and prior to commencing construction, any electronically detected underground network must be positively identified (validated) by physically sighting it. This can be done by careful hand digging or using non-destructive water jet methods to expose the network.

Manual potholing needs to be undertaken with extreme care and by employing techniques least likely to damage cables. For example, align shovel blades and trowels parallel to the cable rather than digging across the cable. Some Telstra Accredited Plant Locators are able to provide or assist with non-destructive potholing methods to enable validation of underground cables and ducts.

If you cannot validate the underground network then you must not proceed with construction. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.

Important note: *The construction of Telstra's network dates back over many years. Some of Telstra's pits and ducts were manufactured from asbestos-containing cement. You must take care in conducting any works in the vicinity of Telstra's pits and ducts. You must refrain from in any way disturbing or damaging Telstra's network infrastructure when conducting your works. We recommend that before you conduct any works in the vicinity of Telstra infrastructure that you ensure your processes and procedures eliminate any possibility of disturbing, damaging or interfering in any way with Telstra's infrastructure. Your processes and procedures should incorporate appropriate measures having regard to the nature of this risk. For further information -*

https://www.telstra.com.au/consumer-advice/digging-construction/relocating-network-assets

STEP 4 – Protect:

You must maintain the following minimum clearance distances between construction activity and the validated position of Telstra plant.

Jackhammers/Pneumatic Breakers	*Not within 1.0m of **actual validated location.***
Vibrating Plate or Wacker Packer Compactor	*Not within 0.5m of **actual validated location** of Telstra ducts.* *300mm compact clearance cover before compactor can be used across Telstra ducts.*
Boring Equipment (in-line, horizontal and vertical)	*Not within 2.0m of **actual validated location**.* *Constructor to hand dig or use non-destructive water jet method (pothole) and expose plant.*
Heavy Vehicle Traffic (over 3 tonnes)	*Not to be driven across Telstra ducts (or plant) with less than 600mm cover.* *Constructor to check actual depth via hand digging.*
Mechanical Excavators, Farm ploughing and Tree Removal	*Not within 1.0m of **actual validated location.*** *Constructor to hand dig or use non-destructive water jet method (pot-hole) and expose plant.*

- For blasting or controlled fire burning please contact Telstra Plan Services.
- If conducting roadworks all existing Telstra pits and manholes must be a minimum of 1.2m in from the back of kerb after the completion of your work.
- After the completion of any ground work in footways or roadway whereby the existing levels are being changed the depth of cover of the existing Telstra asset at the completion of work must not be less than the existing level before work commenced.

  Regardless of whether the surface is being raised or lowered, any work impacting the depth of cover of Telstra underground assets should not commence before consultation with Telstra Network Integrity representatives, to discuss the possibility of '*protection*' or relocation (including lowering of the asset)".
- For clearance distances relating to Telstra pillars, cabinets and RIMs/RCMs please contact Telstra Plan Services.
- If Telstra plant is situated wholly or partly where you plan to work (i.e. in conflict, where a pit or manhole would be in a driveway or other vehicle thoroughfare), then Telstra's Network Integrity Group must be contacted to discuss possible engineering solutions to protect Telstra assets.
  Please phone **1800 810 443** or email NetworkIntegrity@team.telstra.com
- You are not permitted to relocate or alter or repair any Telstra assets or network under any circumstances.

  It is a criminal offence under the *Criminal Code Act 1995* (Cth) to tamper or interfere with communication facilities owned by a carrier. Heavy penalties may apply for breach of this prohibition, and any damages suffered, or costs incurred by Telstra as a result of any such unauthorised works may be claimed against you.

  Only Telstra and its contractors may access and conduct works on Telstra's network (including its plant and assets). This requirement is to ensure that Telstra can protect the integrity of its network, avoid disruption to services and ensure that the relocation meets Telstra's requirements.
- If Telstra relocation or protection works are part of the agreed solution, then payment to Telstra for the cost of this work shall be the responsibility of the principal developer, constructor or person for whom the work is performed. The principal developer or constructor will be required to provide Telstra with the details of their proposed work showing how Telstra's plant is to be accommodated and these details must be approved by the Regional Network Integrity Manager prior to the commencement of site works.
  Please phone 1800 810 443 or email NetworkIntegrity@team.telstra.com
  Further information -
  https://www.telstra.com.au/consumer-advice/digging-construction/relocating-network-assets

  Damage to Telstra's network must be reported immediately –
  132 203 Say "Damages" at the voice prompt, then press 1 to speak to an Operator

  Or report online:
  https://service.telstra.com.au/customer/general/forms/report-damage-to-telstra-equipment
- You will be held responsible for all plant damage that occurs or any impacts to Telstra's network as a result of your construction activities. This includes interfering with plant, conducting unauthorised modification works and interfering with Telstra's assets in a way that prevents Telstra from accessing or using its assets in the future.
- Telstra reserves all rights to recover compensation for loss or damage to its cable network or other property including consequential losses.

FURTHER INFORMATION - CONTACTS

NATURAL DISASTERS

Natural Disasters include (amongst other things) earthquakes, cyclones, floods and tsunamis.
In the case of such events, urgent requests for plans or information relating to the location of Telstra network can be made directly to Telstra Network Integrity Team Managers as follows:

NSW –	John McInerney	0419 485 795
NT/WA/QLD –	Glenn Swift	0419 660 147
SA/VIC/TAS -	David Povazan	0417 300 947

TELSTRA PLAN SERVICES **-** for all Telstra Dial Before You Dig related enquiries

Email - **Telstra.Plans@team.telstra.com**

Phone - 1800 653 935 (general enquiries, business hours only)

Accredited plant locator enquiries -	Glen	(07)34551011
Telstra easements -	Glen	(07)34551011

***Please note** - to make a Telstra plan enquiry the plans must be current (within 60 days of issue). If your plans have expired you will need to submit a new request via DBYD prior to contacting Telstra Plan Services.*

Information for new developments (developers, builders, home owners)
Telstra Smart Communities - https://www.telstra.com.au/smart-community

Asset relocations
Please phone 1800 810 443 or email NetworkIntegrity@team.telstra.com

https://www.telstra.com.au/consumer-advice/digging-construction/relocating-network-assets

Telstra offers free Cable Awareness Presentations, if you believe you or your company would benefit from this offer please contact Network Integrity on 1800 810 443 or NetworkIntegrity@team.telstra.com

PRIVACY NOTE

Your information has been provided to Telstra by DBYD to enable Telstra to respond to your DBYD request. Telstra keeps your information in accordance with its privacy statement entitled "Protecting Your Privacy" which can be obtained from Telstra either by calling 1800 039 059 or visiting our website at www.telstra.com.au/privacy

LEGEND

IT'S HOW WE CONNECT

For more info contact a Telstra Accredited Locater or Telstra Plan Services 1800 653 935

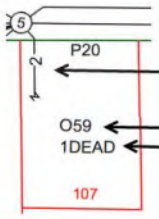
Exchange
(major cable present)

Footway access chamber
(can vary from 1-lid to 12-lid)

Pillar/cabinet
(above the ground / free standing)

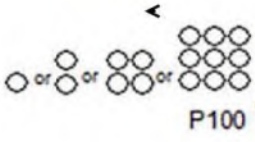
Above ground complex equipment housing (eg RIM)
Please Note: This equipment is powered by 240V electricity.

OC **other carrier**

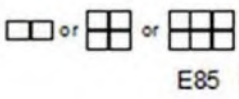


2 pair lead-in to property from pit in street

O59 **1 pair working (pair ID 059)**
1DEAD **1 pair dead (i.e. spare, not connected)**



Single to multiple round conduit
Configurations 1, 2, 4, 9 respectively
(Attached text denotes conduit type and size)



Multiple square conduit
Configurations 2, 4, 6 respectively
(Attached text denotes conduit type and size)

Some examples of conduit type and size:
A - Asbestos cement, P - PVC / plastic, C - Concrete, GI - Galvanised iron, E - Earthenware.
Conduit sizes *nominally* range from 20mm to 100mm.

P50	50mm PVC conduit
P100	100mm PVC conduit
A100	100mm asbestos cement conduit
E 85	85mm square earthenware conduit

Cable jointing pit
(number indicating pit type)

Elevated cable joint
(above ground joint on buried cable)

Telstra Plant in shared utility trench

Aerial Cable
(above ground)

Aerial Cable
(attached to joint use pole e.g. power)

Direct buried cable

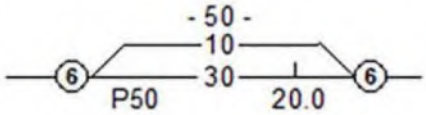
M **Marker post installed**

TR **Buried transponder**

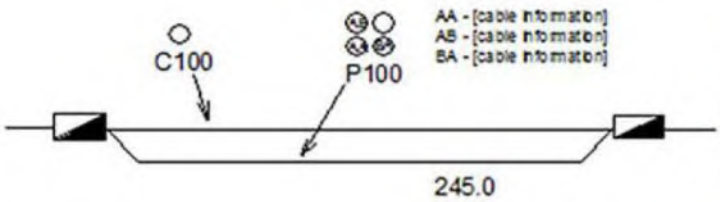
MT **Marker, transponder**

SMOF **Optical fibre cable direct buried**

Some examples of how to read Telstra plans:



One 50mm PVC conduit (P50) containing a 50-pair and a 10-pair cable between two 6-pits, 20.0m apart, with a direct buried 30-pair cable along the same route.



Two separate conduit runs between two footway access chambers (manholes) 245m apart. A nest of four 100mm PVC conduits (P100) containing assorted cables in three ducts (one being empty) and one empty 100mm concrete duct (C100) along the same route.

WARNING: Telstra plans and location information conform to Quality Level 'D' of the Australian Standard AS 5488 - Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans. FURTHER ON SITE INVESTIGATION IS REQUIRED TO VALIDATE THE EXACT LOCATION OF TELSTRA PLANT PRIOR TO COMMENCING CONSTRUCTION WORK. A plant location service is an essential part of the process to validate the exact location of Telstra assets and to ensure the asset is protected during construction works. The exact position of Telstra assets can only be validated by physically exposing it. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.

ATTACHMENT E

BOREHOLE LOG: BH1

Geo-Logix Pty Ltd
Building Q2, Level 3
Unit 2309 / 4 Daydream Street
Warriewood NSW 2102
www.geo-logix.com.au

Project Number:	**2101028**
Hole Depth:	**0.50 m**
Date Started:	**25/03/2021**
Date Completed:	**25/03/2021**

Project Name: **St Marys Detailed Site Investigation**
Location / Site: **243-261 Forrester Road, North St Marys NSW**
Client: **Home Co.**
Contractor: **N/A**
Method: **Hand Auger**

Method	Water Level	Depth (mBGL)	Sample Type	HC Odour	Sample ID	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
HA		0.08	D	Z	BH1/0.3-0.4	Fill			FILL- moderate brown (5YR 4/4), 5% clay, 90% sand, 5% gravel, poorly compacted.	damp	
		0.5		Z					FILL- moderate brown (5YR 3/4), 90% clay, 5% silt, 5% gravel, medium plasticity, moderately compacted.	damp	
									Terminated at 0.50 m Target depth.		
		1.0									
		1.5									
		2.0									
		2.5									
		3.0									

Abbreviations

Hydrocarbon Odour
H High
M Medium
L Low
Z Zero

Sample Type
D Disturbed
U Undisturbed
B Bulk
R Representative
C Continuous
J Jar
Asb Asbestos

Strength Testing
SPT Standard Penetration Test
DCP Dynamic Cone Penetrometer
PP Pocket Penetrometer

Water Levels
Encountered Groundwater
Stabilised Groundwater

Additional Comments

Log Drawn By: Laurie White [redacted]

Logged By: **Tiffany Mabbott** Date: **25/03/2021**
Checked By: **Tiffany Mabbott** Date: **06/04/2021**

Sheet: 1 of 1

GLLOG2021 2101028 ST MARYS.GPJ GL.GDT 4/6/21 11:26:00 AM - drawn by laurie white at www.reumad.com.au

BOREHOLE LOG: BH2

Geo-Logix Pty Ltd
Building Q2, Level 3
Unit 2309 / 4 Daydream Street
Warriewood NSW 2102
www.geo-logix.com.au

Project Number:	**2101028**
Hole Depth:	**0.44 m**
Date Started:	**24/03/2021**
Date Completed:	**24/03/2021**

Project Name: **St Marys Detailed Site Investigation**
Location / Site: **243-261 Forrester Road, North St Marys NSW**
Client: **Home Co.**
Contractor: **N/A**
Method: **Hand Auger**

Method	Water Level	Depth (mBGL)	Sample Type	HC Odour	Sample ID	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
HA	▽	0.10	D	Z	BH2/0.0-0.1	Fill			**FILL**- moderate brown (5YR 3/4), 20% clay, 5% silt, 75% sand, poorly compacted.	damp	
			D	Z	BH2/0.2-0.3	Natural	CH		**Sandy CLAY**- moderate red (5R 5/4), 50% clay, 40% sand, high plasticity, soft.	wet	
		0.5							**Terminated at 0.44 m** Groundwater encountered at 0.44m.		
		1.0									
		1.5									
		2.0									
		2.5									
		3.0									

Abbreviations

Hydrocarbon Odour
H High
M Medium
L Low
Z Zero

Sample Type
D Disturbed
U Undisturbed
B Bulk
R Representative
C Continuous
J Jar
Asb Asbestos

Strength Testing
SPT Standard Penetration Test
DCP Dynamic Cone Penetrometer
PP Pocket Penetrometer

Water Levels
▽ Encountered Groundwater
▼ Stabilised Groundwater

Additional Comments
Groundwater encountered at 0.44m.

Log Drawn By: Laurie White
[redacted]

Logged By: **Tiffany Mabbott** Date: **24/03/2021**
Checked By: **Tiffany Mabbott** Date: **06/04/2021**

Sheet: 1 of 1

GLLOG2021 2101028 ST MARYS.GPJ GL.GDT 4/6/21 11:26:01 AM - drawn by laurie white at www.reumad.com.au

BOREHOLE LOG: BH3

Geo-Logix Pty Ltd
Building Q2, Level 3
Unit 2309 / 4 Daydream Street
Warriewood NSW 2102
www.geo-logix.com.au

Project Number:	**2101028**
Hole Depth:	**0.40 m**
Date Started:	**25/03/2021**
Date Completed:	**25/03/2021**

Project Name: **St Marys Detailed Site Investigation**
Location / Site: **243-261 Forrester Road, North St Marys NSW**
Client: **Home Co.**
Contractor: **N/A**
Method: **Hand Auger**

Method	Water Level	Depth (mBGL)	Sample Type	HC Odour	Sample ID	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
HA	▽	0.5	D	Z	BH3/0.2-0.35	Fill			FILL- moderate reddish brown (10R 4/6), 20% clay, 80% sand, poorly compacted.	wet	
		1.0							**Terminated at 0.40 m** Hole collapsing due to water.		
		1.5									
		2.0									
		2.5									
		3.0									

Abbreviations

Hydrocarbon Odour
H High
M Medium
L Low
Z Zero

Sample Type
D Disturbed
U Undisturbed
B Bulk
R Representative
C Continuous
J Jar
Asb Asbestos

Strength Testing
SPT Standard Penetration Test
DCP Dynamic Cone Penetrometer
PP Pocket Penetrometer

Water Levels
▽ Encountered Groundwater
▼ Stabilised Groundwater

Additional Comments
Located in waterway.

REMAD

Log Drawn By: Laurie White [redacted]

Logged By: **Tiffany Mabbott** Date: **25/03/2021**
Checked By: **Tiffany Mabbott** Date: **06/04/2021**

GLLOG2021 2101028 ST MARYS.GPJ GL.GDT 4/6/21 11:26:02 AM - drawn by laurie white at www.remad.com.au

BOREHOLE LOG: BH4

Geo-Logix Pty Ltd
Building Q2, Level 3
Unit 2309 / 4 Daydream Street
Warriewood NSW 2102
www.geo-logix.com.au

Project Number:	**2101028**
Hole Depth:	**0.60 m**
Date Started:	**25/03/2021**
Date Completed:	**25/03/2021**

Project Name: **St Marys Detailed Site Investigation**
Location / Site: **243-261 Forrester Road, North St Marys NSW**
Client: **Home Co.**
Contractor:
Method: **Solid Flight Auger (Dingo)**

Method	Water Level	Depth (mBGL)	Sample Type	HC Odour	Sample ID	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
SFA		0.05	D	Z	BH4/0.5-0.6	Fill			**ASPHALT.** **FILL**- moderate brown (5YR 4/4), 20% clay, 70% sand, 10% gravel, poorly compacted.	damp	Asphalt & roadbase. Reinforcement bar encountered.
		0.5							**Terminated at 0.60 m** Target depth.		
		1.0									
		1.5									
		2.0									
		2.5									
		3.0									

Abbreviations

Hydrocarbon Odour
H High
M Medium
L Low
Z Zero

Sample Type
D Disturbed
U Undisturbed
B Bulk
R Representative
C Continuous
J Jar
Asb Asbestos

Strength Testing
SPT Standard Penetration Test
DCP Dynamic Cone Penetrometer
PP Pocket Penetrometer

Water Levels
Encountered Groundwater
Stabilised Groundwater

Additional Comments

Log Drawn By: Laurie White [redacted]

Logged By: **Tiffany Mabbott** Date: **25/03/2021**
Checked By: **Tiffany Mabbott** Date: **06/04/2021**

Sheet: 1 of 1

GLLOG2021 2101028 ST MARYS.GPJ GL.GDT 4/6/21 11:26:03 AM - drawn by laurie white at www.reumad.com.au

BOREHOLE LOG: BH5

Geo-Logix Pty Ltd
Building Q2, Level 3
Unit 2309 / 4 Daydream Street
Warriewood NSW 2102
www.geo-logix.com.au

Project Number:	**2101028**
Hole Depth:	**0.60 m**
Date Started:	**25/03/2021**
Date Completed:	**25/03/2021**

Project Name: **St Marys Detailed Site Investigation**
Location / Site: **243-261 Forrester Road, North St Marys NSW**
Client: **Home Co.**
Contractor:
Method: **Solid Flight Auger (Dingo)**

Method	Water Level	Depth (mBGL)	Sample Type	HC Odour	Sample ID	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
SFA		0.10	D	Z	BH5/0.5-0.6	Fill			**ASPHALT.**		Asphalt & roadbase.
		0.5							FILL- dark greyish brown (10YR 4/2), 30% clay, 60% sand, 10% gravel, moderately compacted.	dry	
		1.0							**Terminated at 0.60 m** Target depth.		
		1.5									
		2.0									
		2.5									
		3.0									

Abbreviations

Hydrocarbon Odour
H High
M Medium
L Low
Z Zero

Sample Type
D Disturbed
U Undisturbed
B Bulk
R Representative
C Continuous
J Jar
Asb Asbestos

Strength Testing
SPT Standard Penetration Test
DCP Dynamic Cone Penetrometer
PP Pocket Penetrometer

Water Levels
Encountered Groundwater
Stabilised Groundwater

Additional Comments

Log Drawn By: Laurie White [redacted]

Logged By: **Tiffany Mabbott** Date: **25/03/2021**
Checked By: **Tiffany Mabbott** Date: **06/04/2021**

Sheet: 1 of 1

GLLOG2021 2101028 ST MARYS.GPJ GL.GDT 4/6/21 11:26:04 AM - drawn by laurie white at www.reumad.com.au

BOREHOLE LOG: BH6

Geo-Logix Pty Ltd
Building Q2, Level 3
Unit 2309 / 4 Daydream Street
Warriewood NSW 2102
www.geo-logix.com.au

Project Number:	**2101028**
Hole Depth:	**0.50 m**
Date Started:	**25/03/2021**
Date Completed:	**25/03/2021**

Project Name: **St Marys Detailed Site Investigation**
Location / Site: **243-261 Forrester Road, North St Marys NSW**
Client: **Home Co.**
Contractor:
Method: **Solid Flight Auger (Dingo)**

Method	Water Level	Depth (mBGL)	Sample Type	HC Odour	Sample ID	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
SFA		0.05	D	Z	BH6/0.4-0.5	Fill			**ASPHALT.** **FILL**- moderate brown (5YR 3/4), 20% clay, 70% sand, 10% gravel, moderately compacted.	moist	Asphalt & roadbase.
		0.5							**Terminated at 0.50 m** Target depth.		
		1.0									
		1.5									
		2.0									
		2.5									
		3.0									

Abbreviations

Hydrocarbon Odour
H High
M Medium
L Low
Z Zero

Sample Type
D Disturbed
U Undisturbed
B Bulk
R Representative
C Continuous
J Jar
Asb Asbestos

Strength Testing
SPT Standard Penetration Test
DCP Dynamic Cone Penetrometer
PP Pocket Penetrometer

Water Levels
Encountered Groundwater
Stabilised Groundwater

Additional Comments

Log Drawn By: Laurie White [redacted]

Logged By: **Tiffany Mabbott** Date: **25/03/2021**
Checked By: **Tiffany Mabbott** Date: **06/04/2021**

Sheet: 1 of 1

GLLOG2021 2101028 ST MARYS.GPJ GL.GDT 4/6/21 11:26:05 AM - drawn by laurie white at www.reumad.com.au

BOREHOLE LOG: BH7

Geo-Logix Pty Ltd
Building Q2, Level 3
Unit 2309 / 4 Daydream Street
Warriewood NSW 2102
www.geo-logix.com.au

Project Number:	**2101028**
Hole Depth:	**0.60 m**
Date Started:	**25/03/2021**
Date Completed:	**25/03/2021**

Project Name: **St Marys Detailed Site Investigation**
Location / Site: **243-261 Forrester Road, North St Marys NSW**
Client: **Home Co.**
Contractor:
Method: **Solid Flight Auger (Dingo)**

Method	Water Level	Depth (mBGL)	Sample Type	HC Odour	Sample ID	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
HA		0.20	D	Z	BH7/0.3-0.4	Fill			**ASPHALT.**		Asphalt & roadbase.
		0.5							FILL- moderate brown (5YR 4/4), 45% clay, 45% sand, 10% gravel, low plasticity, moderately compacted.	damp	Reworked clay mixed with sand & gravel.
		1.0							**Terminated at 0.60 m** Target depth.		
		1.5									
		2.0									
		2.5									
		3.0									

Abbreviations

Hydrocarbon Odour
H High
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Sample Type
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Asb Asbestos

Strength Testing
SPT Standard Penetration Test
DCP Dynamic Cone Penetrometer
PP Pocket Penetrometer

Water Levels
Encountered Groundwater
Stabilised Groundwater

Additional Comments

Log Drawn By: Laurie White [redacted]

Logged By: **Tiffany Mabbott** Date: **25/03/2021**
Checked By: **Tiffany Mabbott** Date: **06/04/2021**

Sheet: 1 of 1

GLLOG2021 2101028 ST MARYS.GPJ GL.GDT 4/6/21 11:26:06 AM - drawn by laurie white at www.reumad.com.au

BOREHOLE LOG: BH8

Geo-Logix Pty Ltd
Building Q2, Level 3
Unit 2309 / 4 Daydream Street
Warriewood NSW 2102
www.geo-logix.com.au

Project Number:	**2101028**
Hole Depth:	**1.00 m**
Date Started:	**25/03/2021**
Date Completed:	**25/03/2021**

Project Name: **St Marys Detailed Site Investigation**
Location / Site: **243-261 Forrester Road, North St Marys NSW**
Client: **Home Co.**
Contractor:
Method: **Solid Flight Auger (Dingo)**

Method	Water Level	Depth (mBGL)	Sample Type	HC Odour	Sample ID	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
SFA		0.20							**ASPHALT.**		Asphalt & roadbase.
		0.50	D	Z	BH8/0.3-0.4	Fill			FILL- moderate yellowish brown (10YR 5/4), 85% clay, 5% silt, 10% gravel, high plasticity, poorly compacted.	damp	
HA		0.70	D	Z	BH8/0.5-0.6				FILL- dark yellowish orange (10YR 6/6), 100% sand, poorly compacted.	damp	Potential service, continued with hand auger.
		1.0	D	Z	BH8/0.7-0.8				FILL- dark reddish brown (10R 3/4), 95% clay, 5% silt, high plasticity, poorly compacted.	damp	
		1.5							**Terminated at 1.00 m** Target depth.		
		2.0									
		2.5									
		3.0									

Abbreviations

Hydrocarbon Odour
H High
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Z Zero

Sample Type
D Disturbed
U Undisturbed
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Asb Asbestos

Strength Testing
SPT Standard Penetration Test
DCP Dynamic Cone Penetrometer
PP Pocket Penetrometer

Water Levels
Encountered Groundwater
Stabilised Groundwater

Additional Comments

Log Drawn By: Laurie White [redacted]

Logged By: **Tiffany Mabbott** Date: **25/03/2021**
Checked By: **Tiffany Mabbott** Date: **06/04/2021**

BOREHOLE LOG: BH9

Geo-Logix Pty Ltd
Building Q2, Level 3
Unit 2309 / 4 Daydream Street
Warriewood NSW 2102
www.geo-logix.com.au

Project Number:	**2101028**
Hole Depth:	**0.75 m**
Date Started:	**25/03/2021**
Date Completed:	**25/03/2021**

Project Name: **St Marys Detailed Site Investigation**
Location / Site: **243-261 Forrester Road, North St Marys NSW**
Client: **Home Co.**
Contractor:
Method: **Solid Flight Auger (Dingo)**

Method	Water Level	Depth (mBGL)	Sample Type	HC Odour	Sample ID	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
CC		0.15	D	Z	BH9/0.6-0.7	Fill			**CONCRETE.**		
SFA		0.5							**FILL**- moderate brown (5YR 4/4), 60% clay, 30% sand, 10% gravel, low plasticity, poorly compacted.	damp	Reworked clay.
		1.0							**Terminated at 0.75 m** Target depth.		
		1.5									
		2.0									
		2.5									
		3.0									

Abbreviations

Hydrocarbon Odour
H High
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Sample Type
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Strength Testing
SPT Standard Penetration Test
DCP Dynamic Cone Penetrometer
PP Pocket Penetrometer

Water Levels
Encountered Groundwater
Stabilised Groundwater

Additional Comments

Log Drawn By: Laurie White [redacted]

Logged By: **Tiffany Mabbott** Date: **25/03/2021**
Checked By: **Tiffany Mabbott** Date: **06/04/2021**

Sheet: 1 of 1

GL.GDT 4/6/21 11:26:08 AM - drawn by laurie white at www.reumad.com.au
2101028 ST MARYS.GPJ
GLLOG2021

BOREHOLE LOG: BH10

Geo-Logix Pty Ltd
Building Q2, Level 3
Unit 2309 / 4 Daydream Street
Warriewood NSW 2102
www.geo-logix.com.au

Project Number:	**2101028**
Hole Depth:	**0.70 m**
Date Started:	**25/03/2021**
Date Completed:	**25/03/2021**

Project Name: **St Marys Detailed Site Investigation**
Location / Site: **243-261 Forrester Road, North St Marys NSW**
Client: **Home Co.**
Contractor:
Method: **Solid Flight Auger (Dingo)**

Method	Water Level	Depth (mBGL)	Sample Type	HC Odour	Sample ID	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
CC		0.15							**CONCRETE.**		
SFA		0.5	D	Z	BH10/0.6-0.7	Fill			FILL- moderate brown (5YR 3/4), 90% silt, 5% fine sand, 5% gravel, poorly compacted.	damp	
		1.0							**Terminated at 0.70 m** Target depth.		
		1.5									
		2.0									
		2.5									
		3.0									

Abbreviations

Hydrocarbon Odour
H High
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Sample Type
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J Jar
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Strength Testing
SPT Standard Penetration Test
DCP Dynamic Cone Penetrometer
PP Pocket Penetrometer

Water Levels
Encountered Groundwater
Stabilised Groundwater

Additional Comments

Log Drawn By: Laurie White [redacted]

Logged By: **Tiffany Mabbott** Date: **25/03/2021**
Checked By: **Tiffany Mabbott** Date: **06/04/2021**

Sheet: 1 of 1

GLLOG2021 2101028 ST MARYS.GPJ GL.GDT 4/6/21 11:26:09 AM - drawn by laurie white at www.reumad.com.au

BOREHOLE LOG: BH11

Geo-Logix Pty Ltd
Building Q2, Level 3
Unit 2309 / 4 Daydream Street
Warriewood NSW 2102
www.geo-logix.com.au

Project Number:	**2101028**
Hole Depth:	**0.70 m**
Date Started:	**25/03/2021**
Date Completed:	**25/03/2021**

Project Name: **St Marys Detailed Site Investigation**
Location / Site: **243-261 Forrester Road, North St Marys NSW**
Client: **Home Co.**
Contractor:
Method: **Solid Flight Auger (Dingo)**

Method	Water Level	Depth (mBGL)	Sample Type	HC Odour	Sample ID	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
CC		0.15							**CONCRETE.**		
SFA		0.5	D	Z	BH11/0.5-0.6	Fill			FILL- moderate brown (5YR 4/4), 80% clay, 10% silt, 10% gravel, medium plasticity, moderately compacted.	damp	
		1.0							**Terminated at 0.70 m** Target depth.		
		1.5									
		2.0									
		2.5									
		3.0									

Abbreviations

Hydrocarbon Odour
H High
M Medium
L Low
Z Zero

Sample Type
D Disturbed
U Undisturbed
B Bulk
R Representative
C Continuous
J Jar
Asb Asbestos

Strength Testing
SPT Standard Penetration Test
DCP Dynamic Cone Penetrometer
PP Pocket Penetrometer

Water Levels
Encountered Groundwater
Stabilised Groundwater

Additional Comments

Log Drawn By: Laurie White [redacted]

Logged By: **Tiffany Mabbott** Date: **25/03/2021**
Checked By: **Tiffany Mabbott** Date: **06/04/2021**

Sheet: 1 of 1

BOREHOLE LOG: BH12

Geo-Logix Pty Ltd
Building Q2, Level 3
Unit 2309 / 4 Daydream Street
Warriewood NSW 2102
www.geo-logix.com.au

Project Number:	**2101028**
Hole Depth:	**0.46 m**
Date Started:	**24/03/2021**
Date Completed:	**24/03/2021**

Project Name: **St Marys Detailed Site Investigation**
Location / Site: **243-261 Forrester Road, North St Marys NSW**
Client: **Home Co.**
Contractor:
Method: **Solid Flight Auger (Dingo)**

Method	Water Level	Depth (mBGL)	Sample Type	HC Odour	Sample ID	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
CC		0.15							**CONCRETE.**		
SFA		0.35	D	Z	BH12/0.25-0.35 DS1, TS1	Fill			**FILL**- moderate brown (5YR 3/4), 10% silt, 80% sand, 10% gravel, well compacted.	dry	Roadbase, basalt gravel.
			D	Z	BH12/0.35-0.45				**FILL**- moderate brown (5YR 3/4), 10% clay, 10% silt, 40% sand, 40% gravel, well compacted.	damp	
		0.5							**Terminated at 0.46 m** on gravel.		
		1.0									
		1.5									
		2.0									
		2.5									
		3.0									

Abbreviations

Hydrocarbon Odour
H High
M Medium
L Low
Z Zero

Sample Type
D Disturbed
U Undisturbed
B Bulk
R Representative
C Continuous
J Jar
Asb Asbestos

Strength Testing
SPT Standard Penetration Test
DCP Dynamic Cone Penetrometer
PP Pocket Penetrometer

Water Levels
Encountered Groundwater
Stabilised Groundwater

Additional Comments

Log Drawn By: Laurie White [redacted]

Logged By: **Tiffany Mabbott** Date: **24/03/2021**
Checked By: **Tiffany Mabbott** Date: **06/04/2021**

BOREHOLE LOG: BH13

Geo-Logix Pty Ltd
Building Q2, Level 3
Unit 2309 / 4 Daydream Street
Warriewood NSW 2102
www.geo-logix.com.au

Project Number:	**2101028**
Hole Depth:	**0.55 m**
Date Started:	**25/03/2021**
Date Completed:	**25/03/2021**

Project Name: **St Marys Detailed Site Investigation**
Location / Site: **243-261 Forrester Road, North St Marys NSW**
Client: **Home Co.**
Contractor:
Method: **Solid Flight Auger (Dingo)**

Method	Water Level	Depth (mBGL)	Sample Type	HC Odour	Sample ID	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
SFA		0.15							**ASPHALT.**		Asphalt & roadbase.
		0.5	D	Z	BH13/0.45-0.55	Fill			FILL- dark greyish brown (10YR 4/2), 5% clay, 80% sand, 15% gravel, moderately compacted.	damp	
		1.0							**Terminated at 0.55 m** Target depth.		
		1.5									
		2.0									
		2.5									
		3.0									

Abbreviations

Hydrocarbon Odour
H High
M Medium
L Low
Z Zero

Sample Type
D Disturbed
U Undisturbed
B Bulk
R Representative
C Continuous
J Jar
Asb Asbestos

Strength Testing
SPT Standard Penetration Test
DCP Dynamic Cone Penetrometer
PP Pocket Penetrometer

Water Levels
Encountered Groundwater
Stabilised Groundwater

Additional Comments

Log Drawn By: Laurie White [redacted]

Logged By: **Tiffany Mabbott** Date: **25/03/2021**
Checked By: **Tiffany Mabbott** Date: **06/04/2021**

Sheet: 1 of 1

BOREHOLE LOG: BH14

Geo-Logix Pty Ltd
Building Q2, Level 3
Unit 2309 / 4 Daydream Street
Warriewood NSW 2102
www.geo-logix.com.au

Project Number:	**2101028**
Hole Depth:	**1.60 m**
Date Started:	**25/03/2021**
Date Completed:	**25/03/2021**

Project Name: **St Marys Detailed Site Investigation**
Location / Site: **243-261 Forrester Road, North St Marys NSW**
Client: **Home Co.**
Contractor:
Method: **Solid Flight Auger (Dingo)**

Method	Water Level	Depth (mBGL)	Sample Type	HC Odour	Sample ID	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
SFA		0.15							**ASPHALT.**		Asphalt & roadbase.
		0.40	D	Z	BH14/0.2-0.35	Fill			**FILL**- moderate yellowish brown (10YR 5/4), 90% clay, 10% gravel, medium plasticity, well compacted.	dry	Reworked clay.
		0.5		Z					**FILL**- dark yellowish orange (10YR 6/6), 95% clay, 5% gravel, medium plasticity, well compacted.	dry	
		0.60							**FILL**- dark greyish brown (10YR 4/2), 90% clay, 10% gravel, high plasticity, poorly compacted.	damp	Reworked clay.
		1.0									
		1.50	D	Z	BH14/1.4-1.5						(J, ASB bag)
			D	Z	BH14/1.5-1.6	Nat.	CL		**CLAY**- pale reddish brown (10R 5/4), 100% clay, high plasticity, very stiff.	dry	
									Terminated at 1.60 m Target depth.		
		2.0									
		2.5									
		3.0									

Abbreviations

Hydrocarbon Odour
H High
M Medium
L Low
Z Zero

Sample Type
D Disturbed
U Undisturbed
B Bulk
R Representative
C Continuous
J Jar
Asb Asbestos

Strength Testing
SPT Standard Penetration Test
DCP Dynamic Cone Penetrometer
PP Pocket Penetrometer

Water Levels
Encountered Groundwater
Stabilised Groundwater

Additional Comments

Log Drawn By: Laurie White [redacted]

Logged By: **Tiffany Mabbott** Date: **25/03/2021**
Checked By: **Tiffany Mabbott** Date: **06/04/2021**

BOREHOLE LOG: BH15

Geo-Logix Pty Ltd
Building Q2, Level 3
Unit 2309 / 4 Daydream Street
Warriewood NSW 2102
www.geo-logix.com.au

Project Number:	**2101028**
Hole Depth:	**0.70 m**
Date Started:	**25/03/2021**
Date Completed:	**25/03/2021**

Project Name: **St Marys Detailed Site Investigation**
Location / Site: **243-261 Forrester Road, North St Marys NSW**
Client: **Home Co.**
Contractor:
Method: **Solid Flight Auger (Dingo)**

Method	Water Level	Depth (mBGL)	Sample Type	HC Odour	Sample ID	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
CC		0.15							**CONCRETE.**		
SFA		0.5	D	Z	BH15/0.55-0.65	Fill			FILL- moderate brown (5YR 3/4), 60% clay, 30% sand, 10% gravel, low plasticity, poorly compacted.	damp	Reworked clay.
		1.0							**Terminated at 0.70 m** Target depth.		
		1.5									
		2.0									
		2.5									
		3.0									

Abbreviations

Hydrocarbon Odour
H High
M Medium
L Low
Z Zero

Sample Type
D Disturbed
U Undisturbed
B Bulk
R Representative
C Continuous
J Jar
Asb Asbestos

Strength Testing
SPT Standard Penetration Test
DCP Dynamic Cone Penetrometer
PP Pocket Penetrometer

Water Levels
Encountered Groundwater
Stabilised Groundwater

Additional Comments

Log Drawn By: Laurie White [redacted]

Logged By: **Tiffany Mabbott** Date: **25/03/2021**
Checked By: **Tiffany Mabbott** Date: **06/04/2021**

Sheet: 1 of 1

BOREHOLE LOG: BH16

Geo-Logix Pty Ltd
Building Q2, Level 3
Unit 2309 / 4 Daydream Street
Warriewood NSW 2102
www.geo-logix.com.au

Project Number:	**2101028**
Hole Depth:	**0.65 m**
Date Started:	**25/03/2021**
Date Completed:	**25/03/2021**

Project Name: **St Marys Detailed Site Investigation**
Location / Site: **243-261 Forrester Road, North St Marys NSW**
Client: **Home Co.**
Contractor:
Method: **Solid Flight Auger (Dingo)**

Method	Water Level	Depth (mBGL)	Sample Type	HC Odour	Sample ID	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
CC		0.15	D	Z	BH16/0.55-0.65				**CONCRETE.**		
SFA		0.5				Fill			**FILL**- moderate brown (5YR 4/4), 80% clay, 20% gravel, low plasticity, poorly compacted.	damp	
		1.0							**Terminated at 0.65 m** Target depth.		
		1.5									
		2.0									
		2.5									
		3.0									

Abbreviations

Hydrocarbon Odour
H High
M Medium
L Low
Z Zero

Sample Type
D Disturbed
U Undisturbed
B Bulk
R Representative
C Continuous
J Jar
Asb Asbestos

Strength Testing
SPT Standard Penetration Test
DCP Dynamic Cone Penetrometer
PP Pocket Penetrometer

Water Levels
Encountered Groundwater
Stabilised Groundwater

Additional Comments

Log Drawn By: Laurie White [redacted]

Logged By: **Tiffany Mabbott** Date: **25/03/2021**
Checked By: **Tiffany Mabbott** Date: **06/04/2021**

Sheet: 1 of 1

GLLOG2021 2101028 ST MARYS.GPJ GL.GDT 4/6/21 11:26:16 AM - drawn by laurie white at www.reumad.com.au

BOREHOLE LOG: BH17

Geo-Logix Pty Ltd
Building Q2, Level 3
Unit 2309 / 4 Daydream Street
Warriewood NSW 2102
www.geo-logix.com.au

Project Number:	**2101028**
Hole Depth:	**0.70 m**
Date Started:	**25/03/2021**
Date Completed:	**25/03/2021**

Project Name: **St Marys Detailed Site Investigation**
Location / Site: **243-261 Forrester Road, North St Marys NSW**
Client: **Home Co.**
Contractor:
Method: **Solid Flight Auger (Dingo)**

Method	Water Level	Depth (mBGL)	Sample Type	HC Odour	Sample ID	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
CC		0.15							**CONCRETE.**		
SFA		0.5	D	Z	BH17/0.5-0.65	Fill			**FILL**- moderate brown (5YR 4/4), 30% clay, 60% sand, 10% gravel, poorly compacted.	damp	
		1.0							**Terminated at 0.70 m** Target depth.		
		1.5									
		2.0									
		2.5									
		3.0									

Abbreviations

Hydrocarbon Odour
H High
M Medium
L Low
Z Zero

Sample Type
D Disturbed
U Undisturbed
B Bulk
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C Continuous
J Jar
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Strength Testing
SPT Standard Penetration Test
DCP Dynamic Cone Penetrometer
PP Pocket Penetrometer

Water Levels
Encountered Groundwater
Stabilised Groundwater

Additional Comments

Log Drawn By: Laurie White [redacted]

Logged By: **Tiffany Mabbott** Date: **25/03/2021**
Checked By: **Tiffany Mabbott** Date: **06/04/2021**

Sheet: 1 of 1

GLLOG2021 2101028 ST MARYS.GPJ GL.GDT 4/6/21 11:26:17 AM - drawn by laurie white at www.reumad.com.au

BOREHOLE LOG: BH18

Geo-Logix Pty Ltd
Building Q2, Level 3
Unit 2309 / 4 Daydream Street
Warriewood NSW 2102
www.geo-logix.com.au

Project Number:	**2101028**
Hole Depth:	**0.80 m**
Date Started:	**24/03/2021**
Date Completed:	**24/03/2021**

Project Name: **St Marys Detailed Site Investigation**
Location / Site: **243-261 Forrester Road, North St Marys NSW**
Client: **Home Co.**
Contractor:
Method: **Solid Flight Auger (Dingo)**

Method	Water Level	Depth (mBGL)	Sample Type	HC Odour	Sample ID	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
CC		0.15							**CONCRETE.**		
SFA		0.36	D	Z	BH18/0.2-0.3	Fill			**FILL**- pale brown (5YR 5/2), 10% silt, 80% sand, 10% gravel, well compacted.	dry	Roadbase.
		0.5	D	Z	BH18/0.45-0.55				**FILL**- pale red (10R 6/2), 90% clay, 5% sand, 5% gravel, medium plasticity, moderately compacted.	damp	Crushed concrete / roadbase.
		0.60	D	Z	BH18/0.6-0.75				**FILL**- 20% clay, 60% sand, 20% gravel, moderately compacted.	dry	
		0.80							**Terminated at 0.80 m** refusal on gravel.		
		1.0									
		1.5									
		2.0									
		2.5									
		3.0									

Abbreviations

Hydrocarbon Odour
H High
M Medium
L Low
Z Zero

Sample Type
D Disturbed
U Undisturbed
B Bulk
R Representative
C Continuous
J Jar
Asb Asbestos

Strength Testing
SPT Standard Penetration Test
DCP Dynamic Cone Penetrometer
PP Pocket Penetrometer

Water Levels
Encountered Groundwater
Stabilised Groundwater

Additional Comments

Log Drawn By: Laurie White [redacted]

Logged By: **Tiffany Mabbott** Date: **24/03/2021**
Checked By: **Tiffany Mabbott** Date: **06/04/2021**

BOREHOLE LOG: BH19

Geo-Logix Pty Ltd
Building Q2, Level 3
Unit 2309 / 4 Daydream Street
Warriewood NSW 2102
www.geo-logix.com.au

Project Number:	**2101028**
Hole Depth:	**0.26 m**
Date Started:	**24/03/2021**
Date Completed:	**24/03/2021**

Project Name: **St Marys Detailed Site Investigation**
Location / Site: **243-261 Forrester Road, North St Marys NSW**
Client: **Home Co.**
Contractor: **N/A**
Method: **Hand Auger**

Method	Water Level	Depth (mBGL)	Sample Type	HC Odour	Sample ID	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
CC		0.16							**CONCRETE.**		
HA			D	Z	BH19/0.16-0.26	Fill			**FILL**- moderate brown (5YR 3/4), 5% silt, 80% sand, 15% gravel, well compacted.	damp	Roadbase.
									Terminated at 0.26 m on gravel.		

0.5 1.0 1.5 2.0 2.5 3.0

Abbreviations

Hydrocarbon Odour
H High
M Medium
L Low
Z Zero

Sample Type
D Disturbed
U Undisturbed
B Bulk
R Representative
C Continuous
J Jar
Asb Asbestos

Strength Testing
SPT Standard Penetration Test
DCP Dynamic Cone Penetrometer
PP Pocket Penetrometer

Water Levels
Encountered Groundwater
Stabilised Groundwater

Additional Comments

Log Drawn By: Laurie White [redacted]

Logged By: **Tiffany Mabbott** Date: **24/03/2021**
Checked By: **Tiffany Mabbott** Date: **06/04/2021**

BOREHOLE LOG: BH20

Geo-Logix Pty Ltd
Building Q2, Level 3
Unit 2309 / 4 Daydream Street
Warriewood NSW 2102
www.geo-logix.com.au

Project Number:	**2101028**
Hole Depth:	**1.20 m**
Date Started:	**25/03/2021**
Date Completed:	**25/03/2021**

Project Name: **St Marys Detailed Site Investigation**
Location / Site: **243-261 Forrester Road, North St Marys NSW**
Client: **Home Co.**
Contractor: **N/A**
Method: **Solid Flight Auger**

Method	Water Level	Depth (mBGL)	Sample Type	HC Odour	Sample ID	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
SFA		0.15							**ASPHALT.**		Asphalt & roadbase.
			D	Z	BH20/0.15-0.25	Fill			**FILL**- moderate brown (5YR 3/4), 90% clay, 10% gravel, high plasticity, moderately compacted.	damp	
		0.5									
		1.0									
		1.5							**Terminated at 1.20 m** Target depth.		
		2.0									
		2.5									
		3.0									

Abbreviations

Hydrocarbon Odour
H High
M Medium
L Low
Z Zero

Sample Type
D Disturbed
U Undisturbed
B Bulk
R Representative
C Continuous
J Jar
Asb Asbestos

Strength Testing
SPT Standard Penetration Test
DCP Dynamic Cone Penetrometer
PP Pocket Penetrometer

Water Levels
Encountered Groundwater
Stabilised Groundwater

Additional Comments

Log Drawn By: Laurie White [redacted]

Logged By: **Tiffany Mabbott** Date: **25/03/2021**
Checked By: **Tiffany Mabbott** Date: **06/04/2021**

ATTACHMENT F

Geo-Logix Pty Ltd
Building Q2, Level 3
2309/4 Daydream St
Warriewood, NSW 2102

ABN: 86 116 892 936

P: (02) 9979 1722
F: (02) 9979 1222

CHAIN OF CUSTODY

[redacted]

ANALYSIS REQUIRED

Lab ID	Sample ID	Date	Matrix: soil	water	air	paint, filters	other	Comments	COMPOSITE	TRH - C6 - C10	TRH - C10 - C40	VOCs	BTEXN	PAHs	PCBs	OCPs	OPPs	Phenols	Metals - M8	Metals - Lead	Metals - Specify **	TCLP	Asbestos (ID only)	Asbestos (WA DOH)	Foreign Materials	Conductivity (EC)	pH			Hold	SUITE B9
	BH1/0.3-0.4	25/3/21	X																											X
	BH2/0.0-0.1	24/3/21	X																											X	
	BH2/0.2-0.3	24/3/21	X																												X
	BH3/0.2-0.5	25/3/21																													X
	BH4/0.5-0.6	25/3/21																													X
	BH5/0.5-0.6	25/3/21																													X
	BH6/0.4-0.5	25/3/21																													X
	BH7/0.3-0.4	25/3/21																													X
	BH8/0.3-0.4	25/3/21																													X
	BH8/0.5-0.6	25/3/21																												X	
	BH8/0.7-0.8	25/3/21																												X	
	BH9/0.6-0.7	25/3/21																													X
	BH10/0.6-0.7	25/3/21																													X
	BH11/0.5-0.6	25/3/21																													X
	BH12/0.25-0.35	24/3/21																													X
	BH12/0.35-0.45	24/3/21																												X	
	BH13/0.45-0.55	25/3/21																													X
	BH14/0.2-0.35	25/3/21																												X	

Eurofins MGT Suite Codes

B1	TRH/BTEXN
B1A	TRH/MAH
B2	TRH/BTEXN/Pb
B2A	TRH/MAH/Pb
B3	PAH/Phenols
B4	TRH/BTEXN/PAH
B4A	TRH/BTEXN/PAH/Phenols
B5	TRH/BTEXN/M7
B6	TRH/BTEXN/M8
B7	TRH/BTEXN/PAH/M8
B7A	TRH/BTEXN/PAH/Phenols/M8
B8	TRH/VOC/PAH/M8
B9	TRH/BTEXN/PAH/OCP/M8
B10	TRH/BTEXN/PAH/OCP/OPP/M8
B11	Na/K/Ca/Mg/Cl/SO_4/CO_3/HCO_3/NH_3/NO_3
B11A	B11/Alkalinity
B11B	B11/EC/TDS
B12	TRH/BTEXN/Oxygenates/Ethanol
B12A	TRH/BTEXN/Oxygenates
B13	OCP/PCB
B14	OCP/OPP
B15	OCP/OPP/PCB
B16	TDS/SO_4/CH_3/Alk/BOD/COD/HPC/CUB
B17	SO_4/NO_3/Fe++/HPC/CUB
B18	Cl-/SO_4/pH
B19	N/P/K
B20	CEC/%ESP/Ca/Mg/Na/K

Metals(circle)** As, Cd, Cr, Cu, Ni, Pb, Zn, Hg, Cr^{6+}, Cr^{3+}, Fe^{2+}, Fe^{3+}, Be, B, Al, V, Mn, Fe, Co, Se, Sr, Sn, Mo, Ag, Ba, Tl, Bi, Sb

Chain of Custody

[redacted]

Geo-Logix Pty Ltd
Building Q2, Level 3
2309/4 Daydream St
Warriewood, NSW 2102

ABN: 86 116 892 936

P: (02) 9979 1722
F: (02) 9979 1222

CHAIN OF CUSTODY

[redacted]

ANALYSIS REQUIRED

Lab ID	Sample ID	Date	Matrix: soil	water	air	paint, filters	other	Comments	COMPOSITE	TRH - C6 - C10	TRH - C10 - C40	VOCs	BTEXN	PAHs	PCBs	OCPs	OPPs	Phenols	Metals - M8	Metals - Lead	Metals - Specify **	TCLP	Asbestos (ID only)	Asbestos (WA DOH)	Foreign Materials	Conductivity (EC)	pH			Hold	SUITE B9
	BH14/1.4-1.5	25/3/21	X					Jar & ASB bag.																						X
	BH14/1.5-1.6	25/3/21																												X	
	BH15/0.55-0.65	25/3/21																													X
	BH16/0.55-0.65	25/3/21																													X
	BH17/0.5-0.65	25/3/21																													X
	BH18/0.2-0.3	24/3/21																												X	
	BH18/0.45-0.5	24/3/21																												X	
	BH18/0.6-0.75	24/3/21																													X
	BH19/0.16-0.25	24/3/21																													X
	BH20/0.15-0.25	25/3/21																													X
	RIN1	25/3/21		X																											X
	DS1	24/3/21	X																												X
	TS1	24/3/21	X					Send to melbourne.																							X
	Trip Blank												X																		
	Trip Spike												X																		

Eurofins MGT Suite Codes

B1	TRH/BTEXN
B1A	TRH/MAH
B2	TRH/BTEXN/Pb
B2A	TRH/MAH/Pb
B3	PAH/Phenols
B4	TRH/BTEXN/PAH
B4A	TRH/BTEXN/PAH/Phenols
B5	TRH/BTEXN/M7
B6	TRH/BTEXN/M8
B7	TRH/BTEXN/PAH/M8
B7A	TRH/BTEXN/PAH/Phenols/M8
B8	TRH/VOC/PAH/M8
B9	TRH/BTEXN/PAH/OCP/M8
B10	TRH/BTEXN/PAH/OCP/OPP/M8
B11	Na/K/Ca/Mg/Cl/SO_4/CO_3/HCO_3/NH_3/NO_3
B11A	B11/Alkalinity
B11B	B11/EC/TDS
B12	TRH/BTEXN/Oxygenates/Ethanol
B12A	TRH/BTEXN/Oxygenates
B13	OCP/PCB
B14	OCP/OPP
B15	OCP/OPP/PCB
B16	TDS/SO_4/CH_4/Alk/BOD/COD/HPC/CUB
B17	SO_4/NO_3/Fe++/HPC/CUB
B18	Cl-/SO_4/pH
B19	N/P/K
B20	CEC/%ESP/Ca/Mg/Na/K

Metals(circle)** As, Cd, Cr, Cu, Ni, Pb, Zn, Hg, Cr^{6+}, Cr^{3+}, Fe^{2+}, Fe^{3+}, Be, B, Al, V, Mn, Fe, Co, Se, Sr, Sn, Mo, Ag, Ba, Tl, Bi, Sb

Chain of Custody

[redacted]

eurofins | Environment Testing

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Australia

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NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
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Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

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IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Geo-Logix P/L
Contact name:	Ted Lilly
Project name:	ST MARY DSI
Project ID:	2101028
Turnaround time:	5 Day
Date/Time received	Mar 26, 2021 1:35 PM
Eurofins reference	783305

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : 10.7 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Vials not received for RIN1 - volatile analysis cancelled.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Ursula Long on phone : or by email: UrsulaLong@eurofins.com

Results will be delivered electronically via email to Ted Lilly - tlilly@geo-logix.com.au.

Global Leader - Results you can trust

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Company Name: Geo-Logix P/L
Address: Bld Q2 Level 3, 2309/4 Daydream St
Warriewood
NSW 2102

Project Name: ST MARY DSI
Project ID: 2101028

Order No.: PO4473 TM
Report #: 783305
Phone: 02 9979 1722
Fax: 02 9979 1222

Received: Mar 26, 2021 1:35 PM
Due: Apr 6, 2021
Priority: 5 Day
Contact Name: Ted Lilly

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						HOLD	Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8 filtered	Total Recoverable Hydrocarbons - 2013 NEPM Fractions	BTEX and Naphthalene	Moisture Set	Eurofins Suite B9	BTEX and Naphthalene
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
Mayfield Laboratory															
External Laboratory															
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**										
1	BH1/0.3-0.4	Mar 25, 2021		Soil	S21-Ma50163								X	X	
2	BH2/0.2-0.3	Mar 24, 2021		Soil	S21-Ma50164								X	X	
3	BH3/0.2-0.35	Mar 25, 2021		Soil	S21-Ma50165								X	X	
4	BH4/0.5-0.6	Mar 25, 2021		Soil	S21-Ma50166								X	X	
5	BH5/0.5-0.6	Mar 25, 2021		Soil	S21-Ma50167								X	X	
6	BH6/0.4-0.5	Mar 25, 2021		Soil	S21-Ma50168								X	X	
7	BH7/0.3-0.4	Mar 25, 2021		Soil	S21-Ma50169								X	X	
8	BH8/0.3-0.4	Mar 25, 2021		Soil	S21-Ma50170								X	X	
9	BH9/0.6-0.7	Mar 25, 2021		Soil	S21-Ma50171								X	X	

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Company Name: Geo-Logix P/L
Address: Bld Q2 Level 3, 2309/4 Daydream St
Warriewood
NSW 2102

Project Name: ST MARY DSI
Project ID: 2101028

Order No.: PO4473 TM
Report #: 783305
Phone: 02 9979 1722
Fax: 02 9979 1222

Received: Mar 26, 2021 1:35 PM
Due: Apr 6, 2021
Priority: 5 Day
Contact Name: Ted Lilly

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						HOLD	Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8 filtered	Total Recoverable Hydrocarbons - 2013 NEPM Fractions	BTEX and Naphthalene	Moisture Set	Eurofins Suite B9	BTEX and Naphthalene
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
Mayfield Laboratory															
External Laboratory															
10	BH10/0.6-0.7	Mar 25, 2021		Soil	S21-Ma50172								X	X	
11	BH11/0.5-0.6	Mar 25, 2021		Soil	S21-Ma50173								X	X	
12	BH12/0.25-0.35	Mar 24, 2021		Soil	S21-Ma50174								X	X	
13	BH13/0.45-0.55	Mar 25, 2021		Soil	S21-Ma50175								X	X	
14	BH14/1.4-1.5	Mar 25, 2021		Soil	S21-Ma50176								X	X	
15	BH15/0.55-0.65	Mar 25, 2021		Soil	S21-Ma50177								X	X	
16	BH16/0.55-0.65	Mar 25, 2021		Soil	S21-Ma50178								X	X	
17	BH17/0.5-0.65	Mar 25, 2021		Soil	S21-Ma50179								X	X	

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Project Name: ST MARY DSI
Project ID: 2101028

Order No.: PO4473 TM
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Received: Mar 26, 2021 1:35 PM
Due: Apr 6, 2021
Priority: 5 Day
Contact Name: Ted Lilly

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						HOLD	Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8 filtered	Total Recoverable Hydrocarbons - 2013 NEPM Fractions	BTEX and Naphthalene	Moisture Set	Eurofins Suite B9	BTEX and Naphthalene
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
Mayfield Laboratory															
External Laboratory															
18	BH18/0.6-0.75	Mar 24, 2021		Soil	S21-Ma50180								X	X	
19	BH19/0.16-0.25	Mar 24, 2021		Soil	S21-Ma50181								X	X	
20	BH20/0.15-0.25	Mar 25, 2021		Soil	S21-Ma50182								X	X	
21	RIN1	Mar 25, 2021		Water	S21-Ma50183		X	X	X	X	X				
22	DS1	Mar 24, 2021		Soil	S21-Ma50184								X	X	
23	TRIP BLANK	Mar 24, 2021		Soil	S21-Ma50186							X			
24	TRIP SPIKE	Mar 24, 2021		Soil	S21-Ma50187										X
25	TRIP SPIKE LAB	Mar 24, 2021		Soil	S21-Ma50188										X
26	BH2/0.0-0.1	Mar 24, 2021		Soil	S21-Ma50189	X									

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Project Name: ST MARY DSI
Project ID: 2101028

Order No.: PO4473 TM
Report #: 783305
Phone: 02 9979 1722
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Received: Mar 26, 2021 1:35 PM
Due: Apr 6, 2021
Priority: 5 Day
Contact Name: Ted Lilly

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						HOLD	Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8 filtered	Total Recoverable Hydrocarbons - 2013 NEPM Fractions	BTEX and Naphthalene	Moisture Set	Eurofins Suite B9	BTEX and Naphthalene
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
Mayfield Laboratory															
External Laboratory															
27	BH8/0.5-0.6	Mar 25, 2021		Soil	S21-Ma50190	X									
28	BH8/0.7-0.8	Mar 25, 2021		Soil	S21-Ma50191	X									
29	BH12/0.35-0.45	Mar 24, 2021		Soil	S21-Ma50192	X									
30	BH14/0.2-0.35	Mar 25, 2021		Soil	S21-Ma50193	X									
31	BH14/1.5-1.6	Mar 25, 2021		Soil	S21-Ma50194	X									
32	BH18/0.2-0.3	Mar 24, 2021		Soil	S21-Ma50195	X									
33	BH18/0.45-0.55	Mar 24, 2021		Soil	S21-Ma50196	X									
Test Counts						8	1	1	1	1	1	1	21	21	2

Geo-Logix P/L
Bld Q2 Level 3, 2309/4 Daydream St
Warriewood
NSW 2102

Attention: **Ted Lilly**

Report **783305-S**
Project name ST MARY DSI
Project ID 2101028
Received Date Mar 26, 2021

Client Sample ID			**BH1/0.3-0.4**	**BH2/0.2-0.3**	**BH3/0.2-0.35**	**BH4/0.5-0.6**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S21-Ma50163**	**S21-Ma50164**	**S21-Ma50165**	**S21-Ma50166**
Date Sampled			**Mar 25, 2021**	**Mar 24, 2021**	**Mar 25, 2021**	**Mar 25, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	290	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	78	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	368	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	72	90	79	90
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	400	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	110	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	510	< 100	< 100	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	13	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	13	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	13	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	1.2	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	2.6	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	6.7	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	9.3	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	7.2	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	5.6	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	6.7	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	6.9	< 0.5	< 0.5	< 0.5

Client Sample ID			BH1/0.3-0.4	BH2/0.2-0.3	BH3/0.2-0.35	BH4/0.5-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Ma50163	S21-Ma50164	S21-Ma50165	S21-Ma50166
Date Sampled			Mar 25, 2021	Mar 24, 2021	Mar 25, 2021	Mar 25, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	1.3	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	24	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	2.1	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	5.7	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	2.0	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	19	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	21	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	121.3	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	98	65	75	68
p-Terphenyl-d14 (surr.)	1	%	108	115	131	99
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Toxaphene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	127	122	141	82
Tetrachloro-m-xylene (surr.)	1	%	108	69	76	79
Heavy Metals						
Arsenic	2	mg/kg	12	16	14	11
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	41	37	43	24
Copper	5	mg/kg	33	14	17	31
Lead	5	mg/kg	130	29	80	35
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	18	10	12	22
Zinc	5	mg/kg	130	16	120	78
% Moisture	1	%	14	18	17	12

Client Sample ID			BH5/0.5-0.6	BH6/0.4-0.5	BH7/0.3-0.4	BH8/0.3-0.4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Ma50167	S21-Ma50168	S21-Ma50169	S21-Ma50170
Date Sampled			Mar 25, 2021	Mar 25, 2021	Mar 25, 2021	Mar 25, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	120	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	110	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	230	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	90	89	95	94
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	190	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	190	< 100	< 100	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 2	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	< 2	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	3.3	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	0.7	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 2	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 2	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 2	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 2	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 2	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 2	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	3.8	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 2	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	3.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	3.6	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	11.6	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	135	134	132	132
p-Terphenyl-d14 (surr.)	1	%	INT	INT	INT	INT

Client Sample ID			BH5/0.5-0.6	BH6/0.4-0.5	BH7/0.3-0.4	BH8/0.3-0.4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Ma50167	S21-Ma50168	S21-Ma50169	S21-Ma50170
Date Sampled			Mar 25, 2021	Mar 25, 2021	Mar 25, 2021	Mar 25, 2021
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Toxaphene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	INT	INT	INT	INT
Tetrachloro-m-xylene (surr.)	1	%	INT	141	136	127
Heavy Metals						
Arsenic	2	mg/kg	9.2	7.1	6.0	11
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	30	16	26	32
Copper	5	mg/kg	19	19	19	20
Lead	5	mg/kg	26	23	24	33
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	15	13	19	13
Zinc	5	mg/kg	47	52	72	48
% Moisture	1	%	12	11	12	15

Client Sample ID			BH9/0.6-0.7	BH10/0.6-0.7	BH11/0.5-0.6	BH12/0.25-0.35
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Ma50171	S21-Ma50172	S21-Ma50173	S21-Ma50174
Date Sampled			Mar 25, 2021	Mar 25, 2021	Mar 25, 2021	Mar 24, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 40	< 40	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	110
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	110
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	94	95	86	96
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	120
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	120
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	71	50	89	51
p-Terphenyl-d14 (surr.)	1	%	103	99	115	109

Client Sample ID			BH9/0.6-0.7	BH10/0.6-0.7	BH11/0.5-0.6	BH12/0.25-0.35
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Ma50171	S21-Ma50172	S21-Ma50173	S21-Ma50174
Date Sampled			Mar 25, 2021	Mar 25, 2021	Mar 25, 2021	Mar 24, 2021
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Toxaphene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	INT	INT	INT	INT
Tetrachloro-m-xylene (surr.)	1	%	72	66	69	67
Heavy Metals						
Arsenic	2	mg/kg	9.7	14	11	12
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	16	13	18	14
Copper	5	mg/kg	43	49	24	59
Lead	5	mg/kg	29	36	36	33
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	8.3	30	7.6	28
Zinc	5	mg/kg	43	160	45	120
% Moisture	1	%	12	8.5	18	11

Client Sample ID			BH13/0.45-0.55	BH14/1.4-1.5	BH15/0.55-0.65	BH16/0.55-0.65
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Ma50175	S21-Ma50176	S21-Ma50177	S21-Ma50178
Date Sampled			Mar 25, 2021	Mar 25, 2021	Mar 25, 2021	Mar 25, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	92	89	94	69
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	65	68	62	59
p-Terphenyl-d14 (surr.)	1	%	92	118	102	110

Client Sample ID			BH13/0.45-0.55	BH14/1.4-1.5	BH15/0.55-0.65	BH16/0.55-0.65
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Ma50175	S21-Ma50176	S21-Ma50177	S21-Ma50178
Date Sampled			Mar 25, 2021	Mar 25, 2021	Mar 25, 2021	Mar 25, 2021
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Toxaphene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	143	INT	144	INT
Tetrachloro-m-xylene (surr.)	1	%	77	80	68	72
Heavy Metals						
Arsenic	2	mg/kg	6.8	8.8	8.3	25
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	12	24	35	13
Copper	5	mg/kg	87	28	62	45
Lead	5	mg/kg	36	41	30	38
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	55	13	26	59
Zinc	5	mg/kg	250	47	130	400
% Moisture	1	%	11	14	12	12

Client Sample ID			BH17/0.5-0.65	BH18/0.6-0.75	BH19/0.16-0.25	BH20/0.15-0.25
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Ma50179	S21-Ma50180	S21-Ma50181	S21-Ma50182
Date Sampled			Mar 25, 2021	Mar 24, 2021	Mar 24, 2021	Mar 25, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	92	88	61	77
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	68	66	68	58
p-Terphenyl-d14 (surr.)	1	%	92	83	87	92

Client Sample ID			BH17/0.5-0.65	BH18/0.6-0.75	BH19/0.16-0.25	BH20/0.15-0.25
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Ma50179	S21-Ma50180	S21-Ma50181	S21-Ma50182
Date Sampled			Mar 25, 2021	Mar 24, 2021	Mar 24, 2021	Mar 25, 2021
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Toxaphene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	135	89	109	107
Tetrachloro-m-xylene (surr.)	1	%	71	90	90	87
Heavy Metals						
Arsenic	2	mg/kg	6.7	2.4	4.5	8.7
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	13	< 5	14	19
Copper	5	mg/kg	51	11	37	34
Lead	5	mg/kg	32	7.9	46	24
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	10	< 5	10	12
Zinc	5	mg/kg	54	16	250	52
% Moisture	1	%	13	11	16	15

Client Sample ID			DS1	TRIP BLANK	TRIP SPIKE
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			S21-Ma50184	S21-Ma50186	S21-Ma50187
Date Sampled			Mar 24, 2021	Mar 24, 2021	Mar 24, 2021
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	20	mg/kg	< 20	-	-
TRH C10-C14	20	mg/kg	22	-	-
TRH C15-C28	50	mg/kg	110	-	-
TRH C29-C36	50	mg/kg	< 50	-	-
TRH C10-C36 (Total)	50	mg/kg	132	-	-
BTEX					
Benzene	0.1	mg/kg	< 0.1	< 0.1	-
Toluene	0.1	mg/kg	< 0.1	< 0.1	-
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	-
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	-
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	-
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	-
4-Bromofluorobenzene (surr.)	1	%	INT	92	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	-
TRH C6-C10	20	mg/kg	< 20	-	-
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	-	-
TRH >C10-C16	50	mg/kg	< 50	-	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	-	-
TRH >C16-C34	100	mg/kg	130	-	-
TRH >C34-C40	100	mg/kg	< 100	-	-
TRH >C10-C40 (total)*	100	mg/kg	130	-	-
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	-
Acenaphthene	0.5	mg/kg	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	-
Anthracene	0.5	mg/kg	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-
Chrysene	0.5	mg/kg	< 0.5	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-
Fluoranthene	0.5	mg/kg	< 0.5	-	-
Fluorene	0.5	mg/kg	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	-
Naphthalene	0.5	mg/kg	< 0.5	-	-
Phenanthrene	0.5	mg/kg	< 0.5	-	-
Pyrene	0.5	mg/kg	< 0.5	-	-
Total PAH*	0.5	mg/kg	< 0.5	-	-
2-Fluorobiphenyl (surr.)	1	%	102	-	-
p-Terphenyl-d14 (surr.)	1	%	92	-	-

Client Sample ID			DS1	TRIP BLANK	TRIP SPIKE
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			S21-Ma50184	S21-Ma50186	S21-Ma50187
Date Sampled			Mar 24, 2021	Mar 24, 2021	Mar 24, 2021
Test/Reference	LOR	Unit			
Organochlorine Pesticides					
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-
a-BHC	0.05	mg/kg	< 0.05	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-
b-BHC	0.05	mg/kg	< 0.05	-	-
d-BHC	0.05	mg/kg	< 0.05	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-
Endrin	0.05	mg/kg	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-
Methoxychlor	0.2	mg/kg	< 0.2	-	-
Toxaphene	0.1	mg/kg	< 0.1	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	-	-
Dibutylchlorendate (surr.)	1	%	125	-	-
Tetrachloro-m-xylene (surr.)	1	%	90	-	-
Heavy Metals					
Arsenic	2	mg/kg	6.5	-	-
Cadmium	0.4	mg/kg	< 0.4	-	-
Chromium	5	mg/kg	15	-	-
Copper	5	mg/kg	45	-	-
Lead	5	mg/kg	26	-	-
Mercury	0.1	mg/kg	< 0.1	-	-
Nickel	5	mg/kg	19	-	-
Zinc	5	mg/kg	84	-	-
% Moisture	1	%	14	-	-
Total Recoverable Hydrocarbons					
Naphthalene	1	%	-	-	81
BTEX					
Benzene	1	%	-	-	94
Ethylbenzene	1	%	-	-	94
m&p-Xylenes	1	%	-	-	92
o-Xylene	1	%	-	-	91
Toluene	1	%	-	-	95
Xylenes - Total	1	%	-	-	91
4-Bromofluorobenzene (surr.)	1	%	-	-	94

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Eurofins Suite B9			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Apr 01, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Apr 01, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 01, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 01, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Apr 01, 2021	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Sydney	Apr 01, 2021	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Metals M8	Sydney	Apr 01, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Sydney	Mar 26, 2021	14 Days
- Method: LTM-GEN-7080 Moisture			

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Company Name:	Geo-Logix P/L	**Order No.:**	PO4473 TM	**Received:**	Mar 26, 2021 1:35 PM
Address:	Bld Q2 Level 3, 2309/4 Daydream St Warriewood NSW 2102	**Report #:**	783305	**Due:**	Apr 6, 2021
		Phone:	02 9979 1722	**Priority:**	5 Day
		Fax:	02 9979 1222	**Contact Name:**	Ted Lilly
Project Name:	ST MARY DSI				
Project ID:	2101028				

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						HOLD	Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8 filtered	Total Recoverable Hydrocarbons - 2013 NEPM Fractions	BTEX and Naphthalene	Moisture Set	Eurofins Suite B9	BTEX and Naphthalene
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
Mayfield Laboratory															
External Laboratory															
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**										
1	BH1/0.3-0.4	Mar 25, 2021		Soil	S21-Ma50163								X	X	
2	BH2/0.2-0.3	Mar 24, 2021		Soil	S21-Ma50164								X	X	
3	BH3/0.2-0.35	Mar 25, 2021		Soil	S21-Ma50165								X	X	
4	BH4/0.5-0.6	Mar 25, 2021		Soil	S21-Ma50166								X	X	
5	BH5/0.5-0.6	Mar 25, 2021		Soil	S21-Ma50167								X	X	
6	BH6/0.4-0.5	Mar 25, 2021		Soil	S21-Ma50168								X	X	
7	BH7/0.3-0.4	Mar 25, 2021		Soil	S21-Ma50169								X	X	
8	BH8/0.3-0.4	Mar 25, 2021		Soil	S21-Ma50170								X	X	
9	BH9/0.6-0.7	Mar 25, 2021		Soil	S21-Ma50171								X	X	

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Company Name: Geo-Logix P/L
Address: Bld Q2 Level 3, 2309/4 Daydream St
Warriewood
NSW 2102

Project Name: ST MARY DSI
Project ID: 2101028

Order No.: PO4473 TM
Report #: 783305
Phone: 02 9979 1722
Fax: 02 9979 1222

Received: Mar 26, 2021 1:35 PM
Due: Apr 6, 2021
Priority: 5 Day
Contact Name: Ted Lilly

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						HOLD	Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8 filtered	Total Recoverable Hydrocarbons - 2013 NEPM Fractions	BTEX and Naphthalene	Moisture Set	Eurofins Suite B9	BTEX and Naphthalene
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
Mayfield Laboratory															
External Laboratory															
10	BH10/0.6-0.7	Mar 25, 2021		Soil	S21-Ma50172								X	X	
11	BH11/0.5-0.6	Mar 25, 2021		Soil	S21-Ma50173								X	X	
12	BH12/0.25-0.35	Mar 24, 2021		Soil	S21-Ma50174								X	X	
13	BH13/0.45-0.55	Mar 25, 2021		Soil	S21-Ma50175								X	X	
14	BH14/1.4-1.5	Mar 25, 2021		Soil	S21-Ma50176								X	X	
15	BH15/0.55-0.65	Mar 25, 2021		Soil	S21-Ma50177								X	X	
16	BH16/0.55-0.65	Mar 25, 2021		Soil	S21-Ma50178								X	X	
17	BH17/0.5-0.65	Mar 25, 2021		Soil	S21-Ma50179								X	X	

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Company Name: Geo-Logix P/L
Address: Bld Q2 Level 3, 2309/4 Daydream St
Warriewood
NSW 2102

Project Name: ST MARY DSI
Project ID: 2101028

Order No.: PO4473 TM
Report #: 783305
Phone: 02 9979 1722
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Received: Mar 26, 2021 1:35 PM
Due: Apr 6, 2021
Priority: 5 Day
Contact Name: Ted Lilly

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						HOLD	Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8 filtered	Total Recoverable Hydrocarbons - 2013 NEPM Fractions	BTEX and Naphthalene	Moisture Set	Eurofins Suite B9	BTEX and Naphthalene
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
Mayfield Laboratory															
External Laboratory															
18	BH18/0.6-0.75	Mar 24, 2021		Soil	S21-Ma50180								X	X	
19	BH19/0.16-0.25	Mar 24, 2021		Soil	S21-Ma50181								X	X	
20	BH20/0.15-0.25	Mar 25, 2021		Soil	S21-Ma50182								X	X	
21	RIN1	Mar 25, 2021		Water	S21-Ma50183		X	X	X	X	X				
22	DS1	Mar 24, 2021		Soil	S21-Ma50184								X	X	
23	TRIP BLANK	Mar 24, 2021		Soil	S21-Ma50186							X			
24	TRIP SPIKE	Mar 24, 2021		Soil	S21-Ma50187										X
25	TRIP SPIKE LAB	Mar 24, 2021		Soil	S21-Ma50188										X
26	BH2/0.0-0.1	Mar 24, 2021		Soil	S21-Ma50189	X									

eurofins | Environment Testing

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Project Name: ST MARY DSI
Project ID: 2101028

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Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
Mayfield Laboratory															
External Laboratory															
27	BH8/0.5-0.6	Mar 25, 2021		Soil	S21-Ma50190	X									
28	BH8/0.7-0.8	Mar 25, 2021		Soil	S21-Ma50191	X									
29	BH12/0.35-0.45	Mar 24, 2021		Soil	S21-Ma50192	X									
30	BH14/0.2-0.35	Mar 25, 2021		Soil	S21-Ma50193	X									
31	BH14/1.5-1.6	Mar 25, 2021		Soil	S21-Ma50194	X									
32	BH18/0.2-0.3	Mar 24, 2021		Soil	S21-Ma50195	X									
33	BH18/0.45-0.55	Mar 24, 2021		Soil	S21-Ma50196	X									
Test Counts						8	1	1	1	1	1	1	21	21	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
ug/L: micrograms per litre
ppm: Parts per million
ppb: Parts per billion
%: Percentage
org/100mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.2			0.2	Pass	
Toxaphene	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	88			70-130	Pass	
TRH C10-C14	%	122			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	91			70-130	Pass	
Toluene	%	96			70-130	Pass	
Ethylbenzene	%	96			70-130	Pass	
m&p-Xylenes	%	95			70-130	Pass	
o-Xylene	%	97			70-130	Pass	
Xylenes - Total*	%	96			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	115			70-130	Pass	
TRH C6-C10	%	84			70-130	Pass	
TRH >C10-C16	%	113			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	92			70-130	Pass	
Acenaphthylene	%	105			70-130	Pass	
Anthracene	%	92			70-130	Pass	
Benz(a)anthracene	%	105			70-130	Pass	
Benzo(a)pyrene	%	106			70-130	Pass	
Benzo(b&j)fluoranthene	%	103			70-130	Pass	
Benzo(g.h.i)perylene	%	117			70-130	Pass	
Benzo(k)fluoranthene	%	103			70-130	Pass	
Chrysene	%	103			70-130	Pass	
Dibenz(a.h)anthracene	%	99			70-130	Pass	
Fluoranthene	%	79			70-130	Pass	
Fluorene	%	93			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	103			70-130	Pass	
Naphthalene	%	95			70-130	Pass	
Phenanthrene	%	76			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Pyrene	%	86			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	74			70-130	Pass	
4.4'-DDD	%	99			70-130	Pass	
4.4'-DDE	%	70			70-130	Pass	
4.4'-DDT	%	75			70-130	Pass	
a-BHC	%	81			70-130	Pass	
Aldrin	%	77			70-130	Pass	
b-BHC	%	82			70-130	Pass	
d-BHC	%	75			70-130	Pass	
Dieldrin	%	100			70-130	Pass	
Endosulfan I	%	93			70-130	Pass	
Endosulfan II	%	86			70-130	Pass	
Endosulfan sulphate	%	102			70-130	Pass	
Endrin	%	75			70-130	Pass	
Endrin aldehyde	%	79			70-130	Pass	
Endrin ketone	%	118			70-130	Pass	
g-BHC (Lindane)	%	83			70-130	Pass	
Heptachlor	%	70			70-130	Pass	
Heptachlor epoxide	%	115			70-130	Pass	
Hexachlorobenzene	%	107			70-130	Pass	
Methoxychlor	%	81			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	105			80-120	Pass	
Cadmium	%	104			80-120	Pass	
Chromium	%	107			80-120	Pass	
Copper	%	106			80-120	Pass	
Lead	%	111			80-120	Pass	
Mercury	%	109			80-120	Pass	
Nickel	%	104			80-120	Pass	
Zinc	%	101			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	N21-Ma48415	NCP	%	83			70-130	Pass	
Acenaphthylene	N21-Ma48415	NCP	%	85			70-130	Pass	
Anthracene	N21-Ma48415	NCP	%	92			70-130	Pass	
Benz(a)anthracene	N21-Ma48415	NCP	%	78			70-130	Pass	
Benzo(a)pyrene	N21-Ma48415	NCP	%	86			70-130	Pass	
Benzo(b&j)fluoranthene	N21-Ma48415	NCP	%	93			70-130	Pass	
Benzo(g.h.i)perylene	N21-Ma48415	NCP	%	70			70-130	Pass	
Benzo(k)fluoranthene	N21-Ma48415	NCP	%	84			70-130	Pass	
Chrysene	N21-Ma48415	NCP	%	79			70-130	Pass	
Dibenz(a.h)anthracene	N21-Ma48415	NCP	%	81			70-130	Pass	
Fluoranthene	N21-Ma48415	NCP	%	83			70-130	Pass	
Fluorene	N21-Ma48415	NCP	%	83			70-130	Pass	
Indeno(1.2.3-cd)pyrene	N21-Ma48415	NCP	%	82			70-130	Pass	
Naphthalene	N21-Ma48415	NCP	%	81			70-130	Pass	
Phenanthrene	N21-Ma48415	NCP	%	80			70-130	Pass	
Pyrene	N21-Ma48415	NCP	%	82			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chlordanes - Total	S21-Ma50539	NCP	%	95			70-130	Pass	
4.4'-DDD	S21-Ma50539	NCP	%	89			70-130	Pass	
4.4'-DDE	S21-Ma50539	NCP	%	86			70-130	Pass	
4.4'-DDT	S21-Ma50539	NCP	%	104			70-130	Pass	
a-BHC	S21-Ma50539	NCP	%	94			70-130	Pass	
Aldrin	S21-Ma50539	NCP	%	90			70-130	Pass	
b-BHC	S21-Ma50539	NCP	%	81			70-130	Pass	
d-BHC	S21-Ma50539	NCP	%	84			70-130	Pass	
Dieldrin	S21-Ma50539	NCP	%	90			70-130	Pass	
Endosulfan I	S21-Ma50539	NCP	%	88			70-130	Pass	
Endosulfan II	S21-Ma50539	NCP	%	93			70-130	Pass	
Endosulfan sulphate	S21-Ma50539	NCP	%	87			70-130	Pass	
Endrin	S21-Ma50539	NCP	%	104			70-130	Pass	
Endrin aldehyde	S21-Ma50539	NCP	%	93			70-130	Pass	
Endrin ketone	S21-Ma50539	NCP	%	105			70-130	Pass	
g-BHC (Lindane)	S21-Ma50539	NCP	%	101			70-130	Pass	
Heptachlor	S21-Ma50539	NCP	%	93			70-130	Pass	
Heptachlor epoxide	S21-Ma50539	NCP	%	93			70-130	Pass	
Hexachlorobenzene	S21-Ma50539	NCP	%	92			70-130	Pass	
Methoxychlor	S21-Ma50539	NCP	%	114			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S21-Ma50165	CP	%	77			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S21-Ma50165	CP	%	75			70-130	Pass	
Toluene	S21-Ma50165	CP	%	82			70-130	Pass	
Ethylbenzene	S21-Ma50165	CP	%	83			70-130	Pass	
m&p-Xylenes	S21-Ma50165	CP	%	83			70-130	Pass	
o-Xylene	S21-Ma50165	CP	%	85			70-130	Pass	
Xylenes - Total*	S21-Ma50165	CP	%	83			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S21-Ma50165	CP	%	87			70-130	Pass	
TRH C6-C10	S21-Ma50165	CP	%	77			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	S21-Ma50166	CP	%	127			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	S21-Ma50166	CP	%	117			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S21-Ma50170	CP	%	104			75-125	Pass	
Cadmium	S21-Ma50170	CP	%	125			75-125	Pass	
Chromium	S21-Ma50170	CP	%	113			75-125	Pass	
Copper	S21-Ma50170	CP	%	93			75-125	Pass	
Lead	S21-Ma50170	CP	%	98			75-125	Pass	
Mercury	S21-Ma50170	CP	%	125			75-125	Pass	
Nickel	S21-Ma50170	CP	%	121			75-125	Pass	
Zinc	S21-Ma50170	CP	%	80			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S21-Ma50164	CP	mg/kg	< 20	< 20	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S21-Ma50164	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S21-Ma50164	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S21-Ma50164	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S21-Ma50164	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S21-Ma50164	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S21-Ma50164	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S21-Ma50164	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S21-Ma50164	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	S21-Ma50165	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S21-Ma50165	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S21-Ma50165	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S21-Ma50165	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S21-Ma50165	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S21-Ma50165	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	S21-Ma50166	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S21-Ma50166	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S21-Ma50166	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S21-Ma50166	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S21-Ma50166	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S21-Ma50166	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S21-Ma50166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S21-Ma50166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S21-Ma50166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S21-Ma50166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S21-Ma50166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S21-Ma50166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S21-Ma50166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S21-Ma50166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S21-Ma50166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S21-Ma50166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S21-Ma50166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S21-Ma50166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S21-Ma50166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S21-Ma50166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S21-Ma50166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S21-Ma50166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S21-Ma50166	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S21-Ma50166	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S21-Ma50166	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S21-Ma50166	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
a-BHC	S21-Ma50166	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S21-Ma50166	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	S21-Ma50166	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	S21-Ma50166	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S21-Ma50166	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S21-Ma50166	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S21-Ma50166	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S21-Ma50166	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S21-Ma50166	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S21-Ma50166	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S21-Ma50166	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	S21-Ma50166	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S21-Ma50166	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S21-Ma50166	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S21-Ma50166	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S21-Ma50166	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S21-Ma50166	CP	%	12	13	9.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-Ma50169	CP	mg/kg	6.0	9.3	43	30%	Fail	Q15
Cadmium	S21-Ma50169	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S21-Ma50169	CP	mg/kg	26	23	11	30%	Pass	
Copper	S21-Ma50169	CP	mg/kg	19	27	34	30%	Fail	Q15
Lead	S21-Ma50169	CP	mg/kg	24	29	18	30%	Pass	
Mercury	S21-Ma50169	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S21-Ma50169	CP	mg/kg	19	17	12	30%	Pass	
Zinc	S21-Ma50169	CP	mg/kg	72	69	4.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S21-Ma50174	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S21-Ma50174	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S21-Ma50174	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S21-Ma50174	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S21-Ma50174	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S21-Ma50174	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S21-Ma50174	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S21-Ma50174	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S21-Ma50174	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S21-Ma50176	CP	%	14	17	15	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-Ma50179	CP	mg/kg	6.7	6.5	2.0	30%	Pass	
Cadmium	S21-Ma50179	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S21-Ma50179	CP	mg/kg	13	13	1.0	30%	Pass	
Copper	S21-Ma50179	CP	mg/kg	51	48	6.0	30%	Pass	
Lead	S21-Ma50179	CP	mg/kg	32	38	20	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Mercury	S21-Ma50179	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S21-Ma50179	CP	mg/kg	10	11	7.0	30%	Pass	
Zinc	S21-Ma50179	CP	mg/kg	54	55	3.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Ursula Long	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
John Nguyen	Senior Analyst-Metal (NSW)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

Geo-Logix P/L
Bld Q2 Level 3, 2309/4 Daydream St
Warriewood
NSW 2102

Attention: **Ted Lilly**

Report **783305-W**
Project name ST MARY DSI
Project ID 2101028
Received Date Mar 26, 2021

Client Sample ID			**RIN1**
Sample Matrix			**Water**
Eurofins Sample No.			**S21-Ma50183**
Date Sampled			**Mar 25, 2021**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C10-C14	0.05	mg/L	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1
Polycyclic Aromatic Hydrocarbons			
Acenaphthene	0.001	mg/L	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001
Anthracene	0.001	mg/L	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001
Chrysene	0.001	mg/L	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001
Fluoranthene	0.001	mg/L	< 0.001
Fluorene	0.001	mg/L	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001
Naphthalene	0.001	mg/L	< 0.001
Phenanthrene	0.001	mg/L	< 0.001
Pyrene	0.001	mg/L	< 0.001
Total PAH*	0.001	mg/L	< 0.001
2-Fluorobiphenyl (surr.)	1	%	116
p-Terphenyl-d14 (surr.)	1	%	132
Organochlorine Pesticides			
Chlordanes - Total	0.002	mg/L	< 0.002
4.4'-DDD	0.0001	mg/L	< 0.0001
4.4'-DDE	0.0001	mg/L	< 0.0001
4.4'-DDT	0.0001	mg/L	< 0.0001
a-BHC	0.0001	mg/L	< 0.0001
Aldrin	0.0001	mg/L	< 0.0001
b-BHC	0.0001	mg/L	< 0.0001
d-BHC	0.0001	mg/L	< 0.0001
Dieldrin	0.0001	mg/L	< 0.0001
Endosulfan I	0.0001	mg/L	< 0.0001

Client Sample ID			RIN1
Sample Matrix			Water
Eurofins Sample No.			S21-Ma50183
Date Sampled			Mar 25, 2021
Test/Reference	LOR	Unit	
Organochlorine Pesticides			
Endosulfan II	0.0001	mg/L	< 0.0001
Endosulfan sulphate	0.0001	mg/L	< 0.0001
Endrin	0.0001	mg/L	< 0.0001
Endrin aldehyde	0.0001	mg/L	< 0.0001
Endrin ketone	0.0001	mg/L	< 0.0001
g-BHC (Lindane)	0.0001	mg/L	< 0.0001
Heptachlor	0.0001	mg/L	< 0.0001
Heptachlor epoxide	0.0001	mg/L	< 0.0001
Hexachlorobenzene	0.0001	mg/L	< 0.0001
Methoxychlor	0.0002	mg/L	< 0.0002
Toxaphene	0.001	mg/L	< 0.001
Aldrin and Dieldrin (Total)*	0.0002	mg/L	< 0.0002
DDT + DDE + DDD (Total)*	0.0002	mg/L	< 0.0002
Vic EPA IWRG 621 OCP (Total)*	0.002	mg/L	< 0.002
Vic EPA IWRG 621 Other OCP (Total)*	0.002	mg/L	< 0.002
Dibutylchlorendate (surr.)	1	%	120
Tetrachloro-m-xylene (surr.)	1	%	128
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
TRH >C10-C16	0.05	mg/L	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1
Heavy Metals			
Arsenic (filtered)	0.001	mg/L	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001
Nickel (filtered)	0.001	mg/L	< 0.001
Zinc (filtered)	0.005	mg/L	< 0.005

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Eurofins Suite B9			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Mar 26, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Mar 26, 2021	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Sydney	Mar 26, 2021	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Mar 26, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Metals M8 filtered	Sydney	Mar 29, 2021	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

eurofins | Environment Testing

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IANZ # 1290

Company Name:	Geo-Logix P/L	**Order No.:**	PO4473 TM	**Received:**	Mar 26, 2021 1:35 PM
Address:	Bld Q2 Level 3, 2309/4 Daydream St Warriewood NSW 2102	**Report #:**	783305	**Due:**	Apr 6, 2021
		Phone:	02 9979 1722	**Priority:**	5 Day
		Fax:	02 9979 1222	**Contact Name:**	Ted Lilly
Project Name:	ST MARY DSI				
Project ID:	2101028				

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						HOLD	Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8 filtered	Total Recoverable Hydrocarbons - 2013 NEPM Fractions	BTEX and Naphthalene	Moisture Set	Eurofins Suite B9	BTEX and Naphthalene
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
Mayfield Laboratory															
External Laboratory															
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**										
1	BH1/0.3-0.4	Mar 25, 2021		Soil	S21-Ma50163								X	X	
2	BH2/0.2-0.3	Mar 24, 2021		Soil	S21-Ma50164								X	X	
3	BH3/0.2-0.35	Mar 25, 2021		Soil	S21-Ma50165								X	X	
4	BH4/0.5-0.6	Mar 25, 2021		Soil	S21-Ma50166								X	X	
5	BH5/0.5-0.6	Mar 25, 2021		Soil	S21-Ma50167								X	X	
6	BH6/0.4-0.5	Mar 25, 2021		Soil	S21-Ma50168								X	X	
7	BH7/0.3-0.4	Mar 25, 2021		Soil	S21-Ma50169								X	X	
8	BH8/0.3-0.4	Mar 25, 2021		Soil	S21-Ma50170								X	X	
9	BH9/0.6-0.7	Mar 25, 2021		Soil	S21-Ma50171								X	X	

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Company Name: Geo-Logix P/L
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NSW 2102

Project Name: ST MARY DSI
Project ID: 2101028

Order No.: PO4473 TM
Report #: 783305
Phone: 02 9979 1722
Fax: 02 9979 1222

Received: Mar 26, 2021 1:35 PM
Due: Apr 6, 2021
Priority: 5 Day
Contact Name: Ted Lilly

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						HOLD	Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8 filtered	Total Recoverable Hydrocarbons - 2013 NEPM Fractions	BTEX and Naphthalene	Moisture Set	Eurofins Suite B9	BTEX and Naphthalene
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
Mayfield Laboratory															
External Laboratory															
10	BH10/0.6-0.7	Mar 25, 2021		Soil	S21-Ma50172								X	X	
11	BH11/0.5-0.6	Mar 25, 2021		Soil	S21-Ma50173								X	X	
12	BH12/0.25-0.35	Mar 24, 2021		Soil	S21-Ma50174								X	X	
13	BH13/0.45-0.55	Mar 25, 2021		Soil	S21-Ma50175								X	X	
14	BH14/1.4-1.5	Mar 25, 2021		Soil	S21-Ma50176								X	X	
15	BH15/0.55-0.65	Mar 25, 2021		Soil	S21-Ma50177								X	X	
16	BH16/0.55-0.65	Mar 25, 2021		Soil	S21-Ma50178								X	X	
17	BH17/0.5-0.65	Mar 25, 2021		Soil	S21-Ma50179								X	X	

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IANZ # 1290

Company Name: Geo-Logix P/L
Address: Bld Q2 Level 3, 2309/4 Daydream St
Warriewood
NSW 2102

Project Name: ST MARY DSI
Project ID: 2101028

Order No.: PO4473 TM
Report #: 783305
Phone: 02 9979 1722
Fax: 02 9979 1222

Received: Mar 26, 2021 1:35 PM
Due: Apr 6, 2021
Priority: 5 Day
Contact Name: Ted Lilly

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						HOLD	Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8 filtered	Total Recoverable Hydrocarbons - 2013 NEPM Fractions	BTEX and Naphthalene	Moisture Set	Eurofins Suite B9	BTEX and Naphthalene
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
Mayfield Laboratory															
External Laboratory															
18	BH18/0.6-0.75	Mar 24, 2021		Soil	S21-Ma50180								X	X	
19	BH19/0.16-0.25	Mar 24, 2021		Soil	S21-Ma50181								X	X	
20	BH20/0.15-0.25	Mar 25, 2021		Soil	S21-Ma50182								X	X	
21	RIN1	Mar 25, 2021		Water	S21-Ma50183		X	X	X	X	X				
22	DS1	Mar 24, 2021		Soil	S21-Ma50184								X	X	
23	TRIP BLANK	Mar 24, 2021		Soil	S21-Ma50186							X			
24	TRIP SPIKE	Mar 24, 2021		Soil	S21-Ma50187										X
25	TRIP SPIKE LAB	Mar 24, 2021		Soil	S21-Ma50188										X
26	BH2/0.0-0.1	Mar 24, 2021		Soil	S21-Ma50189	X									

eurofins | Environment Testing

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Company Name: Geo-Logix P/L
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Project Name: ST MARY DSI
Project ID: 2101028

Order No.: PO4473 TM
Report #: 783305
Phone: 02 9979 1722
Fax: 02 9979 1222

Received: Mar 26, 2021 1:35 PM
Due: Apr 6, 2021
Priority: 5 Day
Contact Name: Ted Lilly

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						HOLD	Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8 filtered	Total Recoverable Hydrocarbons - 2013 NEPM Fractions	BTEX and Naphthalene	Moisture Set	Eurofins Suite B9	BTEX and Naphthalene
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
Mayfield Laboratory															
External Laboratory															
27	BH8/0.5-0.6	Mar 25, 2021		Soil	S21-Ma50190	X									
28	BH8/0.7-0.8	Mar 25, 2021		Soil	S21-Ma50191	X									
29	BH12/0.35-0.45	Mar 24, 2021		Soil	S21-Ma50192	X									
30	BH14/0.2-0.35	Mar 25, 2021		Soil	S21-Ma50193	X									
31	BH14/1.5-1.6	Mar 25, 2021		Soil	S21-Ma50194	X									
32	BH18/0.2-0.3	Mar 24, 2021		Soil	S21-Ma50195	X									
33	BH18/0.45-0.55	Mar 24, 2021		Soil	S21-Ma50196	X									
Test Counts						8	1	1	1	1	1	1	21	21	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
ug/L: micrograms per litre
ppm: Parts per million
ppb: Parts per billion
%: Percentage
org/100mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/L	< 0.002			0.002	Pass	
4.4'-DDD	mg/L	< 0.0001			0.0001	Pass	
4.4'-DDE	mg/L	< 0.0001			0.0001	Pass	
4.4'-DDT	mg/L	< 0.0001			0.0001	Pass	
a-BHC	mg/L	< 0.0001			0.0001	Pass	
Aldrin	mg/L	< 0.0001			0.0001	Pass	
b-BHC	mg/L	< 0.0001			0.0001	Pass	
d-BHC	mg/L	< 0.0001			0.0001	Pass	
Dieldrin	mg/L	< 0.0001			0.0001	Pass	
Endosulfan I	mg/L	< 0.0001			0.0001	Pass	
Endosulfan II	mg/L	< 0.0001			0.0001	Pass	
Endosulfan sulphate	mg/L	< 0.0001			0.0001	Pass	
Endrin	mg/L	< 0.0001			0.0001	Pass	
Endrin aldehyde	mg/L	< 0.0001			0.0001	Pass	
Endrin ketone	mg/L	< 0.0001			0.0001	Pass	
g-BHC (Lindane)	mg/L	< 0.0001			0.0001	Pass	
Heptachlor	mg/L	< 0.0001			0.0001	Pass	
Heptachlor epoxide	mg/L	< 0.0001			0.0001	Pass	
Hexachlorobenzene	mg/L	< 0.0001			0.0001	Pass	
Methoxychlor	mg/L	< 0.0002			0.0002	Pass	
Toxaphene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heavy Metals							
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C10-C14	%	98			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	77			70-130	Pass	
Acenaphthylene	%	80			70-130	Pass	
Anthracene	%	75			70-130	Pass	
Benz(a)anthracene	%	76			70-130	Pass	
Benzo(b&j)fluoranthene	%	90			70-130	Pass	
Benzo(g.h.i)perylene	%	77			70-130	Pass	
Benzo(k)fluoranthene	%	75			70-130	Pass	
Chrysene	%	74			70-130	Pass	
Dibenz(a.h)anthracene	%	99			70-130	Pass	
Fluoranthene	%	77			70-130	Pass	
Fluorene	%	73			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	98			70-130	Pass	
Naphthalene	%	84			70-130	Pass	
Phenanthrene	%	85			70-130	Pass	
Pyrene	%	74			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	101			70-130	Pass	
4.4'-DDD	%	89			70-130	Pass	
4.4'-DDE	%	94			70-130	Pass	
4.4'-DDT	%	119			70-130	Pass	
a-BHC	%	84			70-130	Pass	
Aldrin	%	86			70-130	Pass	
b-BHC	%	83			70-130	Pass	
d-BHC	%	87			70-130	Pass	
Dieldrin	%	94			70-130	Pass	
Endosulfan I	%	81			70-130	Pass	
Endosulfan II	%	85			70-130	Pass	
Endosulfan sulphate	%	99			70-130	Pass	
Endrin	%	115			70-130	Pass	
Endrin ketone	%	88			70-130	Pass	
g-BHC (Lindane)	%	81			70-130	Pass	
Heptachlor epoxide	%	89			70-130	Pass	
Hexachlorobenzene	%	85			70-130	Pass	
Methoxychlor	%	90			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	%	98			70-130	Pass	
LCS - % Recovery							
Heavy Metals							

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Arsenic (filtered)			%	98			80-120	Pass	
Cadmium (filtered)			%	101			80-120	Pass	
Chromium (filtered)			%	100			80-120	Pass	
Copper (filtered)			%	98			80-120	Pass	
Lead (filtered)			%	105			80-120	Pass	
Mercury (filtered)			%	103			80-120	Pass	
Nickel (filtered)			%	101			80-120	Pass	
Zinc (filtered)			%	102			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	S21-Ma50707	NCP	%	126			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	S21-Ma50707	NCP	%	125			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	S21-Ap03110	NCP	%	105			75-125	Pass	
Cadmium (filtered)	S21-Ap03110	NCP	%	89			75-125	Pass	
Chromium (filtered)	S21-Ap03110	NCP	%	82			75-125	Pass	
Lead (filtered)	S21-Ap03110	NCP	%	78			75-125	Pass	
Mercury (filtered)	S21-Ap03110	NCP	%	85			75-125	Pass	
Nickel (filtered)	S21-Ap03110	NCP	%	75			75-125	Pass	
Zinc (filtered)	S21-Ap03110	NCP	%	76			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	S21-Ma50717	NCP	mg/L	2.4	3.4	32	30%	Fail	Q02
TRH C15-C28	S21-Ma50717	NCP	mg/L	< 0.1	0.1	95	30%	Fail	Q15
TRH C29-C36	S21-Ma50717	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S21-Ma50717	NCP	mg/L	1.1	1.5	30	30%	Pass	
TRH >C16-C34	S21-Ma50717	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	S21-Ma50717	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	S21-Ma50183	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium (filtered)	S21-Ma50183	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	S21-Ma50183	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	S21-Ma50183	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead (filtered)	S21-Ma50183	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury (filtered)	S21-Ma50183	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	S21-Ma50183	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc (filtered)	S21-Ma50183	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q02	The duplicate %RPD is outside the recommended acceptance criteria. Further analysis indicates sample heterogeneity as the cause
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Ursula Long	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
John Nguyen	Senior Analyst-Metal (NSW)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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[redacted]

ANALYSIS REQUIRED

Lab ID	Sample ID	Date	Matrix: soil	water	air	paint, filters	other	Comments	COMPOSITE	TRH - C6 - C10	TRH - C10 - C40	VOCs	BTEXN	PAHs	PCBs	OCPs	OPPs	Phenols	Metals - M8	Metals - Lead	Metals - Specify **	TCLP	Asbestos (ID only)	Asbestos (WA DOH)	Foreign Materials	Conductivity (EC)	pH			Hold	SUITE B9
	TS1		X					SEND TO MELBOURNE LAB																							X

Eurofins MGT Suite Codes

B1	TRH/BTEXN
B1A	TRH/MAH
B2	TRH/BTEXN/Pb
B2A	TRH/MAH/Pb
B3	PAH/Phenols
B4	TRH/BTEXN/PAH
B4A	TRH/BTEXN/PAH/Phenols
B5	TRH/BTEXN/M7
B6	TRH/BTEXN/M8
B7	TRH/BTEXN/PAH/M8
B7A	TRH/BTEXN/PAH/Phenols/M8
B8	TRH/VOC/PAH/M8
B9	TRH/BTEXN/PAH/OCP/M8
B10	TRH/BTEXN/PAH/OCP/OPP/M8
B11	Na/K/Ca/Mg/Cl/SO_4/CO_3/HCO_3/NH_3/NO_3
B11A	B11/Alkalinity
B11B	B11/EC/TDS
B12	TRH/BTEXN/Oxygenates/Ethanol
B12A	TRH/BTEXN/Oxygenates
B13	OCP/PCB
B14	OCP/OPP
B15	OCP/OPP/PCB
B16	TDS/SO_4/CH_4/Alk/BOD/COD/HPC/CUB
B17	SO_4/NO_3/Fe++/HPC/CUB
B18	Cl-/SO_4/pH
B19	N/P/K
B20	CEC/%ESP/Ca/Ma/Na/K

Metals(circle)** As, Cd, Cr, Cu, Ni, Pb, Zn, Hg, Cr^{6+}, Cr^{3+}, Fe^{2+}, Fe^{3+}, Be, B, Al, V, Mn, Fe, Co, Se, Sr, Sn, Mo, Ag, Ba, Tl, Bi, Sb

Chain of Custody

Relinquished by: _Tiffany Mabbott_____ Date/Time: __26/3/21___ Signature: ____TM_____

[redacted]

Version: V1
Issued: June 2015
Review: January 2022

eurofins | Environment Testing

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Sample Receipt Advice

Company name:	Geo-Logix P/L
Contact name:	Ted Lilly
Project name:	ST MARYS DSI
Project ID:	2101028
Turnaround time:	5 Day
Date/Time received	Mar 26, 2021 1:35 PM
Eurofins reference	783523

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : 10.7 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Ursula Long on phone : or by email: UrsulaLong@eurofins.com

Results will be delivered electronically via email to Ted Lilly - tlilly@geo-logix.com.au.

Global Leader - Results you can trust

eurofins | Environment Testing

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Site # 1254 & 14271

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NATA # 1261 Site # 20794

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2/91 Leach Highway
Kewdale WA 6105
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NATA # 1261
Site # 23736

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IANZ # 1327

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43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: Geo-Logix P/L
Address: Bld Q2 Level 3, 2309/4 Daydream St
Warriewood
NSW 2102

Project Name: ST MARYS DSI
Project ID: 2101028

Order No.: PO4473
Report #: 783523
Phone: 02 9979 1722
Fax: 02 9979 1222

Received: Mar 26, 2021 1:35 PM
Due: Apr 6, 2021
Priority: 5 Day
Contact Name: Ted Lilly

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Moisture Set	Eurofins Suite B9
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X
Sydney Laboratory - NATA Site # 18217							
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	TS1	Mar 24, 2021		Soil	S21-Ma50185	X	X
Test Counts						1	1

Geo-Logix P/L
Bld Q2 Level 3, 2309/4 Daydream St
Warriewood
NSW 2102

Attention: **Ted Lilly**

Report **783523-S**
Project name ST MARYS DSI
Project ID 2101028
Received Date Mar 26, 2021

Client Sample ID			**TS1**
Sample Matrix			**Soil**
Eurofins Sample No.			**S21-Ma50185**
Date Sampled			**Mar 24, 2021**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	20	mg/kg	< 20
TRH C10-C14	20	mg/kg	29
TRH C15-C28	50	mg/kg	290
TRH C29-C36	50	mg/kg	84
TRH C10-C36 (Total)	50	mg/kg	403
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	69
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	0.5	mg/kg	< 0.5
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20
TRH >C10-C16	50	mg/kg	58
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	58
TRH >C16-C34	100	mg/kg	320
TRH >C34-C40	100	mg/kg	< 100
TRH >C10-C40 (total)*	100	mg/kg	378
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2
Acenaphthene	0.5	mg/kg	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5
Anthracene	0.5	mg/kg	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5
Chrysene	0.5	mg/kg	< 0.5

Client Sample ID			TS1
Sample Matrix			Soil
Eurofins Sample No.			S21-Ma50185
Date Sampled			Mar 24, 2021
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5
Fluoranthene	0.5	mg/kg	0.7
Fluorene	0.5	mg/kg	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5
Naphthalene	0.5	mg/kg	< 0.5
Phenanthrene	0.5	mg/kg	0.7
Pyrene	0.5	mg/kg	0.7
Total PAH*	0.5	mg/kg	2.1
2-Fluorobiphenyl (surr.)	1	%	68
p-Terphenyl-d14 (surr.)	1	%	72
Organochlorine Pesticides			
Chlordanes - Total	0.1	mg/kg	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05
a-BHC	0.05	mg/kg	< 0.05
Aldrin	0.05	mg/kg	< 0.05
b-BHC	0.05	mg/kg	< 0.05
d-BHC	0.05	mg/kg	< 0.05
Dieldrin	0.05	mg/kg	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05
Endrin	0.05	mg/kg	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05
Heptachlor	0.05	mg/kg	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05
Toxaphene	0.1	mg/kg	< 0.1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1
Dibutylchlorendate (surr.)	1	%	88
Tetrachloro-m-xylene (surr.)	1	%	69
Heavy Metals			
Arsenic	2	mg/kg	4.5
Cadmium	0.4	mg/kg	< 0.4
Chromium	5	mg/kg	16
Copper	5	mg/kg	38
Lead	5	mg/kg	43
Mercury	0.1	mg/kg	< 0.1
Nickel	5	mg/kg	17
Zinc	5	mg/kg	110
% Moisture	1	%	12

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Eurofins Suite B9			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Apr 01, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Apr 01, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Apr 01, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Apr 01, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Apr 01, 2021	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Melbourne	Apr 01, 2021	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)			
Metals M8	Melbourne	Apr 01, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Melbourne	Mar 26, 2021	14 Days
- Method: LTM-GEN-7080 Moisture			

eurofins | Environment Testing

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IANZ # 1290

Company Name: Geo-Logix P/L
Address: Bld Q2 Level 3, 2309/4 Daydream St
Warriewood
NSW 2102

Project Name: ST MARYS DSI
Project ID: 2101028

Order No.: PO4473
Report #: 783523
Phone: 02 9979 1722
Fax: 02 9979 1222

Received: Mar 26, 2021 1:35 PM
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Contact Name: Ted Lilly

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Moisture Set	Eurofins Suite B9
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X
Sydney Laboratory - NATA Site # 18217							
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Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	TS1	Mar 24, 2021		Soil	S21-Ma50185	X	X
Test Counts						1	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
ug/L: micrograms per litre
ppm: Parts per million
ppb: Parts per billion
%: Percentage
org/100mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	78			70-130	Pass	
TRH C10-C14	%	107			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	88			70-130	Pass	
Toluene	%	75			70-130	Pass	
Ethylbenzene	%	86			70-130	Pass	
m&p-Xylenes	%	75			70-130	Pass	
Xylenes - Total*	%	79			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	92			70-130	Pass	
TRH C6-C10	%	86			70-130	Pass	
TRH >C10-C16	%	98			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	91			70-130	Pass	
Acenaphthylene	%	94			70-130	Pass	
Anthracene	%	76			70-130	Pass	
Benz(a)anthracene	%	91			70-130	Pass	
Benzo(a)pyrene	%	78			70-130	Pass	
Benzo(b&j)fluoranthene	%	79			70-130	Pass	
Benzo(g.h.i)perylene	%	74			70-130	Pass	
Benzo(k)fluoranthene	%	82			70-130	Pass	
Chrysene	%	79			70-130	Pass	
Dibenz(a.h)anthracene	%	75			70-130	Pass	
Fluoranthene	%	86			70-130	Pass	
Fluorene	%	92			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	96			70-130	Pass	
Naphthalene	%	93			70-130	Pass	
Phenanthrene	%	85			70-130	Pass	
Pyrene	%	88			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	103			70-130	Pass	
4.4'-DDD	%	90			70-130	Pass	
4.4'-DDE	%	90			70-130	Pass	
4.4'-DDT	%	102			70-130	Pass	
a-BHC	%	85			70-130	Pass	
Aldrin	%	84			70-130	Pass	
b-BHC	%	102			70-130	Pass	
d-BHC	%	93			70-130	Pass	
Dieldrin	%	98			70-130	Pass	
Endosulfan I	%	108			70-130	Pass	
Endosulfan II	%	95			70-130	Pass	
Endosulfan sulphate	%	110			70-130	Pass	
Endrin	%	92			70-130	Pass	
Endrin aldehyde	%	85			70-130	Pass	
Endrin ketone	%	89			70-130	Pass	
g-BHC (Lindane)	%	88			70-130	Pass	
Heptachlor	%	82			70-130	Pass	
Heptachlor epoxide	%	98			70-130	Pass	
Hexachlorobenzene	%	85			70-130	Pass	
Methoxychlor	%	82			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	110			80-120	Pass	
Cadmium	%	98			80-120	Pass	
Chromium	%	116			80-120	Pass	
Copper	%	112			80-120	Pass	
Lead	%	113			80-120	Pass	
Mercury	%	106			80-120	Pass	
Nickel	%	108			80-120	Pass	
Zinc	%	109			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M21-Ma51109	NCP	%	85			70-130	Pass	
TRH C10-C14	P21-Ma52111	NCP	%	112			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M21-Ma51109	NCP	%	78			70-130	Pass	
Toluene	M21-Ma51109	NCP	%	96			70-130	Pass	
Ethylbenzene	M21-Ma51109	NCP	%	80			70-130	Pass	
m&p-Xylenes	M21-Ma51109	NCP	%	84			70-130	Pass	
o-Xylene	M21-Ma51109	NCP	%	79			70-130	Pass	
Xylenes - Total*	M21-Ma51109	NCP	%	82			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M21-Ma51109	NCP	%	89			70-130	Pass	
TRH C6-C10	M21-Ma51109	NCP	%	74			70-130	Pass	
TRH >C10-C16	P21-Ma52111	NCP	%	110			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M21-Ma51105	NCP	%	82			70-130	Pass	
Acenaphthylene	M21-Ma51105	NCP	%	89			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Anthracene	M21-Ma51105	NCP	%	94			70-130	Pass	
Benz(a)anthracene	M21-Ma51105	NCP	%	85			70-130	Pass	
Benzo(a)pyrene	M21-Ma51105	NCP	%	77			70-130	Pass	
Benzo(b&j)fluoranthene	M21-Ma51105	NCP	%	76			70-130	Pass	
Benzo(g.h.i)perylene	M21-Ma51105	NCP	%	88			70-130	Pass	
Benzo(k)fluoranthene	M21-Ma51105	NCP	%	83			70-130	Pass	
Chrysene	M21-Ma51105	NCP	%	90			70-130	Pass	
Dibenz(a.h)anthracene	M21-Ma51105	NCP	%	99			70-130	Pass	
Fluoranthene	M21-Ma51105	NCP	%	105			70-130	Pass	
Fluorene	M21-Ma51105	NCP	%	95			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M21-Ma51105	NCP	%	84			70-130	Pass	
Naphthalene	M21-Ma51105	NCP	%	84			70-130	Pass	
Phenanthrene	M21-Ma51105	NCP	%	104			70-130	Pass	
Pyrene	M21-Ma51105	NCP	%	105			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M21-Ma54003	NCP	%	86			75-125	Pass	
Cadmium	M21-Ma54003	NCP	%	106			75-125	Pass	
Chromium	M21-Ma54003	NCP	%	102			75-125	Pass	
Copper	M21-Ma54003	NCP	%	87			75-125	Pass	
Lead	M21-Ma54003	NCP	%	88			75-125	Pass	
Mercury	M21-Ma54003	NCP	%	101			75-125	Pass	
Nickel	M21-Ma54003	NCP	%	88			75-125	Pass	
Zinc	M21-Ma54003	NCP	%	95			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M21-Ma51137	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	P21-Ma52110	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	P21-Ma52110	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	P21-Ma52110	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-Ma51137	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M21-Ma51137	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M21-Ma51137	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M21-Ma51137	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M21-Ma51137	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M21-Ma51137	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M21-Ma51137	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	M21-Ma51137	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	P21-Ma52110	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	P21-Ma52110	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	P21-Ma52110	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M21-Ma52997	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M21-Ma52997	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M21-Ma52997	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M21-Ma52997	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M21-Ma52997	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M21-Ma52997	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Benzo(g.h.i)perylene	M21-Ma52997	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M21-Ma52997	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M21-Ma52997	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M21-Ma52997	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M21-Ma52997	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M21-Ma52997	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M21-Ma52997	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M21-Ma52997	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M21-Ma52997	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M21-Ma52997	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M21-Ma54012	NCP	mg/kg	15	8.5	57	30%	Fail	Q15
Cadmium	M21-Ma54012	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M21-Ma54012	NCP	mg/kg	< 5	6.0	27	30%	Pass	
Copper	M21-Ma54012	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Lead	M21-Ma54012	NCP	mg/kg	6.3	5.9	6.0	30%	Pass	
Mercury	M21-Ma54012	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	M21-Ma54012	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	M21-Ma54012	NCP	mg/kg	6.1	8.1	28	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	P21-Ma40213	NCP	%	14	14	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Ursula Long	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

eurofins | Environment Testing

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Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Geo-Logix P/L
Contact name:	Ted Lilly
Project name:	ADDITIONAL - ST MARY DSI
Project ID:	2101028
Turnaround time:	2 Day
Date/Time received	Apr 8, 2021 11:54 AM
Eurofins reference	785590

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : 10.7 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Ursula Long on phone : or by email: UrsulaLong@eurofins.com

Results will be delivered electronically via email to Ted Lilly - tlilly@geo-logix.com.au.

Global Leader - Results you can trust

eurofins | Environment Testing

ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

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Phone : 0800 856 450
IANZ # 1290

Company Name: Geo-Logix P/L
Address: Bld Q2 Level 3, 2309/4 Daydream St
Warriewood
NSW 2102

Project Name: ADDITIONAL - ST MARY DSI
Project ID: 2101028

Order No.:
Report #: 785590
Phone: 02 9979 1722
Fax: 02 9979 1222

Received: Apr 8, 2021 11:54 AM
Due: Apr 12, 2021
Priority: 2 Day
Contact Name: Ted Lilly

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						pH (1:5 Aqueous extract at 25°C as rec.)	Moisture Set	Cation Exchange Capacity
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X
Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	BH1/0.3-0.4	Mar 25, 2021		Soil	S21-Ap09477	X	X	X
Test Counts						1	1	1

Geo-Logix P/L
Bld Q2 Level 3, 2309/4 Daydream St
Warriewood
NSW 2102

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Ted Lilly**

Report **785590-S**
Project name ADDITIONAL - ST MARY DSI
Project ID 2101028
Received Date Apr 08, 2021

Client Sample ID			**BH1/0.3-0.4**
Sample Matrix			**Soil**
Eurofins Sample No.			**S21-Ap09477**
Date Sampled			**Mar 25, 2021**
Test/Reference	LOR	Unit	
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	26
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	7.3
% Moisture	1	%	15
Cation Exchange Capacity			
Cation Exchange Capacity	0.05	meq/100g	22

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Conductivity (1:5 aqueous extract at 25°C as rec.)	Sydney	Apr 08, 2021	7 Days
- Method: LTM-INO-4030 Conductivity			
Cation Exchange Capacity	Melbourne	Apr 12, 2021	180 Days
- Method: LTM-MET-3060 Cation Exchange Capacity by bases & Exchangeable Sodium Percentage			
pH (1:5 Aqueous extract at 25°C as rec.)	Sydney	Apr 08, 2021	7 Days
- Method: LTM-GEN-7090 pH in soil by ISE			
% Moisture	Sydney	Apr 08, 2021	14 Days
- Method: LTM-GEN-7080 Moisture			

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Company Name: Geo-Logix P/L
Address: Bld Q2 Level 3, 2309/4 Daydream St
Warriewood
NSW 2102

Project Name: ADDITIONAL - ST MARY DSI
Project ID: 2101028

Order No.:
Report #: 785590
Phone: 02 9979 1722
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Received: Apr 8, 2021 11:54 AM
Due: Apr 12, 2021
Priority: 2 Day
Contact Name: Ted Lilly

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						pH (1:5 Aqueous extract at 25°C as rec.)	Moisture Set	Cation Exchange Capacity
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X
Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	BH1/0.3-0.4	Mar 25, 2021		Soil	S21-Ap09477	X	X	X
Test Counts						1	1	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
ug/L: micrograms per litre
ppm: Parts per million
ppb: Parts per billion
%: Percentage
org/100mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Conductivity (1:5 aqueous extract at 25°C as rec.)	uS/cm	< 10			10	Pass	
Method Blank							
Cation Exchange Capacity							
Cation Exchange Capacity	meq/100g	< 0.05			0.05	Pass	
LCS - % Recovery							
Conductivity (1:5 aqueous extract at 25°C as rec.)	%	99			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
				Result 1	Result 2	RPD			
Conductivity (1:5 aqueous extract at 25°C as rec.)	S21-Ap03982	NCP	uS/cm	180	170	8.0	30%	Pass	
pH (1:5 Aqueous extract at 25°C as rec.)	S21-Ap09477	CP	pH Units	7.3	7.2	Pass	30%	Pass	
% Moisture	S21-Ap09496	NCP	%	11	15	29	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Authorised by:

Asim Khan	Analytical Services Manager
Charl Du Preez	Senior Analyst-Inorganic (NSW)
Emily Rosenberg	Senior Analyst-Metal (VIC)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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