

Data Gap Investigation

Shoalhaven Hospital Redevelopment

8202118201



Prepared for
NSW Health Infrastructure

17 June 2022



now



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Executive Summary

Cardno now Stantec (Cardno) was engaged by Johnstaff on behalf of NSW Health Infrastructure to undertake a Data Gap Investigation (DGI) of land consisting of Nowra Recreation Park, Shoalhaven District Memorial Hospital and the current Shoalhaven Community Pre-school herein referred to as 'the site'. The site is located along Shoalhaven Street, Nowra NSW and identified as Lot 104 DP1165533, Lot 7034 DP 1031852, and part-lot Lot 373 DP755952. Excluded from the site is the proposed location for the replacement pre-school, located to the south-west corner of Nowra Recreational Park.

The site location and regional context is shown in **Figure 1** and **Figure 2** in **Appendix A**. Current land uses are limited to medical facilities and associated infrastructure, a pre-school and a public recreation area.

The purpose of this DGI is to provide the client with updated advice on the contamination status of the site and the resulting implications for the suitability of the site for its proposed future land use. To meet this purpose a scope of work was undertaken that included advancement of sampling points across the site to provide site coverage, delineate previously identified contamination and assess potential contamination in previously unassessed areas. Collected soil samples were analysed and presented in the report.

Based on the findings of this investigation and the previous ESA, with the exception of the area centred on BH01 between sampling locations BH01E1, BH01S1, BH01W1 and BH01N1, the site is considered suitable for the intended land use as a hospital. The unsuitable area can be made suitable following management of the identified contamination through the implementation of recommendations as outlined below.

Recommendations

Based upon the findings of the DGI and with reference to the proposed future land use of the site, the following recommendations are made:

- > Preparation of a Remediation Action Plan to manage impacts in the vicinity of BH01. Based on the small volume (approximately 2 m³) of material, excavation and off-site disposal is likely to be the most time and cost-effective approach however other treatment options may be considered.
- > Future ground disturbance works should be undertaken in accordance with a Construction Environmental Management Plan (CEMP) with an Unexpected Finds Protocol that outlines appropriate actions in the event that potentially contaminated materials are identified. If potentially contaminated materials are identified then a more detailed assessment for will be required as detailed in the ASC NEPM (NEPC, 2013).
- > Any waste generated during the redevelopment, including demolition materials and excavated soil, must be assessed for potential offsite reuse / disposal opportunities in accordance with the NSW EPA *Waste Classification Guidelines* (2014) and current resource recovery exemptions / orders.

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1 Introduction

Cardno now Stantec (Cardno) was engaged by Johnstaff on behalf of NSW Health Infrastructure to undertake a Data Gap Investigation (DGI) of land consisting of Nowra Recreation Park, Shoalhaven District Memorial Hospital and the current Shoalhaven Community Pre-school herein referred to as 'the site'. The site is located along Shoalhaven Street, Nowra NSW and identified as Lot 104 DP1165533, Lot 7034 DP 1031852, and part-lot Lot 373 DP755952'. Excluded from the site is the proposed location for the replacement pre-school, located to the south-west corner of Nowra Recreation Park.

The site location and regional context is shown in **Figure 1** and **Figure 2** in **Appendix A**. Current land uses are limited to medical facilities and associated infrastructure, a pre-school and a public recreation area.

1.1 Background

Cardno completed a Preliminary Site Investigation (PSI) (*8202118201 R001 Shoalhaven Hospital PSI V1*, 23 November 2021) to support the concept design process for the planned Shoalhaven Hospital Redevelopment. Information regarding the concept design process was limited to the redevelopment, expansion and/or rezoning of land to accommodate upgraded and new hospital facilities and associated infrastructure. Concept designs provided by Johnstaff are included in **Appendix B**.

The PSI identified three Areas of Environmental Concern (AEC), as described below, that required further assessment:

- > AEC 1: Filling / Mounding / Tipping within the site
- > AEC 2: Soils surrounding maintenance shed
- > AEC 3: Structures constructed pre-1990

The approximate footprint of each AEC is shown on **Figure 3** in **Appendix A** and described in further detail in **Table 4-1**.

Cardno completed a subsequent Environmental Site Assessment (ESA) which involved intrusive works to assess site soils and target AECs identified in the PSI during June 2021 (report reference *8202118201 R003 Shoalhaven Hospital ESA V0*, dated the 28 February 2022).

Following the completion of the PSI and ESA, Cardno was provided with updated concept designs (October 2021) with proposed redevelopment footprint expanded to areas previously unassessed, including the Shoalhaven Community Pre-school and southern areas of Nowra Recreation Park. These designs also indicated that Shoalhaven Pre-school was to be relocated to the southwest corner of Nowra Recreation Park.

1.2 Purpose and objectives

The purpose of this DGI is to provide the client with updated advice on the contamination status of the site and the resulting implications for the suitability of the site for its proposed future land use.

The objectives of the DGI are:

- > Undertake an intrusive sampling investigation to assess areas previously unassessed;
- > Summarise the findings of the intrusive sampling investigation to refine the existing Conceptual Site Model (CSM) to assesses potential risks to human health and the environment from site contamination;
- > Determine if the site is suitable or can be made suitable for the development; and
- > Provide recommendations for further assessment and/or remediation (if required) to render the site suitable for the proposed land use.

1.3 Scope of work

The following scope of work was undertaken in order to achieve the above noted objectives:

- > Preparation of a Safe Work Method Statement (SWMS) and Works Management Plan to ensure the safety of Cardno personnel and site occupants during the intrusive investigation;

- > Submission of a dial-before-you-dig (DBYD) enquiry and completion of underground service location in the vicinity of the proposed sampling locations;
- > Advancement of sampling points across the site to provide site coverage, delineate previously identified contamination and assess potential contamination in previously unassessed areas;
- > Collection of relevant soil samples and analysis.
- > Preparation of this Data Gap Investigation report in accordance with the *Consultants Reporting on Contaminated Land* (NSW EPA, 2020) and the *National Environment Protection (Assessment of Site Contamination) Measure* (1999) as amended 2013.

1.4 Applicable guidelines and legislation

The scope of this ESA has been developed in consideration of the following guidelines and legislation:

- > CRC Care (2011) *Technical Report No. 10 Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater Part 1: Technical Development Document*, September 2011;
- > CRC Care (2011) *Technical Report No. 39 Risk-Based Management and Remediation Advice for Benzo(a)pyrene*, January 2017;
- > NEPC (2013) *National Environment Protection (Assessment of Site Contamination) Measure (NEPM)*. National Environment Protection Council (NEPC) 1999 as amended 2013;
- > NSW Department of Urban Affairs and Planning (1998) *Managing Land Contamination: Planning Guidelines: SEPP 55 Remediation of Land*, 1998;
- > NSW EPA (1995) *Contaminated Sites Sampling Design Guidelines*. New South Wales Environment Protection Authority (EP the *Consultants Reporting on Contaminated Land A*), September 1995;
- > NSW EPA (2020) *Consultants Reporting on Contaminated Land*, NSW Environment Protection Authority (EPA), May 2020;
- > Standards Australia (2005) *Australian Standard AS 4482.1-2005 – Guide to the investigation and sampling of sites with potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds*. Standards Australia, Homebush, NSW;
- > Standards Australia (1999) *Australian Standard AS 4482.2-1999 - Guide to the sampling and investigation of potentially contaminated soil. Part 2: Volatile substances*. Standards Australia, Homebush, NSW; and
- > WA DOH, 2009. *Guidelines for Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia*, Western Australia Department of Health (WA DOH).

2 Site identification

2.1 Site details

Details related to the site are included in **Table 2-1** below whilst **Figure 1** and **2**, **Appendix A** shows the site locality and Site plan.

Table 2-1 Site Details

Details	Comments
Site address	Shoalhaven Street, Nowra, NSW, 2541
Lot and Deposited Plan	Lot 104 DP1165533 Part-lot Lot 373 DP755952 Lot 7034 DP1031852
Current land use	- Hospital and associated infrastructure (including roads and car parks) - Pre-school - Public recreation (Nowra Recreation Park).
Proposed land use	Redevelopment, expansion and/or rezoning of land to accommodate upgraded and new hospital facilities and associated infrastructure.
Local Government Authority (LGA)	Shoalhaven City Council
Current zoning (Shoalhaven LEP, 2014)	SP2 - Infrastructure RE1 - Public Recreation
Site area	27,704.5 m ²
Site coordinates GDA1994 MGA56	South-east corner of the site: 280282.02736138563.938
Surrounding land use	North: Shoalhaven Memorial District Hospital facilities and associated infrastructure, Scenic Drive, public recreation, coastal walking tracks and Shoalhaven River East: Shoalhaven Street and low-density residential housing South: North Street and low-density residential housing West: Shoalhaven Cancer Care Centre, Shoalhaven Hospital parking, Scenic Drive, coastal walking tracks (Bens Walk) and Shoalhaven River

2.2 Site description

Site information available from public datasets and as observed during Site works are summarised below in **Table 2-2**.

Table 2-2 Site Description

Item	Information
Site slope and drainage features (Nearmap, 2021)	The site slopes to the east with an upper elevation of 26 m Australian height datum (AHD) along the south-western corner and 18 m AHD along the eastern boundary. Ground surfaces within the southern to central portions of the site are generally grassed areas with patches of bare earth. A cricket pitch and a hardstand surface (asphalt) towards the southern extent are the only hard surface coverings in this area. The northern portion of the site consists of hardstands (concrete and asphalt), primarily parking lots and footpaths. Based on surface contours and topography, surface run-off is expected to travel east and ultimately drain into the Shoalhaven River through stormwater infrastructure and tributaries.
Nearby water bodies (NSW DFSI, Spatial Services)	The site is located between 140 and 370 m from Shoalhaven River to the west and between 200 and 400 m to the north. Nowra Creek, a tributary of the Shoalhaven River, is located approximately 640 m south-west of the site. An unnamed tributary of the Shoalhaven River is located approximately 780 m east of the site. The elevation (18 m to 26 m AHD) and aspect (east) of the site indicate that nearby waterbodies are likely to have minimal influence on the site.

Item	Information
Site soil landscapes (NSW OEH, 2013)	State-wide land and soil mapping describe the sites landscape as: - Moderately to gently undulating rises to low hills on Nowra Sandstone (relief >40m and slopes >5%), broad ridges and crests, benched sandstone outcrops adjacent to drainage lines and extensive to moderately cleared tall open-forest. Soils are described as: - Moderately deep (50–100 cm) Brown Podzolic Soils occur on crests and upper slopes, soloths and/ or Yellow Earths occur midslope and Yellow Podzolic Soils occur on lower slopes and drainage lines. - Shallow, having low permeability and low wet bearing strength.
Site surface geology (GS NSW, 2018)	The site is shown as being underlain by the Permo-Triassic, Nowra Sandstone which is described as fine to very coarse grained quartzose sandstone with minor siltstone plus conglomerate beds within the Shoalhaven Group.
Acid Sulphate Soil Risk (Department of Land and Water Conservation, 1998) (SLEP, 2014)	Acid sulphate soil planning maps indicate that the site is located within a Class 5 area for acid sulphate soils (ASS), areas that are defined as being within 500 m of an adjacent Class 1, 2, 3 or 4 land that is below 5 m AHD and are not reflective of risk of ASS on the Class 5 land. Development consent is required for Class 5 areas if the water table is likely to be lowered below 1 m AHD on the adjacent Class 1, 2, 3 or 4 land. Class 1, 3 and 4 areas are mapped north, north-east and west of the site along the Shoalhaven River. A review of acid sulphate soil risk mapping identifies no risk of ASS at the site however areas north, north-east and west of the site including the Shoalhaven River are mapped as having a low to high probability of ASS occurrence where estuarine and alluvial sedimentary units are mapped. This corresponds with the Class 1, 3 and 4 mapped areas within the planning map.
Groundwater	A review of a JK Geotechnics report (2017), which is summarised in the Cardno PSI (Cardno, 2021), describes the installation of two groundwater monitoring wells along the western boundary of the site. BH104 was installed to 7.0 m with the borehole noted as dry at completion, Standing Water Level (SWL) was noted as 6.0 m bgl after 24 hours and 5.5 m bgl after 40 hours. BH105 was installed to 5.5 m and was also dry at completion with the SWL noted as 4.0 m bgl after 24 hours, the well installation details and groundwater records can be viewed in Appendix F. A review of publicly registered bores within the WaterNSW database identified twenty bores within 500 m of the site. The bores are a mix of domestic and monitoring bores, with all located downgradient (east/ northeast) of the site. The closest bore, GW101695 is located approximately 164 m north-east of the site, and is registered as a domestic water supply bore. The bore was installed to 48 m in sandstone however no standing water level or water bearing zones are recorded. The second closest well GW112969 is located approximately 293m east of the site, and is registered as a monitoring bore. The bore was installed to 7.70 m in clay and sandstone with no standing water level or water bearing zones being recorded.
Salinity	The Salinity Hazard Map generated using eSPADE, published by the NSW Office of Environment and Heritage (OEH), indicates that a salinity hazard has not been identified at the site and as such the occurrence of saline soil conditions at the site is considered to be negligible or low. During the walkover there was no indication of saline soils or surface salting at the site.

3 Site observations

Observations from a walkover conducted during the intrusive investigation is summarised in **Table 3-1** and photographs included as **Appendix C**. The site remains generally unchanged from observations made during the previous Cardno PSI (2021) and ESA (2022) investigations.

Table 3-1 Observations summary table

Item	Observations
Weather conditions	Local weather during fieldwork ranged from sunny to overcast with low to moderate winds and temperatures ranging from 20 to 30°C.
Site surface coverings	Ground surfaces within the southern to central portions of the site are generally grassed areas with patches of bare earth. A cricket pitch and a hardstand surface (asphalt) at the very southern extent are the only hard surface coverings in this area. The northern portion of the site consists of hardstands (concrete and asphalt), primarily parking lots and footpaths.
Site cut and fill	Potential filling was observed in the following areas: - Surrounding a previous structure to the southwest corner of the site; - Surrounding the helicopter pad; - Along the western boundary of the site; and - Beneath the turning circle at the hospital entrance at the north of the site.
Buildings	Shoalhaven-Pre-school is located in a single storey structure in the north-eastern portion of the site. Within hospital grounds, a demountable administration building housing the maintenance office is located in the north-western extent and a maintenance shed attached to a fenced area housing oxygen tanks is located 35 m east of the administration building. The northern and western boundaries of the site are lined by existing hospital structures of predominately brick veneer or concrete construction whilst in the southern area of Nowra Park, outside the investigation boundary, are two small toilet buildings of brick construction.
Potential hazardous building materials	No potentially hazardous building materials were observed during the site investigation works, however, buildings within the site have the potential to contain hazardous building materials. At the time of writing this report a HAZMAT assessment has not been completed.
Manufacturing, industrial or chemical processes and infrastructure	No manufacturing, industrial or chemical processes and infrastructure were noted on the site. As the northern portion of the site is used as a hospital there is the potential for waste to be produced in the form of improperly disposed low-level radioactive waste from radiology consumables and discarded machines present in fill material. Medical waste such as sharps, dressings etc may also be present in fill material. In addition, historical use of incinerators for waste was common on hospital sites resulting in waste ash used as a filling medium. No evidence of these activities was identified within the study area during the site inspection or during the intrusive investigation.
Fuel storage tanks (USTs/ASTs)	Above-ground cryogenic oxygen storage was observed at the northern extent of the site, no other potential underground storage tank (UST) or above-ground tank (AST) features or indications were observed.
Hazardous chemicals	No dangerous goods storage was noted during the site walkover. A SafeWork NSW Schedule 11 Storage of Hazardous Chemicals search was completed as part of the Preliminary Site Investigation (Cardno, 2021). A search of the records held by SafeWork NSW identified one above ground storage tank containing liquid oxygen with a capacity of 3,886 m ³ and a cylinder storage area housing twenty (20) 50 L oxygen cylinders. The storage of these goods on the site is considered to present a low contamination risk.
Solid waste deposition	General waste bins were noted at the northern extent of the site. Waste generated in the operation of Shoalhaven Hospital is managed under municipal solid waste and medical waste arrangements with wastes removed from the premises for disposal. Traces of general waste (litter) were observed on the ground surface within Nowra Recreation Park in the southern portion of the site.
Liquid waste disposal features	No liquid waste disposal features were noted at the time of the walkover.
Evidence of previous site contamination investigations	Reinstated boreholes in the northern portion of the site from the ESA (Cardno, 2022) were observed. No wells or other sample locations were observed during the site walkover.

Item	Observations
Evidence of land contamination (staining or odours)	None observed.
Evidence of groundwater contamination	None observed.
Groundwater use	No groundwater use was noted on the site or neighbouring properties with the exception of existing wells installed by JK Geotechnics for environmental monitoring.
Vegetation	Several large trees were noted at the southern extent of the site, with a mix of several large and smaller trees also observed in the north-eastern portion of the site surrounding the Shoalhaven Pre-school.
Site fencing	At the time of the walkover chain link fencing and galvanized steel fencing was observed along the boundaries between each of the lots. The pre-school was the only portion of the site that was enclosed to prevent public access.

3.2 Inaccessible areas

Due to access limitations and Site operations the areas noted in **Table 3-2** have not been visually assessed during the walkover or intrusive investigations, these should be considered in relation to the further data gaps detailed in **Section 11.4**.

Table 3-2 Inaccessible areas during site walkover

Area	Justification / Notes
Maintenance shed	At the time of the inspection the maintenance shed centrally located on the southern boundary of the hospital was locked and unable to be accessed.
Surfaces beneath hardstands and vegetation	Soils beneath hardstand surfaces or covered in vegetation beyond the extent of intrusive investigations were unable to be observed and assessed.

4 Previous site reports

Environmental assessments historically undertaken within the site footprint include:

- > *Report to Health Infrastructure on Geotechnical Investigation for Proposed Carparks at Shoalhaven Hospital Scenic Drive, Nowra, NSW Ref: 30760Z (JK Geotechnics, 2017)*
- > *Shoalhaven Hospital Redevelopment, Preliminary Site Investigation, Cardno, November 2021 (Cardno, 2021)*
- > *Shoalhaven Hospital Redevelopment, Environmental Site Assessment, Cardno, February 2022 (Cardno, 2022)*

Further details on the assessments is summarised in sections below.

4.1 Geotechnical Investigation for Proposed Carparks at Shoalhaven Hospital Scenic Drive, Nowra, NSW (JK Geotechnics, 2017)

The report was prepared by JK Geotechnics on behalf of Health Infrastructure to obtain geotechnical information on subsurface conditions as a basis for comments and recommendations on earthworks, excavation conditions, shoring, retaining walls, footings, on-grade floor slabs and pavements.

Three carpark options were considered:

- > **Option 1:** *This option comprises a three and four level parking building with central ramps. A stepped building platform will be required with excavations to maximum depths of 2m and 4m to achieve the Level 1 finished floor at Reduced Level (RL) 22.5m and Level 2 finished floor at RL26.2m, respectively. A helipad will be included on the roof level.*
- > **Option 2:** *This option includes a three and four split level building. A stepped excavation to maximum depths of approximately 2m will be required to achieve the Level 1 and Level 2 finished floors at RL26.6m and RL28.1m, respectively. A helipad is being considered for the roof level, however, its proximity to the adjacent Super Clinic will probably result in the helipad being omitted.*
- > **On-grade Option:** *Several areas scattered across the site and demarcated CP1, CP4, CP5 and North Street Corner, are being considered for on-grade parking.*

The report notes that this investigation was carried out in conjunction with JK's environmental division Environmental Investigation Services (EIS) to conduct a contamination investigation of the site. A copy of the EIS report has not been provided to Cardno for review and as such the scope and findings of the EIS is unknown at this stage.

Three boreholes were advanced along the western boundary of the site, BH102, BH103 and BH105 with a fourth borehole (BH104) progressed approximately 20 m west of the demountable administration building and 15m west of the site boundary.

The borehole logs indicate:

- > Fill was observed at boreholes BH102, BH103, BH104 and BH105 with a maximum thickness of 2.7 m at BH105
- > Anthropogenic material was limited to trace concrete fragments in borehole BH103 within the upper fill layer from 0.2 m to 1.6 m.
- > BH102 and BH104 were observed having 1.6 m and 0.6 m of fill respectively with no mention of anthropogenic materials.
- > Groundwater monitoring wells were installed at sample locations BH104 and BH105 with the well installation details, final borehole depths, soil profiles and location of boreholes located in **Appendix F**.

4.2 Preliminary site investigation (Cardno, 2021)

Cardno undertook the investigation to provide preliminary advice on the contamination status of the site and consequent implications for the concept design process for the site redevelopment. This included the expansion of the existing hospital and rezoning of land to accommodate upgraded and new hospital facilities and associated infrastructure. Revision 0 was issued 14 July 2021 before being updated using existing information to include the entirety of the Nowra Recreation Park and issued as Revision 1 on 23 November 2021.

The PSI was completed to identify potential contaminants sources and contaminated materials at and surrounding the site, and to identify constraints that may require consideration during the concept design process. The objective of the PSI is to assess whether contamination has the potential to exist on the site and whether further investigation is needed to confirm the nature and extent of potential contamination.

The following AEC's were identified as part of the PSI as summarised below in **Table 4-1**.

Table 4-1 AEC identified within Cardno (2021) PSI

AEC Identification	Description	Contaminants of Interest
AEC 1: Filling / Mounding / Tipping within the site	Fill areas along the western ridge line, surrounding the helicopter pad and the turning circle at the northern extent of the site were observed but the quality, quantity or origin of fill was difficult to determine due to vegetation, grass cover and hardstands without an intrusive assessment. The amount of filling was considered to be minor based upon site observations such as the inferred shallow depth to rock and site history, however while there was an absence of anthropogenic material in surface material, there is potential for unidentified contamination and these materials should be assessed further	Total recoverable hydrocarbons (TRH); benzene, toluene, ethylbenzene, xylene (BTEX), polycyclic aromatic hydrocarbons (PAH); Metals; Phenol; organochlorine pesticides (OCP); organophosphate pesticides (OPP); polychlorinated biphenyls (PCB); Asbestos
AEC 2: Soils surrounding maintenance shed	The maintenance shed was inaccessible at the time of the walkover; however, it may contain chemicals and fuels typical of general maintenance and landscaping. Housekeeping and ground surfaces within the shed were unable to be observed and it is unknown if potential uncontrolled spills and releases have occurred.	TRH; PAH; BTEX; metals; OCP/ OPP, other pesticides
AEC 3: Structures constructed pre-1990	The only structure established pre-1990 within the site is the Shoalhaven Community Pre-school main building. However, the date of construction of the toilets at the south of Nowra Park is unknown as the area is obscured by tree cover in aerial photography. The above noted current and historical structures, and the soils surrounding them may contain potentially hazardous building materials as a result of weathering or poor demolition practices.	Asbestos; lead and zinc

PAH: polycyclic aromatic hydrocarbons

TRH: total recoverable hydrocarbons

BTEX: benzene, toluene, ethylbenzene, xylene

OCP: organochlorine pesticides

OPP: organophosphorus pesticides

PCB: polychlorinated biphenyls

Based upon the findings of the PSI Cardno made the following recommendations:

- > Conduct a Preliminary Environmental Site Assessment (PESA) [ultimately titled Environmental Site Assessment and summarised in **Section 4.3**] to confirm the presence of contaminant sources and contaminated materials within the identified sources in **Table 4-1**. The PESA would seek to determine if a risk to human and ecological receptors exists, whether there is the potential for off-site migration of any identified contamination and/or if management and consideration is required during construction.
- > Locate existing wells BH104 and BH105 to assess groundwater conditions.
- > Undertake a hazardous building materials assessment of structures within the site to identify materials which may be disturbed as part of the proposed site redevelopment.
- > In the event the PESA identifies contamination above the permissible investigation levels, the site may require further investigation in the form of a Data Gap Investigation (DGI) [this report] or a Detailed Site Investigation (DSI), which would further clarify the risk to human and ecological receptors and/or recommend management and consideration required during construction.
- > If any earthworks or disturbance occurs prior to preparation of the PESA, a suitably qualified environmental consultant must be engaged to undertake an assessment for contamination and provide guidance on appropriate material management, if required.

4.3 Environmental Site Assessment (Cardno, 2022)

Cardno undertook this Environmental Site Assessment (ESA) based on the outcomes and recommendations from the PSI. The primary objective of the ESA was to undertake an intrusive sampling investigation in order to assess the previously identified areas of environmental concern based on Revision 0 of the PSI report which excluded southern areas of Nowra Recreation Park (Cardno, 2021).

Intrusive soil sampling was undertaken including general site coverage sample locations and sample locations targeting at the identified AECs. In total, 19 locations were sampled and assessed with 18 of these located within the current site boundary, noting TP09 is now located within the proposed Shoalhaven Pre-school relocation site. The fill layers observed on site showed no obvious indicators of contamination (odour, staining or discolouration) and anthropogenic materials were only observed in trace quantities at select sample locations. Asbestos containing materials were not observed within fill or on visible ground surfaces.

The following conclusions were drawn with respect to soils assessed within the site:

Human Health

- > The location of BH01 and unassessed areas require further investigation to make a statement on contamination and Site suitability, and the requirement, if any, for remediation. The requirement for further assessment at BH01_0.1 should be considered in the context of the project design and the proposed construction activities at that specific location.

Ecological

- > Exceedances to the adopted ecological screening criteria in soil were limited to four samples that contained TRH, benzo(a)pyrene, toxaphene and copper. Under the current and proposed land use these exceedances were not considered to present an unacceptable risk as no biota will be reliant on the root zone (upper 2 m) under the future land use, ie the source-receptor-pathway linkage is currently incomplete.

Based upon the findings of the ESA and with reference to the proposed future land use of the site, the following recommendations were made:

- > Whilst ecological receptors were not identified under the current Site use / configuration, during redevelopment works, soil from BH01, BH02 and BH05 should not be placed near sensitive ecological receptors / remnant vegetation, or the upper 2 m of the soil profile within landscaped areas or surrounding remnant vegetation. Ideally the material would be placed beneath hardstand surfaces with minimal interaction with ecological receptors, surface water or groundwater.
- > If soils in the vicinity of BH01_0.1 are to be disturbed, further assessment should be undertaken to confirm the nature and extent of potential impact. The assessment should include:
 - Vertical and lateral delineation of contaminant impact;
 - Silica-gel clean-up and leachability testing on soil samples to reduce interference and determine the toxicity and contaminant risk;
 - Consideration of the fate of the soils during the proposed redevelopment and refinement of the conceptual site model; and
 - Consideration of any design features.
- > Upon completion of characterisation and delineation sampling around BH01, remediation should be considered if an unacceptable risk to human health and/or the environment is confirmed.
- > Upon completion of a detailed design the findings of this assessment must be revisited and any outstanding data gaps assessed prior to earthworks.
- > If the site is deemed suitable for the proposed development, the following should be considered:
 - Future ground disturbance works should be undertaken in accordance with a Construction Environmental Management Plan (CEMP) with an Unexpected Finds Protocol that outlines appropriate actions in the event that potentially contaminated materials are identified. If potentially contaminated materials are identified then a more detailed assessment will be required as detailed in the ASC NEPM (NEPC, 2013).
 - Any waste generated during the redevelopment, including demolition materials and excavated soil, must be assessed for potential offsite reuse / disposal opportunities in accordance with the NSW EPA *Waste Classification* Guidelines (2014) and current resource recovery exemptions / orders.

5 Preliminary conceptual site model

A conceptual site model (CSM) provides an assessment of the fate and transport of contaminants of potential concern within the context of site-specific subsurface conditions with regard to their potential risk to human health and the environment. Risk to human health and the environment is identified through complete Source – Pathway – Receptor (SPR) linkages. In order to identify SPR linkages the CSM considers site specific factors, including:

- > Source(s) of contamination;
- > Identification of contaminants of concern associated with past (and present) source(s);
- > Site specific information including soil type(s), inferred depth to groundwater, inferred permeability, inferred groundwater flow direction and surface water bodies and interactions;
- > Location of any identified sources relative to the proposed site development; and
- > Actual or potential receptors considering both current and future land use both for the site, adjacent properties and any sensitive ecological receptors.

Based on the information available at the time of the ESA (Cardno, 2022) the preliminary CSM in **Table 5-1** was developed.

Table 5-1 Preliminary Conceptual Site Model

Source	Potential Contaminants	Encountered Contaminants	Impacted media	Pathway	Receptor	Completeness
Filling of unknown origin and quantity along western ridgeline and surrounding helicopter pad and beneath the hardstands in the northern portion of the site.	Asbestos; metals; PAH; TRH; BTEX; Phenols; OCP; OPP; PCB	TRH; PAH; BTEX; Metals; PAH; OCP	Soils including fill through direct application Surface water through runoff	Direct contact including ingestion of, impacted media Inhalation of asbestos fibres Surface water infiltration	Ecological receptors: - Site vegetation - Invertebrates and small mammals living in site soils or using site vegetation as a food source - Shallow groundwater	Potentially complete in the event of any direct interaction with impacted media (i.e. excavations, use as growth medium) Potentially leaching contaminants may infiltrate into shallow perched water
Structures constructed pre-1990	Asbestos; lead and zinc	None encountered – pending investigation within Shoalhaven Pre school.	Soils beneath and surrounding potentially hazardous building materials	Direct contact including ingestion of, impacted media Inhalation of asbestos fibres Surface water infiltration	Human: - Current Site workers (hospital, pre-school) - Future Site workers (hospital) - Workers during construction	
Maintenance shed	TRH; PAH; BTEX; metals; OCP/ OPP, other pesticides	No contaminants above adopted criteria encountered.	Soils surrounding maintenance shed (particularly downgradient) Surface water through runoff	Direct contact including ingestion of, impacted media Surface water infiltration	- Individuals undertaking installation and maintenance of subsurface utilities - Current recreational land users	Incomplete as site observations and analytical results indicated no potential or actual contamination is present.

PAH: polycyclic aromatic hydrocarbons

TRH: total recoverable hydrocarbons

BTEX: benzene, toluene, ethylbenzene, xylene

OCP: organochlorine pesticides

OPP: organophosphorus pesticides

PCB: polychlorinated biphenyls

6 Data quality objectives

6.1 Data quality objectives

The *National Environment Protection (Assessment of Site Contamination) Measure* (1999), as amended 2013 requires that Data Quality Objectives (DQOs) are adopted for all assessment and remediation programs. The DQO process, as adopted by the NSW EPA, is described within US EPA (2000) *Guidance for the Data Quality Objectives Process and Data Quality Objectives Process for Hazardous Waste Site Investigations*.

The DQO process involves the following seven steps and has been set out in **Table 6-1** below.

Table 6-1 Summary of Data Quality Objectives

DQO Step	Discussion
Step 1: State the Problem	The PSI (Cardno, 2021) and ESA (Cardno, 2022) identified potential historical contamination sources and actual contamination on the site which may impact site suitability and / or require management as part of the proposed development. The development proponent, Health Infrastructure, would like to understand any contamination constraints relating to the proposed development. Therefore, this Data Gap Investigation is required to determine: ▪ If contamination of soil and/or groundwater (if encountered) is present on the site that may pose risk to the current and potential future users of the site; ▪ If further intrusive investigation is required; and ▪ If there is sufficient information to ascertain if remediation is required to make the site suitable.
Step 2: Identify the decision / goal of the study	Our default assumption (null hypothesis) for the purpose of the study is that: ▪ The site is impacted by the contamination of land due to historical site activities. We aim to show, that ▪ The site is not impacted by contamination at a level that represents a risk to current and / or future site onsite and offsite receptors. If this can be shown then the subject to the limitations of the investigation methodology, the site will be determined unimpacted by contamination associated with historical activities that present risk to ongoing, unchanged land-use or a constraint to the proposed future development. If this cannot be shown then the following decisions will be made: ▪ Is further investigation required; and / or ▪ Is remediation of site soils and / or groundwater necessary to make the site suitable for the intended land use?
Step 3: Identify the information inputs	The primary inputs to the decisions described above are: ▪ Guidelines made and approved by the NSW EPA as listed in Section 1.4 ▪ Results of previous assessments conducted on the site. ▪ Information gathered during the assessment of fill and natural soils. ▪ Laboratory analysis of soil and groundwater samples for relevant COPCs, based on historical land use; ▪ Assessment of the suitability of the analytical data obtained, against the Data Quality Indicators (DQIs) outlined below; and ▪ Aesthetic observations of soils, including odours, staining and waste inclusions.
Step 4: Define the boundaries of the study	The boundaries of the study are: Lateral - The study site located along Shoalhaven Road to the east and North Street to the south, Nowra, NSW, shown in Figure 2 of Appendix A. Vertical - The extent of the investigation extends to the depth of bedrock, natural soils or refusal, with a maximum depth of 7 m bgl (BH03). Temporal - DGI site inspections and sampling occurred on March 21st, 22nd and 23rd 2022, however results from the ESA (Cardno, 2022) will also be considered. The data will remain valid provided that land use, landform, and conditions at the site and surrounds remain unchanged.
Step 5: Develop the analytical approach	The investigation analytical program is detailed in Section 8.

DQO Step	Discussion
Step 6: Specify performance or acceptance criteria	Two primary decision error-types may occur due to uncertainties or limitations in the project dataset: - A sample / area may be deemed to pass the nominated criteria, when in fact it does not. This may occur if contamination is 'missed' due to limitations in the sampling plan, or if the project analytical data set is unreliable. - A sample / area may be deemed to fail the nominated criteria, when in fact it does not. This may occur if the project analytical dataset is unreliable due to inappropriate sampling, sample handling or analytical procedures. The following aspects were considered when establishing the acceptable limits on decision errors: - The null hypothesis for the project is: the sample / investigation area is deemed to be contaminated. Sufficient weight of evidence, via the uses of statistical analysis (e.g. 95% upper confidence limit of the mean (UCL)) and / or gathering multiple lines of evidence (e.g. desktop review and laboratory analytical data), would be required to reject / disapprove the null hypothesis. - A quality assurance / quality control (QA/QC) assessment evaluating the reliability and useability of data, which are expressed as five data quality indicators (DQI) summarised in Section 6.2.
Step 7: Develop the plan for obtaining data	The recommended investigation strategy is designed to meet the project objectives in Section 1.2 and the DQOs outlined above. The investigation scope was optimised based on the ground conditions encountered during the field-sampling program. To achieve the DQOs and DQIs, a detailed assessment plan is detailed in Section 8.

6.2 Data quality indicators

The following Data Quality Indicators (DQIs), referenced in Step 6 in **Table 6-1** have been adopted in accordance with NSW EPA *Guidelines for the NSW Site Auditor Scheme (3rd Edition)* (2017). The DQIs outlined in **Table 6-2** assist with decisions regarding the contamination status of the site, including the quality of the laboratory data obtained.

Table 6-2 Summary of Data Quality Indicators

Data Quality Indicator	Frequency	Data Acceptance Criteria
Completeness		
Field documentation correct	All samples	The work was documented in accordance with Cardno SOPs
Soil bore logs complete and correct	All samples	The work was documented in accordance with Cardno SOPs including review by senior staff prior to issue
Suitably qualified and experience sampler	All samples	Person deemed competent by Cardno collecting and logging samples
Appropriate lab methods and limits of reporting (LORs)	All samples	Samples were analysed using NATA approved methods
Chain of custodies (COCs) completed appropriately	All samples	The work was documented in accordance with Cardno SOPs
Sample holding times complied with	All samples	The samples were submitted for extraction within holding times specified by NATA laboratory
Proposed/critical locations sampled	-	Proposed/critical locations sampled
Comparability		
Consistent standard operating procedures for collection of each sample. Samples should be collected, preserved and handled in a consistent manner	All samples	All works undertaken in accordance with Cardno SOP's

Data Quality Indicator	Frequency	Data Acceptance Criteria
Experienced sampler	All samples	Person deemed competent by Cardno collecting and logging samples
Climatic conditions (temp, rain etc) recorded and influence on samples quantified (if required)	All samples	Climatic conditions documented in field sheets
Consistent analytical methods, laboratories and units	All samples	Sample analysis to be in accordance with NATA approved methods
Representativeness		
Sampling appropriate for media and analytes (appropriate collection, handling and storage)	All samples	Sample analysis to be in accordance with NATA approved methods
Samples homogenous	All samples	All works undertaken in accordance with Cardno SOP's. Sample not collected across strata
Detection of laboratory artefacts, e.g. contamination blanks	-	Laboratory artefacts assessed and impact on results determined
Samples extracted and analysed within holding times	All samples	-
Precision		
Blind duplicates (intra-laboratory duplicates)	1 per 20 samples	<30% RPD (Inorganics) <50% RPD (Organics) No Limit RPD Result <10 × LOR
Laboratory duplicates	1 per 20 samples	<20% RPD Result > 20 × LOR <50% RPD Result 10-20 × LOR No Limit RPD Result <10 × LOR
Accuracy (Bias)		
Surrogate spikes	All organic samples	50-150%
Matrix spikes	1 per 20 samples	70-130%
Laboratory control samples	1 per 20 samples	70-130%
Method blanks	1 per 20 samples	<LOR

6.3 Quality assurance / quality control

To meet the DQOs and DQIs outlined in **Table 6-1** and **Table 6-2**, the following additional Quality Assurance / Quality Control (QA/QC) procedures were undertaken.

Table 6-3 Summary of QA/QC processes

Requirement	Comments
Equipment calibration	Provision of calibration certificates. The scientific instruments that were used for the site investigation, such as a PID, were calibrated on the day in the form of a 'bump test' where the PID was connected to a canister of isobutylene.
Equipment decontamination	Decontamination of sampling equipment where needed. Sampling equipment that is not disposable, such as hand tools, underwent the following decontamination process: - Wash equipment in soapy water that contains a mixture of water and Decon 90, with the objective to remove sediments and particulate from the equipment. - Rinse decontaminated equipment with potable or deionised water.

Requirement	Comments
Soil logging	Logging soils in general accordance with the AS1726-2017 <i>Geotechnical site investigations</i> including sample information recording on the geological log sheets.
Sample media identification	Samples marked with a unique identifier including project number, sample location, depth and date.
QA/QC - Field duplicates / triplicates / field blanks and trip spikes	Duplicate samples collected at a rate of 1 every 20 primary samples completed at the primary intra-laboratory; and triplicate samples at a rate of 1 every 20 samples to be analysed at the secondary inter-laboratory.
Sample preservation	Collected soil samples placed in a chilled icebox with ice for storage and transport to the laboratory.
Chain of Custody (COC) documentation	COC forms detailing sample identification, collection date, sampler and laboratory analysis required. The COC form was signed off and returned to Cardno by the laboratory staff upon receipt of all the samples.
NATA accredited methods	NATA accredited laboratories analysed the samples in accordance with NATA accredited methods where applicable.

7 Assessment criteria

Soil assessment criteria have been adopted from *National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended 2013* and other appropriate sources with their application as part of this assessment summarised below.

7.1 Human health criteria

NEPM 2013, Health Investigation Levels – Residential A, Residential B and Recreation / Open Space C

Health investigation levels (HIL) A, B and C have been adopted to assess risk to site users under the proposed land use, noting the proposed land use will be as hospital facilities as well as associated infrastructure, a pre-school and areas of public recreation. HIL A, B and C are considerate and protective of the proposed land use as described below:

- > HIL A – considers current site occupants at the Shoalhaven Pre-school and future site occupants within the proposed Shoalhaven Pre-school location who are likely to have prolonged and unimpeded access to site soils.
- > HIL B - considers current and future site occupants within outdoor areas and inside structures who are likely to have minimal opportunities for direct contact with site soils. HIL D has not been considered in this case due to the potential for extended site occupation (patients) and the poor health of site users.
- > HIL C - considers areas of public open space such as parks and garden areas of the site and consider increased direct soil contact which may apply for specific scenarios on the site.

CRC Care 2011, Health Screening Levels – Direct Contact, Residential A, Residential B and Recreational C

Health screening levels (HSL) for direct contact for Residential A, Residential B and Recreational C have been adopted to assess the risk for site users due to hydrocarbon impacted soils. These criteria allow for potential redevelopment or reuse of soil under a mixture of a pre-school, high density residential and public open space land suitable for a hospital land-use

- > HSL A - Considers current and future site occupants within the current and proposed pre-school location with prolonged and easy access to site soils.
- > HSL B - considers current and future site occupants with minimal opportunities for direct contact with site soils.
- > HSL C - considers areas of public open space and consider increased direct soil contact which may apply for specific scenarios on the site.

NEPM 2013, Health Screening Levels – Soil Vapour, Low – Residential A & B and Recreational C

HSL A & B has been adopted to assess the potential for a vapour intrusion risk to be present from site soils. In a public open space (HSL C) scenario, soil concentrations of volatile compounds are considered Non-Limiting, that is concentrations required to generate a vapour risk are above the solubility limit in soil so no criteria are provided.

- > HSL A & B criteria consider current and future site occupants under the proposed development, including patients within buildings for extended periods and children attending pre-school.
- > Based on the material descriptions collected during field work and the potential for soils to be mixed during construction and earthworks, samples will be screened against criteria for sand-based soils.

7.2 Other soil criteria

NEPM 2013, Ecological Investigation Levels and Ecological Screening Levels – Urban Residential and Public Open Space

Ecological Investigation Levels (EIL) and Ecological Screening Levels (ESL) have been adopted to assess the risk to future ecological receptors (i.e. flora and fauna in landscaped areas) under an urban residential and public open space land use scenario.

- > A detailed Site history review has been completed which indicates that since 1949 the site has been predominantly utilised for public recreation as well as a sporting field and is heavily disturbed from its natural state. The proposed redevelopment will result in minimal new vegetation limited to tree plantings, planter boxes and landscaping. The redevelopment is unlikely to result in restoration of the site to a high ecological value scenario.
- > Given that the site and surrounds comprise a mixture of general residential, public recreational areas, mixed use and hospital buildings as well as associated infrastructure, application of the urban residential and public open space EILs and ESLs are considered appropriate to capture risk to potential ecological receptors.
- > To calculate EIL criteria samples TP04_0.5, TP06_0.1 and TP07_0.5 from the ESA (Cardno, 2022) were analysed for soil parameters, clay content, cation exchange capacity, iron, total organic carbon (TOC) and pH. **Photograph 8 of Appendix C** shows the natural soils that were analysed with the parameters summarised below in **Table 7-1**.
- > The site was underlain by three distinct strata layers, as such specific EILs have been calculated for each layer utilising the EIL calculation spreadsheet maintained within the NEPM toolbox (NEPC, 2010).
- > Generic EILs were utilised for arsenic, DDT and naphthalene.

Table 7-1 EIL soil parameters – Inputs and aged criteria

Sample and Strata Location	% Clay	Cation Exchange Capacity	% Iron	Total Organic Carbon (%)	Soil pH	Copper EIL (mg/kg)	Nickel EIL (mg/kg)	Chromium (III) EIL (mg/kg)	Zinc EIL (mg/kg)
TP06_0.1 Topsoil / fill	6	1.2	0.91	2.2	4.6	50	6	350	160
TP04-0.5 Possible fill / residual	12	4.8	2.6	0.6	5.5	110	35	440	300
TP07_0.5 Residual	19	4.5	2.6	0.5	5.1	75	30	510	250

NEPM 2013, TRH Management Limits – Residential, parkland and public open space

The management limits have been adopted as a final screening level to identify TRH concentrations that may present a risk to the physical and built environment and tend to be higher concentrations than human health and ecological risk criteria.

Management limits are protective of the following hazards or risks:

- > formation of observable light non-aqueous phase liquids (LNAPL);
- > fire and explosive hazards; and
- > effects on buried infrastructure e.g. penetration of, or damage to, in-ground services by hydrocarbons.

The Management Limits for residential, parkland and public open space, and coarse soils are considered appropriate based on the current and proposed land uses.

NEPM 2013, Aesthetic criteria

Aesthetic criteria for soils are outlined in the NEPM (NEPC, 2013). Should there be no exceedances of other criteria that make site soils unsuitable for use onsite, soil will also be assessed for aesthetic suitability. Acceptable aesthetic criteria will vary depend on final material location within the planned site setting but generally material will be considered acceptable if at surface:

- > The risk for a person to be injured by metal, glass or other sharp objects;
- > That chemically discoloured soils or large quantities of various types of inert refuse, particularly if unsightly, may cause ongoing concerns to site users;
- > The depth of the materials, including chemical residues, in relation to the final surface of the site; and
- > The need for and practicality of any long-term management of foreign material.

8 Site investigation program

Fieldwork was undertaken by experienced environmental professionals from Cardno with all works completed in accordance with the agreed scope of work. The fieldwork activity summary and methodologies are presented in **Table 8-1**, photographs presented in **Appendix C** and a sample location plan available in **Appendix A, Figure 3**.

Table 8-1 Investigation Activity Summary

Activity	Details
Dates of field activity	Fieldwork activities were undertaken on the dates specified below: - Utility clearance by an underground service locator: 21 March 2022 - Drilling and soil sampling: 21 March 2022 - Test pitting and soil sampling: 22-23 March 2022
Test pitting	Test pitting was completed over two days utilising a third-party excavator and operator with the works supervised by an experienced environmental professional from Cardno. Test pitting works included works conducted in the proposed Shoalhaven Pre-school relocation site. A total of eleven (11) test pits were excavated, across the site to provide coverage. Test pits were excavated to a maximum depth of 2.5 m bgl.
Drilling	Ten (10) boreholes were advanced using a track mounted drill rig to a maximum depth of 1.0 m bgl utilising solid flight auger techniques equipped with tungsten carbide (TC) drill bit. Borehole locations and depths were based on previous exceedances of applicable soil assessment criteria in sample BH01_0.1 which was advanced during the ESA (Cardno, 2022). Samples BH01N1, BH01E1, BH01S1 and BH01W1 were advanced 0.5 m in each cardinal direction of BH01, whereas BH01N2, BH01E2, BH01S2 and BH01W2 were advanced 1 m in each cardinal direction of BH01. BH07 and BH08 were advanced 5 m and 15 m respectively west of BH01 to further delineate potential contamination within the northern carpark of the site.
Soil Boring (Hand Auger)	Soil bores were excavated within areas that were inaccessible for the excavator or in areas where minimal disturbance of the ground was required by project stakeholders including Shoalhaven Pre-school. Five (5) soil bores were advanced using a hand auger within the previously unassessed Shoalhaven Pre-school grounds. The target depth of soil bores was to encounter a natural soil profile, with the maximum depth of 0.8 m bgl reached, however, HA05 was the only location in which a natural geologic profile was encountered before refusal.
Soil Logging	Soils encountered during the investigation were described and logged in general accordance with <i>Australian Standard Geotechnical Site Investigations (AS1726- 2017)</i> . The geological logs are presented in Appendix D . In addition to logging test pits, boreholes and soil bores, excavated soils were assessed for visual and olfactory indicators of contamination such as sheen, staining, odour, discoloration and the presence of asbestos containing materials.
Soil Sampling	Undisturbed soil sampling was achieved by sampling from the centre of the excavator bucket during test pitting and from the solid flight augers and hand auger during drilling. A new pair of disposable nitrile gloves were worn for each sample collection. Samples were placed into laboratory-supplied containers including 250 ml glass jars with Teflon lined lids for contaminant testing; and resealable plastic zip-lock bags for asbestos testing.
PID Headspace Screening	Each soil sample was screened in the field for the presence of volatile organic compounds (VOC) using a calibrated photo-ionisation detector (PID). The methodology for PID headspace testing was in accordance with Section 7.4.3 of Schedule B2 of the National Environment Protection Measure (NEPC, 2013), which included partially filling an airtight zip-lock bag with a fresh soil sample and then analysing the headspace vapour using a portable PhoCheck Tiger VOC Gas Detector PID. The PID was bump tested daily in the field with 100 ppm isobutylene prior to commencement of soil sampling.

Activity	Details
Decontamination Procedure	Reusable sampling equipment was avoided wherever possible through the use of disposable nitrile gloves and direct sampling of material. Where reusable equipment was necessary, such as hand tools and drilling equipment (hand auger and solid flight augers) these were decontaminated by washing with phosphate free detergent (Decon 90) followed by a rinse with potable water.
Soil Sample Collection	Samples collected and analysed during the investigation are summarised in the tables in Appendix E . All primary and duplicate samples were submitted to Eurofins Environmental Testing, with triplicate samples provided to Envirolab Services. Both laboratories are NATA accredited.
Soil Sample Analysis Selection	Sample analysis selection was based on the location of potential contaminant sources, and contaminant indicators such as odours, staining or anthropogenic materials mixed through the soil / fill profile.
Sample Preservation and Transport	Following collection, soil samples were placed directly in laboratory-supplied jars, container and zip-lock bags, and stored on ice in an esky while on Site and in transit to the laboratory under standard Chain of Custody documentation.
Test Pit, Borehole and Soil Bore Reinstatement	Test pits and soil bores were backfilled with cuttings and boreholes with cuttings and asphalt to a level flush with the surrounding ground surface.

9 Results

9.1 Field observations

The following observations were made during the DGI:

- > Indicators of contamination, such as odour, sheen and staining, were not observed on visible ground surfaces or in any excavated materials.
- > Asbestos containing materials (ACM) was not observed in locations where bores were progressed and within soil sampled collected.
- > ACM in the form of bonded fibre cement fragments and asbestos piping was not observed in excavated material on site, however, it was observed at three locations within the nearby proposed pre-school site.
- > Observations of anthropogenic waste were visible in trace quantities of brick, ceramic and concrete. Glass and plastic were also observed on ground surfaces and in shallow fill profiles as outlined below:
 - HA05 had a fill profile of 0.6 m, with trace brick observed in the upper 0.1 m.
 - TP25 had a fill profile of 0.7 m, with trace glass observed in the upper 0.3 m.
 - TP26 had a fill profile of 0.3 m, with trace metal observed.
 - TP29 had a fill profile of 0.4 m, with trace glass observed.
 - TP30 had a fill profile of 0.2 m, with trace glass observed.
 - TP31 had a fill profile of 0.5 m, with trace glass and metal observed.
- > Water seepage was encountered in BH01S2, TP24 and TP30 during the intrusive assessment and ranged in approximate depth from 0.7 m bgl in BH01S2 and TP24 to 0.9 m bgl in TP30. The depth that seepage was encountered was at the top of the residual sandy clay layer indicating that the site may have a perched groundwater table above this residual layer, particularly during times of high rainfall. Seepage was not accompanied by any odour, sheen or staining of soils that might indicate contamination.
 - In the week preceding field works 34 mm of rain was recorded at Nowra RAN Air Station (Station ID 068072) which included 31 mm on March 19, two days before field works.

Geological logs with soil descriptions can be viewed in **Appendix D** and photographs of site soils are available in **Appendix C**.

9.2 Analytical results

Tabulated analytical summary tables are provided in **Appendix E** and the laboratory reports in their entirety are provided in **Appendix F**.

9.2.1 Human health

All results for samples collected as part of the DGI were below the laboratory limits of reporting (LOR), or the applicable Residential A human health criteria.

9.2.2 Ecological

Analytical results were screened against applicable ecological screening criteria noted in **Section 7.2** with the exceedances listed in **Table 9-1**. EIL for copper, nickel and zinc are derived from topsoil/fill material at TP06_0.1 which has a particularly low ACL due to low pH, CEC and clay % and was adopted as the initial screening criteria. Specific assessment of the ACL of materials assessed by these samples may eliminate these exceedances.

Further to this, when considered against values from possible fill / residual material at TP04_0.5, also shown in **Table 9-1**, the most exceedances for metals (with the exception of copper at BH01S1_0.1) are eliminated.

Table 9-1 Ecological criteria exceedances

			C16-C34	Copper	Nickel	Zinc
			mg/kg	mg/kg	mg/kg	mg/kg
EQL			100	5	5	5
NEPM 2013 EIL / ESL – derived from TP06_0.1			300	50	6	160
<u>EIL – derived from TP04_0.5</u>			-	<u>110</u>	<u>35</u>	<u>300</u>
Sample ID	Location ID	Sample Depth				
BH01E1_0.1	BH01E1	0.1	-	-	17	-
BH01N1_0.1	BH01N1	0.1	-	110	16	-
BH01N1_0.5	BH01N1	0.5	-	-	12	-
BH01S1_0.1	BH01S1	0.1	-	<u>130</u>	16	73
BH01S1_0.5	BH01S1	0.5	-	-	6.3	-
BH01W1_0.1	BH01W1	0.1	-	-	15	-
BH01W1_0.5	BH01W1	0.5	-	-	6.8	-
BH07_0.1	BH07	0.1	-	110	9.4	-
BH07_0.5	BH07	0.5	-	-	7.4	-
BH08_0.1	BH08	0.1	-	-	12	-
BH08_0.5	BH08	0.5	-	-	8.8	-
QA201	HA05	0.1	-	-	9.9	78
QC201	HA05	0.1	-	-	6	-
HA06_0.1	HA06	0.1	-	-	6.7	-
HA07_0.1	HA07	0.1	610	-	-	79
HA08_0.1	HA08	0.1	-	-	6.9	100
TP29_0.1	TP29	0.1	460	-	-	-
QA205	TP31	0.1	-	-	6.2	-

10 Quality assurance and quality control

The QA/QC samples collected during the sampling program are summarised below in **Table 10-1** including inter- and intra-laboratory duplicate pairings. Relative Percentile Differences between primary and duplicate samples are presented in the data summary tables in **Appendix E**.

Table 10-1 Summary of Field Inter/Intra Laboratory Duplicates

Sample Type	Matrix	Primary Sample	Intra-lab Replicate	Inter-lab Replicate
Field Replicates	Soil	HA05_0.1	QA201	QC201
		TP26_0.1	QA204	QC204
		TP31_0.1	QA205	QC205
Trip Spikes / Trip Blanks		Trip Spike / Trip Blank – 23/03/2022		

With the exception of the RPD exceedances noted in **Table 10-2** all RPD results were within the acceptance criteria nominated in **Table 6-2**. The variation between samples is minor and likely the result of natural heterogeneity within the soil profile. Further to this, the exceedances noted are not considered to impact the suitability of results as all results are below the adopted assessment criteria and have all been considered in the assessment of site suitability.

Table 10-2 RPD exceedances summary

Primary Sample	Replicate Sample	Analyte	Primary Result	Replicate Result	RPD
HA05_0.1	QA201	Chromium	<5	14	95
		Zinc	24	78	106
	QC201	Zinc	24	40	50
TP26_0.1	QC204	Lead	23	13	56
TP31_0.1	QC205	Chromium	29	17	52
		Lead	61	38	46
		Zinc	52	29	57

Replicate samples were collected during the field sampling program at the rates shown in **Table 10-3**.

Table 10-3 Replicate Sampling Rates

Analyte Category	Number of Primary Samples	Number of Duplicate Samples	Number of Triplicate Samples	Replicate Ratio
TRH, BTEX, PAH, Metals (As, Cd, Cr, Cu, Ni, Pb, Zn), OCP, OPP	25	3	3	8.3:1:1
Asbestos (NEPM/WA)	12	-	-	-

10.2 Laboratory QA/QC

In accordance with Cardno's Quality Assurance and Quality Control (QA/QC) procedures and AS4482.1 (2005), samples were stored in insulated transport containers containing ice and delivered to the designated laboratories under Chain of Custody documentation following sample collection. Chain of Custody records are included in **Appendix F**.

Eurofins Environmental Testing and Envirolab, the chosen analytical laboratories are NATA accredited and undertook internal QA/QC procedures which include the analysis of method blanks, internal duplicate samples, laboratory control samples, matrix spikes and surrogate recovery. Additionally, laboratory QA/QC procedures include sample receipt, logging, storage, preservation and analysis within the method specified holding time.

A review of the laboratory QA/QC procedures indicated that, with the exception of the outliers noted in **Table 10-4**, laboratory QA/QC were recorded within acceptance criteria, samples were received and stored appropriately and all samples were analysed within the specified holding time.

Laboratory LOR were below the adopted assessment criteria with the exception TRH, PAH, OCP and OPP for sample BH01_0.1. BH01_0.1 LORs were raised by the laboratory due to matrix interference of the sample. Correspondence with the lab indicated that the increased LORs suggests the sample is highly impacted and this is discussed further in **Section 11**.

Table 10-4 Laboratory QA/QC outlier's summary

Laboratory	Report ID	Analyte	Sample	QA/QC Outlier	Notes
Eurofins	875523	PAH, OCP	TP23_0.1	Surrogate matrix interference	Chromatographic interference has prevented the determination of a recovery
		Zinc, dieldrin, endosulfan I	W22-Ma62538	Duplicate RPD outside of acceptance criteria	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary Reporting in Appendix Error! Reference source not found..
		Arsenic, chromium, zinc	W22-Ma62540		
		Chromium	W22-Ma62542		
		Lead, zinc	W22-Ma62562		

10.3 Data usability

The data validation procedure employed in the assessment of the field and laboratory QA/QC data and shown above and in **Appendix E** and **F** have indicated that the reported analytical results are representative of the conditions at the sample locations and that the analytical data can be relied upon for the purpose of these works. It is concluded that overall the quality of the analytical data produced is acceptable and reliable for the intended purpose.

11 Discussion

11.1 Human health

The findings of the assessment were generally consistent with previous assessments completed at the site with no exceedances to the adopted human health criteria identified across the site. The only area of concern to human health remains BH01 with TRH F2 (<500 mg/kg), B(α)P TEQ (<5 to <12 mg/kg) and toxaphene (<100 mg/kg) identified at hotspot concentrations (>2.5x assessment criteria) during the ESA (Cardno, 2022).

The extents of the contamination at BH01 has been delineated to a volume of 2 m x 2 m x 0.5 m between BH01E1, BH01S1, BH01W1 and BH01N1 which were advanced 1m away from BH01 in each cardinal direction. Results at these locations were recorded below LOR for all contaminants of concern identified in BH01 with low concentrations of TRH F4 identified in BH01W1_0.1 (220 mg/kg). Due to the identification of BH01 as a hotspot, management and / or remediation of impacted material will be required prior to disturbance of soils in this location.

In addition to delineating the extent of the impact, the DGI investigation advanced locations BH07 and BH08 were advanced within the carpark to the west of BH01 to ensure that the identified impact was not widespread, such as from the application of chemicals prior to placement of asphalt. Contaminant of concern concentrations in these locations were below LOR with low concentrations of TRH F3 (150 mg/kg BH08_0.1) and TRH F4 (120 mg/kg BH08_0.1 and 250 mg/kg BH07_0.1) detected.

11.2 Ecological health

Identified metals exceedances of EIL criteria are considered to be the result of low EIL based on ACL values calculated based on low carrying capacity soils. Further to this, no typical sources of metals contamination, such as waste metal fragments, galvanised steel and buried batteries were identified, therefore detected concentrations are considered likely to be associated with background concentrations in the soil and not the result of an added contamination.

Exceedances of TRH C₁₆-C₃₄ ESL criteria were also identified in TP29_0.1 and HA07_0.1. While such detections may potentially be from anthropogenic sources, such as spills and leaks, they are also commonly identified in association with decay of vegetation matter, particularly from eucalypt trees. Both samples have been collected from surficial soils within the root / drip zone of large well-established eucalypt trees, with no local sources of contamination and no evidence of spills, staining or odours noted.

Based on the above presented lines of evidence the detected concentrations of metals and TRH are not considered meet the definition of contamination of land and no further action is necessary to manage risk to ecological receptors.

11.3 Updated conceptual site model

With the additional information collected as part of this DGI, the preliminary CSM summarised in **Section 5** has been reconsidered and updated. Many of the previously identified PAEC have been removed as potential sources of contaminant risk, however, a number of potential sources remain and are summarised in **Table 11-1**.

Table 11-1 Preliminary Conceptual Site Model (Cardno, 2021)

Source	Potential Contaminants	Encountered Contaminants	Impacted media	Pathway	Receptor	Completeness
Filling of unknown origin and quantity along western ridgeline and surrounding helicopter pad and beneath the hardstands in the northern portion of the site.	Asbestos; metals; PAH; TRH; BTEX; Phenols; OCP; OPP; PCB	TRH; Potential B(α)P TEQ; OCP (toxaphene)	Soils including fill through direct application Surface water through runoff	Direct contact including ingestion of, impacted media Inhalation of asbestos fibres Surface water infiltration	Ecological receptors: - Site biota dependent on site soils Human: - Current Site workers (hospital, pre-school) - Future Site workers (hospital) - Workers during construction - Individuals undertaking installation and maintenance of subsurface utilities - Current recreational land users	Potentially complete at BH01, in the event of any direct interaction with impacted media (i.e. excavations, use as growth medium or mobilisation as run-off)
Structures constructed pre-1990	Asbestos; lead and zinc	No contaminants above adopted criteria encountered.	Soils beneath and surrounding potentially hazardous building materials	Direct contact including ingestion of, impacted media Inhalation of asbestos fibres Surface water infiltration		Incomplete as site observations and analytical results indicated no potential or actual contamination is present.
Maintenance shed	TRH; PAH; BTEX; metals; OCP/ OPP, other pesticides		Soils surrounding maintenance shed (particularly downgradient) Surface water through runoff	Direct contact including ingestion of, impacted media Surface water infiltration		

11.4 Data gaps and uncertainties

The following data gaps and uncertainties apply to the findings of this DGI:

- > Access beneath structures and hardstands surfaces is necessarily limited, while sufficient data is considered to exist to make a statement on site suitability limitations exist in these areas due to the inability to make a visual assessment of ground conditions. Care should be during the demolition and stripping of hardstand to identify potential contamination finds and allow for implementation of management and controls as per a project Construction Environment Management Plan (CEMP).
- > Limited groundwater has been encountered to the depth of investigation in the form of seepage at unit interfaces. It is likely that this observed water is ephemeral and present only following rainfall events. A deeper groundwater aquifer is likely to exist within pore space and fractures of underlying rock. No assessment of this deeper aquifer has been undertaken as interaction with the proposed design is considered unlikely however if designs change and / or this deeper aquifer is encountered an assessment of potential contamination impacts should be undertaken.
- > The maintenance shed in the northern portion of the site was locked during the investigation, so a comment on the contents and the potential for contamination from these is unable to be made.
- > The presence of pavement and utilities in the northern portion of the site impeded the ability to observe cuttings and to situate sample locations. The preferred sampling method of test pitting to observe the soil profile and excavated spoil for signs of contamination was unfeasible / impractical due to the operational nature of the hospital at the time of sampling. It is Cardno's understanding that the earthworks in this area, based on the designs available to Cardno at the time of preparing this report, may involve minimal excavation of underlying soil material.
- > The sampling program did not identify asbestos containing material at the site, however, asbestos was encountered in excavated material outside of the site boundary within the proposed pre-school site. The area located between sampling locations TP10, TP28 and TP29, and the proposed pre-school site boundary was not excavated or sampled. There is potential for asbestos within the material beneath the surface at these locations.

12 Conclusions and recommendations

Cardno completed this DGI for the proposed Shoalhaven Hospital development site located along Shoalhaven Street, Nowra NSW. The works were completed for Johnstaff on behalf of NSW Health Infrastructure.

The DGI has been undertaken to address residual data gaps following a previous ESA investigation and changes to the site boundary extents. No additional contamination has been identified as part of this assessment and previously identified contamination at BH01 in the ESA has been successfully delineated.

Based on the findings of this investigation and the previous ESA, with the exception of the area centred on BH01 between sampling locations BH01E1, BH01S1, BH01W1 and BH01N1, the site is considered suitable for the intended land use as a hospital. The unsuitable area can be made suitable following management of the identified contamination through the implementation of recommendations as outlined below.

12.1 Recommendations

Based upon the findings of the DGI and with reference to the proposed future land use of the site, the following recommendations are made:

- > Preparation of a Remediation Action Plan to manage impacts in the vicinity of BH01. Based on the small volume (approximately 2 m³) of material, excavation and off-site disposal is likely to be the most time and cost-effective approach however other treatment options may be considered.
- > Future ground disturbance works should be undertaken in accordance with a Construction Environmental Management Plan (CEMP) with an Unexpected Finds Protocol that outlines appropriate actions in the event that potentially contaminated materials are identified. If potentially contaminated materials are identified then a more detailed assessment will be required as detailed in the ASC NEPM (NEPC, 2013).
- > Any waste generated during the redevelopment, including demolition materials and excavated soil, must be assessed for potential offsite reuse / disposal opportunities in accordance with the NSW EPA *Waste Classification Guidelines* (2014) and current resource recovery exemptions / orders.

13 Limitations

This assessment report is not any of the following:

- > A Site Audit Report or Site Audit Statement as defined under the *Contaminated Land Management Act 1997* (CLM Act).
- > A geotechnical report.
- > An assessment of groundwater contaminants potentially arising from other sites or sources nearby.
- > A hazardous building material survey that will identify any specific building materials on site, which may pose a risk to human health or the environment.
- > The agreed scope of this assessment has been limited for the current purposes of the Client. The assessment may not identify contamination occurring in all areas of the site.

This Document has been provided by Cardno subject to the following limitations:

- > This Document has been prepared for the particular purpose outlined in Cardno's proposal and no responsibility is accepted for the use of this Document, in whole or in part, in other contexts or for any other purpose.
- > The scope and the period of Cardno's services are as described in Cardno's proposal, and are subject to restrictions and limitations. Cardno did not perform a complete assessment of all possible conditions or circumstances that may exist at the site referenced in the Document. If a service is not expressly indicated, do not assume it has been provided. If a matter is not addressed, do not assume that any determination has been made by Cardno in regards to it.
- > Conditions may exist which were undetectable given the limited nature of the enquiry Cardno was retained to undertake with respect to the site. Variations in conditions may occur between investigatory locations, and there may be special conditions pertaining to the site which have not been revealed by the investigation and which have not therefore been taken into account in the Document. Accordingly, additional studies and actions may be required.
- > In addition, it is recognised that the passage of time affects the information and assessment provided in this Document. Cardno's opinions are based upon information that existed at the time of the production of the Document. It is understood that the services provided allowed Cardno to form no more than an opinion of the actual conditions of the site at the time this Document was prepared and cannot be used to assess the effect of any subsequent changes in the quality of the site, or its surroundings, or any laws or regulations.
- > Any assessments made in this Document are based on the conditions indicated from published sources and the investigation described. No warranty is included, either express or implied, that the actual conditions will conform exactly to the assessments contained in this Document.
- > Where data supplied by the client or other external sources, including previous site investigation data, have been used, it has been assumed that the information is correct unless otherwise stated. No responsibility is accepted by Cardno for incomplete or inaccurate data supplied by others.

14 References

- Cardno. (2021). *Preliminary Site Investigation - Shoalhaven Hospital Redevelopment*. Report Ref: 8202118201_R001_PSI_Rev1: Cardno (NSW/ACT) Pty Ltd.
- Cardno. (2022). *Environmental Site Assessment - Shoalhaven Hospital Redevelopment*. Report Ref: 8202118201_R003_ESA_Rev0: Cardno (NSW/ACT) Pty Ltd.
- Department of Land and Water Conservation. (1998). *Acid Sulfate Soils Risk*. Retrieved from eSpade v2.0: <https://www.environment.nsw.gov.au/eSpade2WebApp>
- GS NSW. (2018). *NSW Statewide Seamless Geology*. Retrieved from Minview: minview.geoscience.nsw.gov.au
- JK Geotechnics. (2017). *Report to Health Infrastructure on Geotechnical Investigation for Proposed Carparks at Shoalhaven Hospital Scenic Drive, Nowra, NSW*. Report Ref: 30760Z: JK Geotechnics.
- Nearmap. (2021). *Aerial Imagery Data*. Retrieved from Nearmap: maps.au.nearmap.com
- NEPC. (2010, December). *National Environment Protection Council*. Retrieved from ASC NEPM Toolbox - Ecological Investigation Levels - Interactive Calculation Spreadsheet: <http://nepc.gov.au/nepms/assessment-site-contamination/toolbox#hils>
- NEPC. (2013). *National Environment Protection (Assessment of Site Contamination) Measure (NEPM), As amended 2013*. National Environment Protection Council (NEPC).
- NSW DFSI, Spatial Services. (n.d.). *NSW Topographic Maps*. NSW Department of Finance, Services and Innovation, Spatial Services.
- NSW EPA. (2020). *Consultants reporting on contaminated land; Contaminated land guidelines*. NSW Environment Protection Authority.
- NSW OEH. (2013). *Soil Landscapes of Central and Eastern NSW, version 2*. Retrieved from eSpade v2.0: <https://www.environment.nsw.gov.au/eSpade2WebApp>

APPENDIX

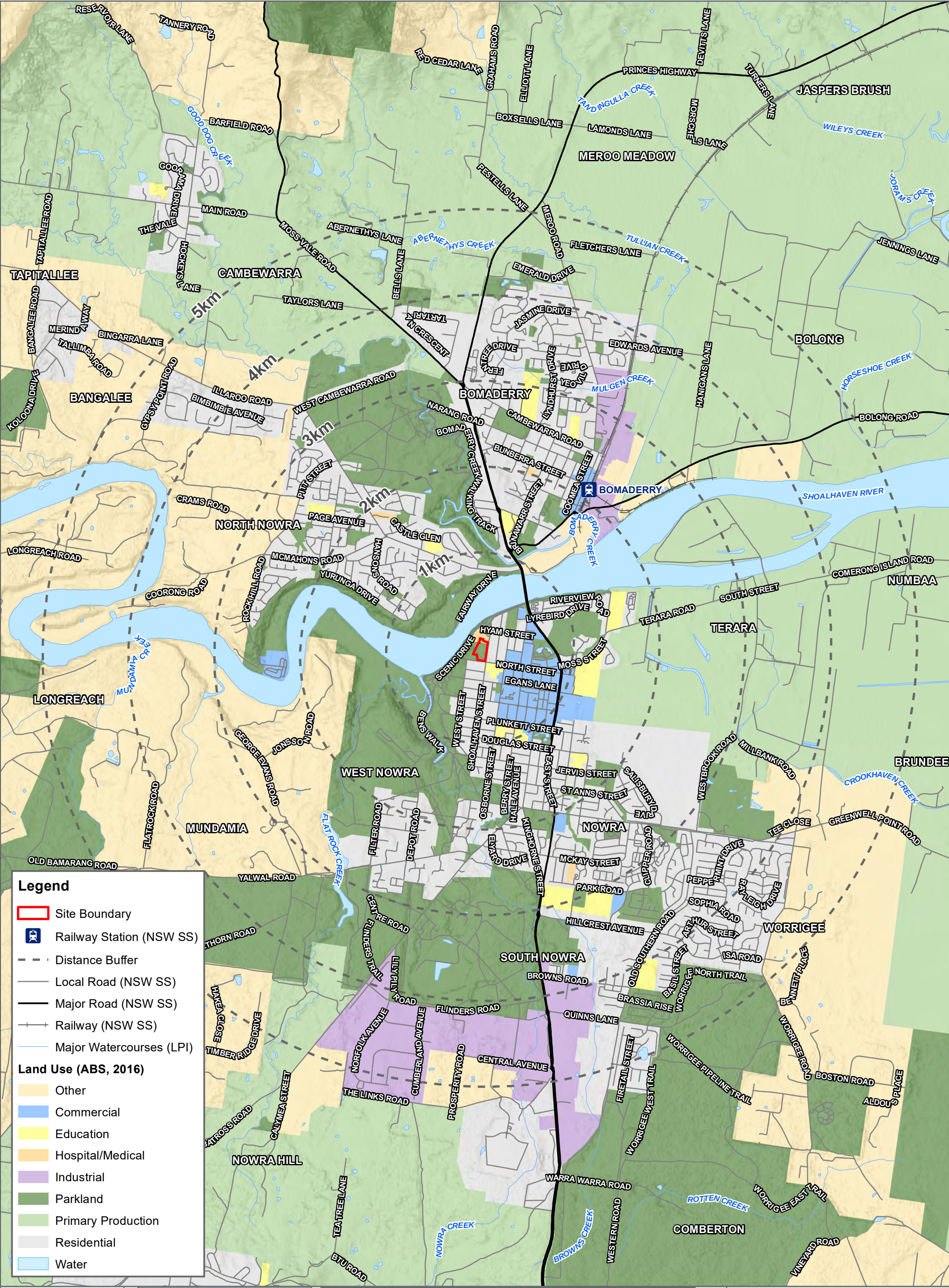
A

FIGURES



now





Legend

 Site Boundary

 Railway Station (NSW SS)

 Distance Buffer

 Local Road (NSW SS)

 Major Road (NSW SS)

 Railway (NSW SS)

 Major Watercourses (LPI)

Land Use (ABS, 2016)

 Other

 Commercial

 Education

 Hospital/Medical

 Industrial

 Parkland

 Primary Production

 Residential

 Water

Legend

- Site Boundary
- 2m Contours (LPI LiDAR, 2010)
- Cadastre (NSW SS, 2019)

Areas of Environmental Concern

- AEC 1: Filling / Mounding / Tipping within the site
- AEC 2: Soils surrounding maintenance shed
- AEC 3: Structures constructed pre-1990
- AEC 3: Structures constructed pre-1990 (Approximate Location)





APPENDIX

B

CONCEPT DESIGN



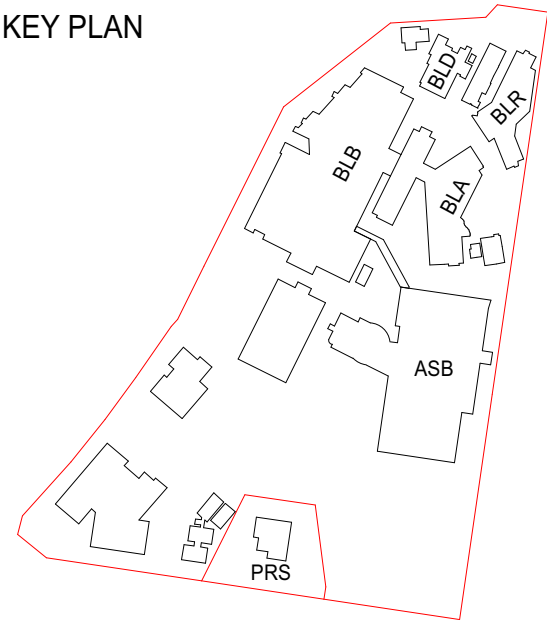
now



- Legend
- NEW BUILD
 - EXISTING BUILDINGS
 - BUILDING LINKS
 - LANDSCAPING
 - EXISTING ROADS
 - NEW ROADS
 - PAVED AREAS

Revision			
REV	DESCRIPTION	DATE	INT.
0	ISSUED FOR INFORMATION	11.11.21	JZ
1	ISSUED FOR INFORMATION	17.11.21	JZ
2	ISSUED FOR INFORMATION	07.12.21	JZ
3	ISSUED FOR INFORMATION	20.12.21	JZ
4	ISSUED FOR 80% SD	04.02.22	CL
5	ISSUED FOR INFORMATION	11.02.22	JZ
6	ISSUED FOR INFORMATION	18.02.22	CL
7	ISSUED FOR INFORMATION	25.02.22	JZ

KEY PLAN



Project

SDMH Shoalhaven District
Memorial Hospital
Scenic Dr, Nowra NSW 2541

Client



Project Manager / Contract Administrator



Managing Contractor



Building

ASB

Drawing

Site Plan - Proposed

A1 Scale 1 : 1000

Project No. 20278

Issue 7

Drawing No.

ASB-SD-DR-AR-1000

Details

Copyright Conrad Gargett. ABN 81 636 465 373 ACN 636 465 373
Do not scale this drawing and verify all dimensions and levels on site.
Nominated Architect : Lawrence Toaldo NSW Reg. 10255.

10 0 10 20 30 40 50 60 70
SCALE 1:1000
Scale at A1



PRELIMINARY

APPENDIX

C

PHOTO LOG



now





Photograph 1: Delineation sampling of soils surrounding BH01 advanced during the ESA (Cardno, 2022) using a hand auger and Geoprobe 7822DT



Photograph 2: Spoil from BH01S2 which was advanced to delineate contamination from BH01



Photograph 3: Standing water observed in BH01S2



Photograph 4: Eastern portion of the Shoalhaven Pre-school grounds.



Photograph 5: Western portion of the Shoalhaven Pre-school grounds.



Photograph 6: Soil profile observed for sample location HA05 within the Shoalhaven Pre-school grounds



Photograph 7: Toilet building observed in the southern portion of the Site, note TP23 location indicated by the flag



Photograph 8: Additional toilet building observed in the southern portion of the Site



Photograph 9: Spoil from TP11 advanced in the western fill bank within the Site, note plastic and brick



Photograph 10: 5t excavator used for test pitting, pictured in the proposed Shoalhaven Pre-school area. Note small fill platform.



Photograph 11: Bonded asbestos fibre cement fragment (TP14_0.1) observed within TP14 spoil



Photograph 12: Sample location TP15, note buried brick foundation and porcelain fragments



Photograph 13: Spoil from TP20, note bonded asbestos fragment (TP20_PACM_20_0.1)



Photograph 14: Asbestos piping observed in TP20 spoil (TP20_0.4_PACM)



Photograph 15: Bonded asbestos fibre cement fragment observed in TP23 (TP23_0.3_PACM)



Photograph 16: Seepage observed in TP23



Photograph 17: TP24 spoil, note natural sandy clay strata.



Photograph 18: TP28 advanced within a small fill platform adjacent to the asphalt area in the south of the Site.



Photograph 19: Spoil from TP31.

APPENDIX

D

BOREHOLE LOGS



now



Hole No: BH01E1

Client: NSW Health Infrastructure
Project: Shoalhaven Hospital
Location: Scenic Drive, Nowra NSW 2541

Job No: 8202118201

Sheet: 1 of 1

Position: **Angle from Horizontal:** 90° **Surface Elevation:**

Rig Type: Geoprobe 7822dt **Mounting:** Track **Driller:** NW

Casing Diameter: **Contractor:** Stratacore

Data Started: 21/3/22 **Date Completed:** 21/3/22 **Logged By:** CL **Checked By:** CL

Drilling			Sampling & Testing		Material Description						
Method	Resistance	Casing	Water	Sample or Field Test	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
HA			Not Encountered	ES 0.10 m PID 0.10 m 1.8 ppm	0.5		SW	FILL: Gravelly SAND: fine to coarse grained, well graded, dark grey, no odour observed	M to W		FILL 0.00 m: Roadbase
				CL-CI			FILL: Sandy CLAY: low to medium plasticity, light brown, fine to medium grained sand, with fine to medium grained gravel, no odour observed				
				CI			Gravelly Sandy CLAY: medium plasticity, orange/red/ brown, fine to medium grained sand, fine to medium grained gravel, with fine to medium grained sandstone gravel, no odour observed				RESIDUAL SOIL
				ES 0.50 m PID 0.50 m 1.1 ppm							
				ES 1.00 m PID 1.00 m 0.9 ppm	1.0			TERMINATED AT 1.00 m Target depth Target Depth Reached			
					1.5						
					2.0						
					2.5						

METHOD
EX Excavator bucket
R Ripper
HA Hand auger
PT Push tube
SON Sonic drilling
AH Air hammer
PS Percussion sampler
AS Short spiral auger
AD/V Solid flight auger: V-Bit
AD/T Solid flight auger: TC-Bit
HFA Hollow flight auger
WB Washbore drilling
RR Rock roller

PENETRATION
VE Very Easy (No Resistance)
E Easy
F Firm
H Hard
VH Very Hard (Refusal)

WATER
 Water Level on Date shown
 water inflow
 water outflow

FIELD TESTS
SPT - Standard Penetration Test
HP - Hand/Pocket Penetrometer
DCP - Dynamic Cone Penetrometer
PSP - Perth Sand Penetrometer
MC - Moisture Content
PBT - Plate Bearing Test
IMP - Borehole Impression Test
PID - Photoionisation Detector
VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)

SAMPLES
B - Bulk disturbed sample
D - Disturbed sample
ES - Environmental sample
U - Thin wall tube 'undisturbed'

MOISTURE
D - Dry
M - Moist
W - Wet
PL - Plastic limit
LL - Liquid limit
w - Moisture content

SOIL CONSISTENCY
VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard

RELATIVE DENSITY
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Refer to explanatory notes for details of abbreviations and basis of descriptions

Client:	NSW Health Infrastructure
Project:	Shoalhaven Hospital
Location:	Scenic Drive, Nowra NSW 2541

Job No: 8202118201

Sheet: 1 of 1

Position:

Angle from Horizontal: 90°

Surface Elevation:

Rig Type: Geoprobe 7822dt

Mounting: Track

Driller: NW

Casing Diameter:

Contractor: Stratacore

Data Started: 21/3/22

Date Completed: 21/3/22

Logged By: CL

Checked By: CL

[illegible]

Client:	NSW Health Infrastructure
Project:	Shoalhaven Hospital
Location:	Scenic Drive, Nowra NSW 2541

Job No: 8202118201

Sheet: 1 of 1

Position: **Angle from Horizontal: 90°**

Surface Elevation:

Rig Type: Geoprobe 7822dt

Mounting: Track

Driller: NW

Casing Diameter:

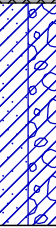
Contractor: Stratacore

Data Started: 21/3/22

Date Completed: 21/3/22

Logged By: CL

Checked By: CL

Drilling			Sampling & Testing	Depth (m)	Material Description						
Method	Resistance	Casing			Water	Sample or Field Test	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density
 HA 			Not Encountered	ES 0.10 m PID 0.10 m 6.1 ppm	0.5		SW	FILL: Gravelly SAND: fine to coarse grained, well graded, dark grey, no odour observed	M to W		FILL 0.00 m: Roadbase
						CL-CI	FILL: Sandy CLAY: low to medium plasticity, light brown, fine to medium grained sand, with fine to medium grained gravel, no odour observed				
						CI	Gravelly Sandy CLAY: medium plasticity, orange/red/ brown, fine to medium grained sand, fine to medium grained gravel, with fine to medium grained sandstone gravel, no odour observed				RESIDUAL SOIL
				ES 0.50 m PID 0.50 m 1.2 ppm							
				ES 1.00 m PID 1.00 m 2.2 ppm	1.0			TERMINATED AT 1.00 m Target depth Target Depth Reached	W		
					1.5						
					2.0						
					2.5						

METHOD		PENETRATION		FIELD TESTS		SAMPLES		SOIL CONSISTENCY	
EX	Excavator bucket	VE	Very Easy (No Resistance)	SPT	- Standard Penetration Test	B	- Bulk disturbed sample	VS	- Very Soft
R	Ripper	E	Easy	HP	- Hand/Pocket Penetrometer	D	- Disturbed sample	S	- Soft
HA	Hand auger	F	Firm	DCP	- Dynamic Cone Penetrometer	ES	- Environmental sample	F	- Firm
PT	Push tube	H	Hard	PSP	- Perth Sand Penetrometer	U	- Thin wall tube 'undisturbed'	St	- Stiff
SON	Sonic drilling	VH	Very Hard (Refusal)	MC	- Moisture Content			VSt	- Very Stiff
AH	Air hammer			PBT	- Plate Bearing Test			H	- Hard
PS	Percussion sampler			IMP	- Borehole Impression Test	D	- Dry		
AS	Short spiral auger			PID	- Photoionisation Detector	M	- Moist		
AD/V	Solid flight auger: V-Bit			VS	- Vane Shear; P=Peak, R=Residual (uncorrected kPa)	W	- Wet	VL	- Very Loose
AD/T	Solid flight auger: TC-Bit					PL	- Plastic limit	L	- Loose
HFA	Hollow flight auger					LL	- Liquid limit	MD	- Medium Dense
WB	Washbore drilling					w	- Moisture content	D	- Dense
RR	Rock roller							VD	- Very Dense

Refer to explanatory notes for details of abbreviations and basis of descriptions

CARDNO (NSW/ACT) PTY LTD

Client:	NSW Health Infrastructure
Project:	Shoalhaven Hospital
Location:	Scenic Drive, Nowra NSW 2541

Job No: 8202118201

Sheet: 1 of 1

Position: **Angle from Horizontal: 90°**

Surface Elevation:

Rig Type: Geoprobe 7822dt

Mounting: Track

Driller: NW

Casing Diameter:

Contractor: Stratacore

Data Started: 21/3/22

Date Completed: 21/3/22

Logged By: CL

Checked By: CL

Drilling				Sampling & Testing	Depth (m)	Material Description						
Method	Resistance	Casing	Water	Sample or Field Test		Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations	
HA			Not Encountered	ES 0.10 m PID 0.10 m 5.6 ppm	0.5		SW	FILL: Gravelly SAND: fine to coarse grained, well graded, dark grey, no odour observed	M to W		FILL 0.00 m: Roadbase	
						CL-Cl	FILL: Sandy CLAY: low to medium plasticity, light brown, fine to medium grained sand, with fine to medium grained gravel, no odour observed					
						Cl	Gravelly Sandy CLAY: medium plasticity, orange/red/ brown, fine to medium grained sand, fine to medium grained gravel, with fine to medium grained sandstone gravel, no odour observed					
				ES 0.50 m PID 0.50 m 3.8 ppm							RESIDUAL SOIL	
				ES 1.00 m PID 1.00 m 2.3 ppm	1.0			TERMINATED AT 1.00 m Target depth Reached				
					1.5							
					2.0							
					2.5							
METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller				PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER Water Level on Date shown water inflow water outflow		FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)			SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content		SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense	
Refer to explanatory notes for details of abbreviations and basis of descriptions												
CARDNO (NSW/ACT) PTY LTD												

Hole No: BH01S1

Client: NSW Health Infrastructure		Job No: 8202118201		Sheet: 1 of 1	
Project: Shoalhaven Hospital					
Location: Scenic Drive, Nowra NSW 2541					
Position:		Angle from Horizontal: 90°		Surface Elevation:	
Rig Type: Geoprobe 7822dt		Mounting: Track		Driller: NW	
Casing Diameter:				Contractor: Stratacore	
Data Started: 21/3/22		Date Completed: 21/3/22		Logged By: CL	
				Checked By: CL	

Drilling			Water	Sampling & Testing	Depth (m)	Material Description					
Method	Resistance	Casing		Sample or Field Test		Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
HA			Not Encountered	ES 0.10 m PID 0.10 m 5.1 ppm		SW	FILL: Gravelly SAND: fine to coarse grained, well graded, dark grey, no odour observed	M to W		FILL 0.00 m: Roadbase	
	ES 0.50 m PID 0.50 m 3.2 ppm	0.5		CL- CI	FILL: Sandy CLAY: low to medium plasticity, light brown, fine to medium grained sand, with fine to medium grained gravel, no odour observed						
		1.0		CI	Gravelly Sandy CLAY: medium plasticity, orange/red/ brown, fine to medium grained sand, fine to medium grained gravel, with fine to medium grained sandstone gravel, no odour observed	W	RESIDUAL SOIL				
				ES 1.00 m PID 1.00 m 1.5 ppm			TERMINATED AT 1.00 m Target depth Target Depth Reached				
					1.5						
					2.0						
					2.5						

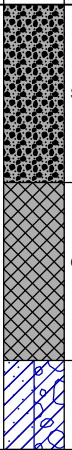
METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller	PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER  Water Level on Date shown  water inflow  water outflow	FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)	SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content	SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
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Refer to explanatory notes for details of abbreviations and basis of descriptions

CARDNO (NSW/ACT) PTY LTD

Hole No: BH01S2

Client: NSW Health Infrastructure	Job No: 8202118201	Sheet: 1 of 1
Project: Shoalhaven Hospital		
Location: Scenic Drive, Nowra NSW 2541		
Position:	Angle from Horizontal: 90°	Surface Elevation:
Rig Type: Geoprobe 7822dt	Mounting: Track	Driller: NW
Casing Diameter:		Contractor: Stratacore
Data Started: 21/3/22	Date Completed: 21/3/22	Logged By: CL
		Checked By: CL

Drilling				Sampling & Testing				Material Description			
Method	Resistance	Casing	Water	Sample or Field Test	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
HA			Drilled Over Water	ES 0.10 m PID 0.10 m 4.2 ppm			SW	FILL: Gravelly SAND: fine to coarse grained, well graded, dark grey, no odour observed	M to W		FILL 0.00 m: Roadbase
				ES 0.50 m PID 0.50 m 1.5 ppm	0.5		CL-CI	FILL: Sandy CLAY: low to medium plasticity, light brown, fine to medium grained sand, with fine to medium grained gravel, no odour observed			
				ES 1.00 m PID 1.00 m 1.2 ppm	1.0		CI	Gravelly Sandy CLAY: medium plasticity, orange/red/ brown, fine to medium grained sand, fine to medium grained gravel, with fine to medium grained sandstone gravel, no odour observed	W		RESIDUAL SOIL
								TERMINATED AT 1.00 m Target depth Target Depth Reached			

METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller	PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER  Water Level on Date shown  water inflow  water outflow	FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)	SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content	SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
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Refer to explanatory notes for details of abbreviations and basis of descriptions

CARDNO (NSW/ACT) PTY LTD

Client: NSW Health Infrastructure
Project: Shoalhaven Hospital
Location: Scenic Drive, Nowra NSW 2541

Hole No: BH01W1

Job No: 8202118201

Sheet: 1 of 1

Position:

Angle from Horizontal: 90°

Surface Elevation:

Rig Type: Geoprobe 7822dt

Mounting: Track

Driller: NW

Casing Diameter:

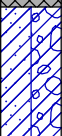
Contractor: Stratacore

Data Started: 21/3/22

Date Completed: 21/3/22

Logged By: CL

Checked By: CL

Drilling			Sampling & Testing		Material Description							
Method	Resistance	Casing	Water	Sample or Field Test	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations	
↑ HA ↓			Not Encountered	ES 0.10 m PID 0.10 m 3.2 ppm	0.5		SW 0.20m	FILL: Gravelly SAND: fine to coarse grained, well graded, dark grey, no odour observed	M to W		FILL 0.00 m: Roadbase	
				CL- CI 0.70m		FILL: Sandy CLAY: low to medium plasticity, light brown, fine to medium grained sand, with fine to medium grained gravel, no odour observed						
				CI 1.00m		Gravelly Sandy CLAY: medium plasticity, orange/red/ brown, fine to medium grained sand, fine to medium grained gravel, with fine to medium grained sandstone gravel, no odour observed	W	RESIDUAL SOIL				
				ES 1.00 m PID 1.00 m 0.6 ppm	1.0 1.5 2.0 2.5			TERMINATED AT 1.00 m Target depth Target Depth Reached				
METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller				PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER  Water Level on Date shown  water inflow  water outflow		FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)			SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content		SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense	
Refer to explanatory notes for details of abbreviations and basis of descriptions												
CARDNO (NSW/ACT) PTY LTD												

Client:	NSW Health Infrastructure
Project:	Shoalhaven Hospital
Location:	Scenic Drive, Nowra NSW 2541

Job No: 8202118201

Sheet: 1 of 1

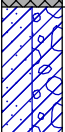
Hole No: BH01W2

Position: **Angle from Horizontal: 90°** **Surface Elevation:**

Rig Type: Geoprobe 7822dt	Mounting: Track	Driller: NW
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Casing Diameter: _____ **Contractor: Stratacore**

Data Started: 21/3/22	Date Completed: 21/3/22	Logged By: CL	Checked By: CL
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Drilling				Sampling & Testing		Material Description						
Method	Resistance	Casing	Water	Sample or Field Test	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations	
↑ HA ↓			Not Encountered	ES 0.10 m PID 0.10 m 3.6 ppm	0.5		SW	FILL: Gravelly SAND: fine to coarse grained, well graded, dark grey, no odour observed	M to W		FILL 0.00 m: Roadbase	
						CL- CI	FILL: Sandy CLAY: low to medium plasticity, light brown, fine to medium grained sand, with fine to medium grained gravel, no odour observed					
						CI	Gravelly Sandy CLAY: medium plasticity, orange/red/ brown, fine to medium grained sand, fine to medium grained gravel, with fine to medium grained sandstone gravel, no odour observed					
				ES 0.50 m PID 0.50 m 2.1 ppm							RESIDUAL SOIL	
				ES 1.00 m PID 1.00 m 1.6 ppm	1.0			TERMINATED AT 1.00 m Target Depth Reached				
					1.5							
					2.0							
					2.5							
METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller				PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER  Water Level on Date shown  water inflow  water outflow		FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)			SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content		SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense	
Refer to explanatory notes for details of abbreviations and basis of descriptions												
CARDNO (NSW/ACT) PTY LTD												

Client:	NSW Health Infrastructure
Project:	Shoalhaven Hospital
Location:	Scenic Drive, Nowra NSW 2541

Job No: 8202118201

Sheet: 1 of 1

Position: **Angle from Horizontal: 90°**

Surface Elevation:

Rig Type: Geoprobe 7822dt

Mounting: Track

Driller: NW

Casing Diameter:

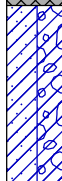
Contractor: Stratacore

Data Started: 21/3/22

Date Completed: 21/3/22

Logged By: CL

Checked By: CL

Drilling			Sampling & Testing		Material Description								
Method	Resistance	Casing	Water	Sample or Field Test	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations		
 AD/T 			Not Encountered	ES 0.10 m			SP	FILL: Gravelly SAND: fine to coarse grained, gap graded, dark grey, no odour observed	M		FILL 0.00 m: Roadbase		
				ES 0.50 m	0.5		CL-Cl	FILL: Sandy CLAY: low to medium plasticity, light brown, fine to medium grained sand, with fine to medium grained gravel, no odour observed					
							Cl	Gravelly Sandy CLAY: medium plasticity, orange/red/ brown, fine to medium grained sand, fine to medium grained gravel, no odour observed				RESIDUAL SOIL	
				ES 1.00 m	1.0			TERMINATED AT 1.00 m Target depth Target Depth Reached					
					1.5								
					2.0								
					2.5								
METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller				PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER  Water Level on Date shown  water inflow  water outflow			FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)			SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content		SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense	
Refer to explanatory notes for details of abbreviations and basis of descriptions													
CARDNO (NSW/ACT) PTY LTD													

Client: NSW Health Infrastructure Project: Shoalhaven Hospital Location: Scenic Drive, Nowra NSW 2541	Job No: 8202118201	Hole No: BH08 Sheet: 1 of 1
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Position: Rig Type: Geoprobe 7822dt Casing Diameter:	Angle from Horizontal: 90° Mounting: Track Logged By: CL	Surface Elevation: Driller: NW Contractor: Stratacore Checked By: CL
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Drilling			Water	Sampling & Testing		Depth (m)	Material Description				
Method	Resistance	Casing		Sample or Field Test	Graphic Log		Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
AD/T			Not Encountered	ES 0.10 m			SP	FILL: Gravelly SAND: fine to coarse grained, gap graded, dark grey, no odour observed	M		FILL 0.00 m: Roadbase
				ES 0.50 m			CL-CI	FILL: Sandy CLAY: low to medium plasticity, light brown, fine to medium grained sand, with fine to medium grained gravel, no odour observed			
							CI	Gravelly Sandy CLAY: medium plasticity, orange/red/ brown, fine to medium grained sand, fine to medium grained gravel, no odour observed			
				ES 1.00 m				TERMINATED AT 1.00 m Target depth			

METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller	PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER Water Level on Date shown water inflow water outflow	FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)	SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content	SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
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Refer to explanatory notes for details of abbreviations and basis of descriptions

Client: NSW Health Infrastructure
Project: Shoalhaven Hospital
Location: Scenic Drive, Nowra NSW 2541
Job No: 8202118201
Sheet: 1 of 1
Hole No: HA05

Position: _____ **Angle from Horizontal:** 90° **Surface Elevation:** _____

Equipment: Hand Auger

Casing Diameter: _____ **Contractor:** Cardno

Data Started: 21/3/22 **Logged By:** CL **Checked By:** CL

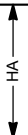
Drilling			Water	Sampling & Testing	Depth (m)	Material Description					
Method	Resistance	Casing		Sample or Field Test		Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
HA			Not Encountered	ES 0.10 m PID 0.10 m 0.4 ppm			SM 0.10m	FILL: Silty SAND: fine to coarse grained, well graded, light brown with dark brown, with fine to medium grained gravel, no odour observed	M		FILL 0.00 m: Organic matter (grass and rootlets), trace brick 0.10 m: Organic matter (roots)
				ES 0.50 m PID 0.50 m 1.1 ppm	0.5		SC 0.60m	FILL: Clayey SAND: fine to medium grained, well graded, dark brown, low to medium plasticity clay, with fine to medium grained gravel, no odour observed			
							CL-CI 0.80m	Sandy CLAY: low to medium plasticity, fine to medium grained sand, with fine to medium grained sandstone gravel, no odour observed			
				ES 0.80 m PID 0.80 m 0.9 ppm				TERMINATED AT 0.80 m Target depth			

METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller		PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER Water Level on Date shown water inflow water outflow		FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)		SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content		SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense	
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Refer to explanatory notes for details of abbreviations and basis of descriptions

CARDNO (NSW/ACT) PTY LTD

Client: NSW Health Infrastructure		Hole No: HA06 Sheet: 1 of 1	
Project: Shoalhaven Hospital			
Location: Scenic Drive, Nowra NSW 2541		Job No: 8202118201	
Position:		Angle from Horizontal: 90°	
Equipment: Hand Auger		Surface Elevation:	
Casing Diameter:		Contractor: Cardno	
Data Started: 21/3/22		Logged By: CL	
		Checked By: CL	

Drilling			Sampling & Testing		Material Description						
Method	Resistance	Casing	Water	Sample or Field Test	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
 HA			Not Encountered	ES 0.10 m PID 0.10 m 1.5 ppm			CL-CI	FILL: Silty Sandy CLAY: low to medium plasticity, dark brown, fine to medium grained sand, no odour observed	M		FILL 0.00 m: Organic matter (grass and rootlets), trace woodchips Refusal at 0.3 m on unknown
					0.5			TERMINATED AT 0.30 m Refusal on unknown Hand Auger Refusal			
					1.0						
					1.5						
					2.0						
					2.5						

METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller	PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER  Water Level on Date shown  water inflow  water outflow	FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)	SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content	SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
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Client: NSW Health Infrastructure Project: Shoalhaven Hospital Location: Scenic Drive, Nowra NSW 2541	Job No: 8202118201	Sheet: 1 of 1
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Position:	Angle from Horizontal: 90°	Surface Elevation:
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Equipment: Hand Auger

Casing Diameter:	Contractor: Cardno
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Data Started: 21/3/22	Logged By: CL	Checked By: CL
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Drilling			Water	Sampling & Testing	Depth (m)	Material Description					
Method	Resistance	Casing		Sample or Field Test		Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
HA			Not Encountered	ES 0.10 m PID 0.10 m 0.2 ppm			SM	FILL: Silty SAND: fine to coarse grained, gap graded, with low to medium plasticity clay, trace fine to medium grained gravel, no odour observed			FILL 0.00 m: Organic matter (grass and rootlets), trace woodchips
				ES 0.50 m PID 0.50 m 0.8 ppm	0.5		CL-CI	FILL: Sandy CLAY: low to medium plasticity, dark brown with grey, fine to medium grained, well graded sand, no odour observed			0.30 m: Organic matter (roots) Refusal at 0.6 m on unknown
								TERMINATED AT 0.60 m Refusal on unknown Hand Auger Refusal			

METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller	PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER Water Level on Date shown water inflow water outflow	FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)	SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content	SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
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Refer to explanatory notes for details of abbreviations and basis of descriptions

Client: NSW Health Infrastructure		Job No: 8202118201		Sheet: 1 of 1	
Project: Shoalhaven Hospital					
Location: Scenic Drive, Nowra NSW 2541		Angle from Horizontal: 90°		Surface Elevation:	
Equipment: Hand Auger					
Casing Diameter:				Contractor: Cardno	
Data Started: 21/3/22				Logged By: CL	
				Checked By: CL	

Drilling			Sampling & Testing		Material Description						
Method	Resistance	Casing	Water	Sample or Field Test	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
 HA 			Not Encountered	ES 0.10 m PID 0.10 m 0.7 ppm	0.10		SM	FILL: Silty SAND: fine to coarse grained, well graded, light brown/ dark brown, no odour observed	M		FILL 0.00 m: Organic matter (grass and rootlets)
							CL- CI	FILL: Sandy CLAY: low to medium plasticity, dark brown, fine to medium grained sand, with fine to medium grained gravel, no odour observed			0.20 m: Organic matter (roots)
				ES 0.40 m PID 0.40 m 1.2 ppm	0.5			TERMINATED AT 0.40 m Refusal on unknown Hand Auger Refusal			
					1.0						
					1.5						
					2.0						
					2.5						

METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller	PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER Water Level on Date shown water inflow water outflow	FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)	SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content	SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
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Refer to explanatory notes for details of abbreviations and basis of descriptions

Client: NSW Health Infrastructure
Project: Shoalhaven Hospital
Location: Scenic Drive, Nowra NSW 2541

Job No: 8202118201

Sheet: 1 of 1

Position: Angle from Horizontal: 90°

Surface Elevation:

Machine Type: 5 tonne Excavator

Excavation Method:

Excavation Dimensions: 1.50m LONG AND 0.50m WIDE

Contractor: Lynch Civil

Date Excavated: 23/3/22

Logged By: CL

Checked By: CL

Excavation			Sampling & Testing		Depth (m)	Material Description						
Method	Resistance	Stability	Water	Sample or Field Test		Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations	
EX		Stable	Drilled Over Water	ES 0.10 m PID 0.10 m 0.5 ppm	0.30m	SM	FILL: Silty SAND: fine to coarse grained, well graded, dark brown, with low plasticity clay, trace fine to coarse grained gravel, no odour observed	M		FILL 0.00 m: Organic matter (grass and rootlets)		
				ES 0.50 m PID 0.50 m 0.8 ppm		SC	FILL: Clayey SAND: fine to coarse grained, well graded, light brown-orange, low to medium plasticity clay, no odour observed			0.30 m: Organic matter (rootlets)		
				ES 1.00 m PID 1.00 m 1.1 ppm	1.00m	CI	Sandy CLAY: medium plasticity, orange-brown, fine to coarse grained sand, with fine to coarse grained sandstones gravel, no odour observed		RESIDUAL SOIL			
					1.5							
					2.0							
					2.5							
METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller				PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER  Water Level on Date shown  water inflow  water outflow		FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)			SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content		SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense	

Refer to explanatory notes for details of abbreviations and basis of descriptions

Client: NSW Health Infrastructure
Project: Shoalhaven Hospital
Location: Scenic Drive, Nowra NSW 2541

Job No: 8202118201

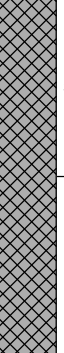
Sheet: 1 of 1

Position: Angle from Horizontal: 90° Surface Elevation:

Machine Type: 5 tonne Excavator Excavation Method:

Excavation Dimensions: 1.50m LONG AND 0.50m WIDE Contractor: Lynch Civil

Date Excavated: 23/3/22 Logged By: CL Checked By: CL

Excavation			Sampling & Testing		Depth (m)	Material Description					
Method	Resistance	Stability	Water	Sample or Field Test		Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
EX		Stable	Not Encountered	ES 0.10 m PID 0.10 m 0.3 ppm	0.5		SM	FILL: Silty SAND: fine to coarse grained, well graded, brown with orange, with low plasticity clay, no odour observed	M		FILL
				ES 0.50 m PID 0.50 m 0.1 ppm			SC	FILL: Clayey SAND: fine to coarse grained, well graded, light brown-orange, low to medium plasticity clay, with fine to coarse grained sandstone gravel, no odour observed			0.40 m: Organic matter (roots)
				ES 1.00 m PID 1.00 m 0.6 ppm			CI	Sandy CLAY: medium plasticity, orange-brown, fine to coarse grained sand, with fine to coarse grained sandstone gravel, no odour observed			RESIDUAL SOIL
					1.0			TERMINATED AT 1.10 m Target depth Target Depth Reached			
					1.5						
					2.0						
					2.5						

METHOD
EX Excavator bucket
R Ripper
HA Hand auger
PT Push tube
SON Sonic drilling
AH Air hammer
PS Percussion sampler
AS Short spiral auger
AD/V Solid flight auger: V-Bit
AD/T Solid flight auger: TC-Bit
HFA Hollow flight auger
WB Washbore drilling
RR Rock roller

PENETRATION
VE Very Easy (No Resistance)
E Easy
F Firm
H Hard
VH Very Hard (Refusal)

WATER
 Water Level on Date shown
 water inflow
 water outflow

FIELD TESTS
SPT - Standard Penetration Test
HP - Hand/Pocket Penetrometer
DCP - Dynamic Cone Penetrometer
PSP - Perth Sand Penetrometer
MC - Moisture Content
PBT - Plate Bearing Test
IMP - Borehole Impression Test
PID - Photoionisation Detector
VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)

SAMPLES
B - Bulk disturbed sample
D - Disturbed sample
ES - Environmental sample
U - Thin wall tube 'undisturbed'

MOISTURE
D - Dry
M - Moist
W - Wet
PL - Plastic limit
LL - Liquid limit
w - Moisture content

SOIL CONSISTENCY
VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard

RELATIVE DENSITY
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Refer to explanatory notes for details of abbreviations and basis of descriptions

Client: NSW Health Infrastructure Project: Shoalhaven Hospital Location: Scenic Drive, Nowra NSW 2541	Job No: 8202118201 Sheet: 1 of 1
Position:	Angle from Horizontal: 90° Surface Elevation:
Machine Type: 5 tonne Excavator	Excavation Method:
Excavation Dimensions: 1.50m LONG AND 0.50m WIDE	Contractor: Lynch Civil
Date Excavated: 23/3/22	Logged By: CL Checked By: CL

Excavation			Water	Sampling & Testing		Depth (m)	Material Description				
Method	Resistance	Stability		Sample or Field Test	Graphic Log		Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
↑ EX ↓		Stable	Not Encountered	ES 0.10 m QA204/QC204	0.5		ML	FILL: Sandy SILT: low plasticity, dark brown, fine to coarse grained, well graded sand, no odour observed	M		FILL 0.00 m: Organic matter (grass and rootlets), trace metal observed
						SC	Clayey SAND: fine to coarse grained, orange-brown, low to medium plasticity clay, with fine to coarse grained sandstones gravel, with fine to coarse grained sandstone cobbles, no odour observed	RESIDUAL SOIL 0.40 m: Organic matter (roots)			
						CL- CI	Sandy CLAY: low to medium plasticity, orange-brown, no odour observed				
								TERMINATED AT 0.80 m Target depth			
					1.0						
					1.5						
					2.0						
					2.5						

METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller	PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER  Water Level on Date shown  water inflow  water outflow	FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)	SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content	SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
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Refer to explanatory notes for details of abbreviations and basis of descriptions

Client:	NSW Health Infrastructure
Project:	Shoalhaven Hospital
Location:	Scenic Drive, Nowra NSW 2541

Job No: 8202118201

Sheet: 1 of 1

Position: _____ **Angle from Horizontal:** 90° **Surface Elevation:** _____

Machine Type: 5 tonne Excavator

Excavation Method:

Excavation Dimensions: 1.50m LONG AND 0.50m WIDE

Contractor: Lynch Civil

Date Excavated: 23/3/22

Logged By: CL

Checked By: CL

Excavation				Sampling & Testing		Material Description					
Method	Resistance	Stability	Water	Sample or Field Test	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
EX		Stable	Not Encountered	ES 0.10 m PID 0.10 m 0.5 ppm			SM- SC	FILL: Silty Clayey SAND: fine to coarse grained, well graded, orange-brown, with fine to coarse grained sandstone gravel, no odour observed	M		FILL 0.00 m: Organic matter (grass and rootlets)
				ES 0.50 m PID 0.50 m 0.8 ppm	0.5		CL- CI	Sandy CLAY: low to medium plasticity, orange-brown, with fine to coarse grained sandstone gravel, trace silt, no odour observed			RESIDUAL SOIL
								TERMINATED AT 0.60 m Target depth Target Depth Reached			

METHOD

EX Excavator bucket
R Ripper
HA Hand auger
PT Push tube
SON Sonic drilling
AH Air hammer
PS Percussion sampler
AS Short spiral auger
AD/V Solid flight auger: V-Bit
AD/T Solid flight auger: TC-Bit
HFA Hollow flight auger
WB Washbore drilling
RR Rock roller

PENETRATION

VE Very Easy (No Resistance)
E Easy
F Firm
H Hard
VH Very Hard (Refusal)

WATER

Water Level on Date shown
 water inflow
 water outflow

FIELD TESTS

SPT - Standard Penetration Test
HP - Hand/Pocket Penetrometer
DCP - Dynamic Cone Penetrometer
PSP - Perth Sand Penetrometer
MC - Moisture Content
PBT - Plate Bearing Test
IMP - Borehole Impression Test
PID - Photoionisation Detector
VS - Vane Shear; P=Peak,
R=Residual (uncorrected kPa)

SAMPLES

B - Bulk disturbed sample
D - Disturbed sample
ES - Environmental sample
U - Thin wall tube 'undisturbed'

MOISTURE

D - Dry
M - Moist
W - Wet
PL - Plastic limit
LL - Liquid limit
w - Moisture content

SOIL CONSISTENCY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard

RELATIVE DENSITY

VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

CARDNO (NSW/ACT) PTY LTD

Client: NSW Health Infrastructure Project: Shoalhaven Hospital Location: Scenic Drive, Nowra NSW 2541	Job No: 8202118201 Angle from Horizontal: 90° Excavation Method:	Sheet: 1 of 1 Surface Elevation:
Position:		Contractor: Lynch Civil
Machine Type: 5 tonne Excavator		Logged By: CL
Excavation Dimensions: 1.50m LONG AND 0.50m WIDE		Checked By: CL
Date Excavated: 23/3/22		

Excavation			Water	Sampling & Testing	Depth (m)	Material Description					
Method	Resistance	Stability		Sample or Field Test		Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
↑ EX ↓		Stable	Not Encountered	ES 0.10 m PID 0.10 m 0.3 ppm	0.5		SC	FILL: Clayey SAND: fine to coarse grained, brown with orange, low to medium plasticity clay, with silt, with fine to coarse grained sandstone gravel, with fine to coarse grained sandstone cobbles, no odour observed	M		FILL 0.00 m: Organic matter (grass and rootlets) and trace riverstones observed
				ES 0.50 m PID 0.50 m 0.6 ppm							
				ES 1.00 m PID 1.00 m 1.1 ppm		1.0		CL-Cl	Sandy CLAY: low to medium plasticity, orange-brown, with fine to coarse grained sandstone gravel, with fine to coarse grained sandstone cobbles, no odour observed		
								TERMINATED AT 1.30 m Target depth Target Depth Reached			
					1.5						
					2.0						
					2.5						

METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller	PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER  Water Level on Date shown  water inflow  water outflow	FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)	SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content	SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
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Refer to explanatory notes for details of abbreviations and basis of descriptions

Client: NSW Health Infrastructure Project: Shoalhaven Hospital Location: Scenic Drive, Nowra NSW 2541				Job No: 8202118201 Sheet: 1 of 1			
Position:				Angle from Horizontal: 90°		Surface Elevation:	
Machine Type: 5 tonne Excavator				Excavation Method:			
Excavation Dimensions: 1.50m LONG AND 0.50m WIDE				Contractor: Lynch Civil			
Date Excavated: 23/3/22				Logged By: CL		Checked By: CL	

Excavation			Sampling & Testing		Material Description						
Method	Resistance	Stability	Water	Sample or Field Test	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
↑ EX ↓		Stable	Not Encountered	ES 0.10 m			ML	FILL: Sandy SILT: low plasticity, dark brown, fine to medium grained sand, no odour observed	M		FILL 0.00 m: Organic matter (grass and rootlets), trace glass observed.
				ES 0.50 m	0.5		CI-CH	Silty Sandy CLAY: medium to high plasticity, light grey, with fine to coarse grained sandstone gravel, no odour observed			0.40m
					1.0			TERMINATED AT 0.80 m Target depth Target Depth Reached			
					1.5						
					2.0						
					2.5						

METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller	PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER  Water Level on Date shown  water inflow  water outflow	FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)	SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content	SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
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Client:	NSW Health Infrastructure
Project:	Shoalhaven Hospital
Location:	Scenic Drive, Nowra NSW 2541

Job No: 8202118201

Sheet: 1 of 1

Position:

Angle from Horizontal: 90°

Surface Elevation:

Machine Type: 5 tonne Excavator

Excavation Method:

Excavation Dimensions: 1.50m LONG AND 0.50m WIDE

Contractor: Lynch Civil

Date Excavated: 23/3/22

Logged By: CL

Checked By: CL

Excavation				Sampling & Testing		Material Description					
Method	Resistance	Stability	Water	Sample or Field Test	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
			 Stable	ES 0.10 m PID 0.10 m 1.5 ppm			SM	FILL: Silty SAND: fine to coarse grained, well graded, dark brown with light grey, low plasticity silt, no odour observed	M		FILL 0.00 m: Organic matter (grass and rootlets), trace glass observed.
				ES 0.50 m PID 0.50 m 0.6 ppm	0.5		SC	Clayey SAND: fine to coarse grained, well graded, light grey to light brown, trace fine to coarse grained sandstones gravel, no odour observed	M to W		RESIDUAL SOIL
				ES 1.00 m PID 1.00 m 1.2 ppm	1.0		CL- CI	Sandy CLAY: low to medium plasticity, light brown-orange, with fine to coarse grained sandstones gravel, with fine to coarse grained sandstones cobbles, no odour observed			
					1.10m			TERMINATED AT 1.10 m Target depth Target Depth Reached			
					1.5						
					2.0						
					2.5						

METHOD

- EX Excavator bucket
- R Ripper
- HA Hand auger
- PT Push tube
- SON Sonic drilling
- AH Air hammer
- PS Percussion sampler
- AS Short spiral auger
- AD/V Solid flight auger: V-Bit
- AD/T Solid flight auger: TC-Bit
- HFA Hollow flight auger
- WB Washbore drilling
- RR Rock roller

PENETRATION

- VE Very Easy (No Resistance)
- E Easy
- F Firm
- H Hard
- VH Very Hard (Refusal)

WATER

- Water Level on Date shown
- water inflow
- water outflow

FIELD TESTS

- SPT - Standard Penetration Test
- HP - Hand/Pocket Penetrometer
- DCP - Dynamic Cone Penetrometer
- PSP - Perth Sand Penetrometer
- MC - Moisture Content
- PBT - Plate Bearing Test
- IMP - Borehole Impression Test
- PID - Photoionisation Detector
- VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)

SAMPLES

- B - Bulk disturbed sample
- D - Disturbed sample
- ES - Environmental sample
- U - Thin wall tube 'undisturbed'

MOISTURE

- D - Dry
- M - Moist
- W - Wet
- PL - Plastic limit
- LL - Liquid limit
- w - Moisture content

SOIL CONSISTENCY

- VS - Very Soft
- S - Soft
- F - Firm
- St - Stiff
- VSt - Very Stiff
- H - Hard

RELATIVE DENSITY

- VL - Very Loose
- L - Loose
- MD - Medium Dense
- D - Dense
- VD - Very Dense

Refer to explanatory notes for details of abbreviations and basis of descriptions

CARDNO (NSW/ACT) PTY LTD

Client: NSW Health Infrastructure Project: Shoalhaven Hospital Location: Scenic Drive, Nowra NSW 2541	Job No: 8202118201	Sheet: 1 of 1
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Position:	Angle from Horizontal: 90°	Surface Elevation:
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Machine Type: 5 tonne Excavator	Excavation Method:
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Excavation Dimensions: 1.50m LONG AND 0.50m WIDE	Contractor: Lynch Civil
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Date Excavated: 23/3/22	Logged By: CL	Checked By: CL
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Excavation			Water	Sampling & Testing	Depth (m)	Material Description					
Method	Resistance	Stability		Sample or Field Test		Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
↑ EX ↓		Stable	Not Encountered	ES 0.10 m QA205/QC205	0.5		SM-SC	FILL: Silty Clayey SAND: fine to coarse grained, dark brown with some orange, low plasticity clay, with fine to coarse grained sandstone gravel, with fine to coarse grained sandstone cobbles, no odour observed	M		FILL 0.00 m: Organic matter (grass and rootlets), trace metal and glass observed
				ES 0.50 m			CL-CI	Silty CLAY: low to medium plasticity, light grey-dark brown, with fine to medium grained sand, no odour observed			RESIDUAL SOIL 0.50 m: Organic matter (roots)
				ES 1.00 m	1.0			TERMINATED AT 1.10 m Target depth Target Depth Reached			
					1.5						
					2.0						
					2.5						

METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller	PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER Water Level on Date shown water inflow water outflow	FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)	SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content	SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
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Refer to explanatory notes for details of abbreviations and basis of descriptions

Hole No: BH01

Client: NSW Health Infrastructure
Project: Shoalhaven Hospital
Location: Scenic Drive, Nowra NSW 2541

Job No: 8202118201

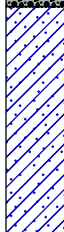
Sheet: 1 of 3

Position: **Angle from Horizontal:** 90° **Surface Elevation:**

Rig Type: Hanjin D&B 8D **Mounting:** Track **Driller:** CM

Casing Diameter: HW **Contractor:** Total Drilling

Data Started: 22/6/21 **Date Completed:** 22/6/21 **Logged By:** BA **Checked By:** DR

Drilling			Water	Sampling & Testing	Depth (m)	Material Description							
Method	Resistance	Casing		Sample or Field Test		Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations		
AD/T	H	HW	Not Encountered	ES 0.10 m PID 0.10 m 0.7 ppm D 0.20 - 0.40 m				0.10m	ASPHALT: 0.1m thick, no odour observed		M		FILL
						GC	FILL: Clayey Sandy GRAVEL: fine to medium, sub-angular to angular, grey to dark grey, fine to coarse grained sand, no odour observed						
	F				ES 0.50 m SPT 0.50 - 0.95 m 2, 3, 7 N=10 PID 0.50 m 0.9 ppm	0.5		CI	Sandy CLAY: orange-brown, fine to coarse grained, sub-rounded to sub-angular sand, trace fine to coarse, sub-rounded to sub-angular gravel, no odour observed	M (>PL)	St	RESIDUAL SOIL	
						1.0			M (<PL)	VSt			
	H	VH							SP	1.10m	SAND: fine to coarse grained, angular, pale grey, no odour observed	M	D - VD
								1.40m					
					1.5				Continued as Cored Drill Hole				
					2.0								
					2.5								
					3.0								
					3.5								

METHOD
 EX Excavator bucket
 R Ripper
 HA Hand auger
 PT Push tube
 SON Sonic drilling
 AH Air hammer
 PS Percussion sampler
 AS Short spiral auger
 AD/V Solid flight auger: V-Bit
 AD/T Solid flight auger: TC-Bit
 HFA Hollow flight auger
 WB Washbore drilling
 RR Rock roller

PENETRATION
 VE Very Easy (No Resistance)
 E Easy
 F Firm
 H Hard
 VH Very Hard (Refusal)

WATER
 Water Level on Date shown
 water inflow
 water outflow

FIELD TESTS
 SPT - Standard Penetration Test
 HP - Hand/Pocket Penetrometer
 DCP - Dynamic Cone Penetrometer
 PSP - Perth Sand Penetrometer
 MC - Moisture Content
 PBT - Plate Bearing Test
 IMP - Borehole Impression Test
 PID - Photoionisation Detector
 VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)

SAMPLES
 B - Bulk disturbed sample
 D - Disturbed sample
 ES - Environmental sample
 U - Thin wall tube 'undisturbed'

MOISTURE
 D - Dry
 M - Moist
 W - Wet
 PL - Plastic limit
 LL - Liquid limit
 w - Moisture content

SOIL CONSISTENCY
 VS - Very Soft
 S - Soft
 F - Firm
 St - Stiff
 VSt - Very Stiff
 H - Hard

RELATIVE DENSITY
 VL - Very Loose
 L - Loose
 MD - Medium Dense
 D - Dense
 VD - Very Dense

Refer to explanatory notes for details of abbreviations and basis of descriptions

CARDNO (NSW/ACT) PTY LTD

Client: NSW Health Infrastructure
 Project: Shoalhaven Hospital
 Location: Scenic Drive, Nowra NSW 2541

Job No: 8202118201

Sheet: 2 of 3

Position: Angle from Horizontal: 90° Surface Elevation:
 Rig Type: Hanjin D&B 8D Mounting: Track Driller: CM
 Casing Diameter: HW Bit Type: NMLC Bit Condition: Good Contractor: Total Drilling
 Data Started: 22/6/21 Date Completed: 22/6/21 Logged By: BA Checked By: DR

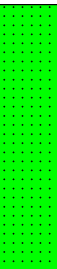
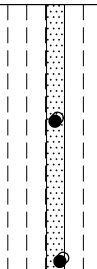
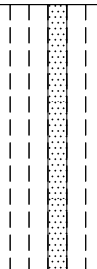
Coring					Material Description					Defect Description				
Method	Fluid	TCR (%)	RQD (%)	RL (m AHD)	Depth (m)	Graphic Log	SOIL TYPE, plasticity or particle characteristic, colour, secondary & minor components ROCK NAME, grain size and type, colour, fabric and texture, inclusions & minor components	Weathering	Estimated Strength $I_{s(50)}$ MPa ● - Axial ○ - Diametral VL 0.1 L M H VH EH	Average Natural Defect Spacing (mm) 20 60 200 600 2000	Visual	Additional Data DEFECT TYPE, orientation, shape, roughness, infilling or coating, thickness, other		
					0.5									
					1.0									
					1.40m		START CORING AT 1.40m							
					1.5		SANDSTONE, medium to coarse grained, bedded, pale grey stained red-brown and orange-brown, 5-20mm rounded quartz gravel inclusions	MW				1.44 m: HF, 5° 1.54 m: DB 1.57 m: BP, 0°, UN, RF, SN, Fe 1.62 m: BP, 5°, UN, RF, VNR, Clay		
					2.0							2.00 m: HB		
					2.5							2.12 m: JT, 10°, PR, RF, VNR, Clay		
					3.0							2.70 m: BP, 5°, UN, RF, VNR, Clay		
					3.10m			HW				2.95 - 3.04 m: SM, 90 mm, Clayey SAND		
					3.20m		CORE LOSS 0.10m (3.10-3.20)					3.09 m: BP, 5°, UN, RF, VNR, Clay		
					3.5		SANDSTONE, medium to coarse grained, bedded, grey, trace fossils present	MW SW				3.20 m: DB		
												3.95 m: BP, 30°, IR, RF, CN		

DRILLING AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller PQ Rotary core (85mm) HQ Rotary core (63.5mm) NMLC Rotary core (51.94mm) DT Diatube concrete coring PT Push tube PS Percussion sampling SON Sonic drilling AH Air hammer		WATER  Water Level on date shown  water inflow  water outflow ROCK QUALITY DESCRIPTIONS RQD Rock Quality Designation (%) TCR Total Core Recovery (%)		ROCK STRENGTH EH Extremely High VH Very High H High M Medium L Low VL Very Low ROCK WEATHERING FR Fresh SW Slightly Weathered DW Distinctly Weathered MW Moderately Weathered HW Highly Weathered XW Extremely Weathered		DEFECT TYPE JT Joint SZ Sheared zone BP Bedding Parting SM Seam FL Foliation VN Vein CL Cleavage CS Crushed Seam FZ Fracture Zone DL Drift Lift HB Handing Break DB Drilling Break		PLANARITY CU Curved DIS Discontinuous IR Irregular PR Planar ST Stepped UN Undulose ROUGHNESS VR Very Rough RF Rough S Smooth SL Stockensided POL Polished		COATING CN Clean SN Stained VNR Veneer (thin or patchy) CT Coating (up to 1mm) INFILL MATERIALS X Carbonaceous MU Unidentified mineral MS Secondary mineral KT Chlorite CA Calcite Fe Iron Oxide QZ Quartz	
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Refer to explanatory notes for details of abbreviations and basis of descriptions

Client: NSW Health Infrastructure Project: Shoalhaven Hospital Location: Scenic Drive, Nowra NSW 2541	Job No: 8202118201	Sheet: 3 of 3
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Position: Rig Type: Hanjin D&B 8D Casing Diameter: HW Data Started: 22/6/21	Angle from Horizontal: 90° Mounting: Track Bit Type: NMLC Date Completed: 22/6/21	Surface Elevation: Driller: CM Bit Condition: Good Logged By: BA Checked By: DR
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Coring					Material Description				Defect Description			
Method	Fluid	TCR (%)	RQD (%)	RL (m AHD)	Depth (m)	Graphic Log	SOIL TYPE, plasticity or particle characteristic, colour, secondary & minor components ROCK NAME, grain size and type, colour, fabric and texture, inclusions & minor components	Weathering	Estimated Strength Is(50) MPa ● - Axial ○ - Diametral VL 0.1 L M S T VH 10 EH	Average Natural Defect Spacing (mm) 20 60 200 600 2000	Visual	Additional Data DEFECT TYPE, orientation, shape, roughness, infilling or coating, thickness, other
NMLC	0% LOSS	100	100		4.5		SANDSTONE, medium to coarse grained, bedded, grey, trace fossils present (<i>continued</i>)	SW				4.00 m: HB 4.12 m: HB 4.29 m: JT, 10°, PR, RF, SN, Fe 4.58 m: BP, 0°, UN, RF, SN 4.70 m: HF, 5°
					4.80m		TERMINATED AT 4.80 m Target depth					
					5.0							
					5.5							
					6.0							
					6.5							
					7.0							
					7.5							

DRILLING AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller PQ Rotary core (85mm) HQ Rotary core (63.5mm) NMLC Rotary core (51.94mm) DT Diatube concrete coring PT Push tube PS Percussion sampling SON Sonic drilling AH Air hammer	WATER  Water Level on date shown  water inflow  water outflow ROCK QUALITY DESCRIPTIONS RQD Rock Quality Designation (%) TCR Total Core Recovery (%)	ROCK STRENGTH EH Extremely High VH Very High H High M Medium L Low VL Very Low ROCK WEATHERING FR Fresh SW Slightly Weathered DW Distinctly Weathered MW Moderately Weathered HW Highly Weathered XW Extremely Weathered	DEFECT TYPE JT Joint SZ Sheared zone BP Bedding Parting SM Seam FL Foliation VN Vein CL Cleavage CS Crushed Seam FZ Fracture Zone DL Drift Lift HB Handing Break DB Drilling Break	PLANARITY CU Curved DIS Discontinuous IR Irregular PR Planar ST Stepped UN Undulose ROUGHNESS VR Very Rough RF Rough S Smooth SL Stockensided POL Polished	COATING CN Clean SN Stained VNR Veneer (thin or patchy) CT Coating (up to 1mm) INFILL MATERIALS X Carbonaceous MU Unidentified mineral MS Secondary mineral KT Chlorite CA Calcite Fe Iron Oxide Qz Quartz
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Refer to explanatory notes for details of abbreviations and basis of descriptions

Client: NSW Health Infrastructure Project: Shoalhaven Hospital Location: Scenic Drive, Nowra NSW 2541				Hole No: BH02 Job No: 8202118201 Sheet: 1 of 3			
Position:				Angle from Horizontal: 90°		Surface Elevation:	
Rig Type: Hanjin D&B 8D				Mounting: Track		Driller: CM	
Casing Diameter: HW				Contractor: Total Drilling			
Data Started: 21/6/21		Date Completed: 21/6/21		Logged By: BA		Checked By: DR	

Drilling			Sampling & Testing		Material Description						
Method	Resistance	Casing	Water	Sample or Field Test	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
AD/T ↑ ↓ VH	E	HW ↑ ↓	2.20m Minor Seepage - Wet Soil	ES 0.10 m PID 0.10 m 0.7 ppm	0.20		SM	FILL: Silty SAND: fine to coarse grained, dark grey and dark brown, trace fine to coarse grained sand, no odour observed	M		FILL
				ES 0.50 m SPT 0.50 - 0.95 m 3, 4, 5 N=9 PID 0.50 m 0.5 ppm	0.5		CI	Sandy CLAY: orange-brown, fine to coarse grained, sub-rounded to sub-angular sand, trace fine to coarse, sub-rounded to sub-angular gravel, no odour observed	M (>PL)	St	RESIDUAL SOIL
					1.0						
				D 1.20 - 1.00 m	1.5						
						SPT 1.50 - 1.95 m 5, 7, 9 N=16	2.0			Clayey Gravely SAND: fine to coarse grained, sub-rounded to sub-angular, mottled red-brown and grey, fine to coarse, sub-angular to sub-rounded gravel, no odour observed	M (<PL)
			D 2.20 - 2.50 m	2.5		SC	W	D - VD			
					2.80			Continued as Cored Drill Hole			
					3.0						
					3.5						

METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller	PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER  Water Level on Date shown  water inflow  water outflow	FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)	SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content	SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
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Client: NSW Health Infrastructure
Project: Shoalhaven Hospital
Location: Scenic Drive, Nowra NSW 2541

Job No: 8202118201

Sheet: 2 of 3

Position: Angle from Horizontal: 90° Surface Elevation:
Rig Type: Hanjin D&B 8D Mounting: Track Driller: CM
Casing Diameter: HW Bit Type: NMLC Bit Condition: Good Contractor: Total Drilling
Data Started: 21/6/21 Date Completed: 21/6/21 Logged By: BA Checked By: DR

Coring					Material Description					Defect Description				
Method	Fluid	TCR (%)	RQD (%)	RL (m AHD)	Depth (m)	Graphic Log	SOIL TYPE, plasticity or particle characteristic, colour, secondary & minor components ROCK NAME, grain size and type, colour, fabric and texture, inclusions & minor components	Weathering	Estimated Strength $I_{s(50)}$ MPa ● - Axial ○ - Diametral VL 0.1 L M H VLH EH 1 2 3 4 5 6 7 8 9 10	Average Natural Defect Spacing (mm) 20 60 200 600 2000	Visual	Additional Data DEFECT TYPE, orientation, shape, roughness, infilling or coating, thickness, other		
					0.5									
					1.0									
					1.5									
					2.0									
					2.5									
					2.80m		START CORING AT 2.80m							
					3.0		SANDSTONE, medium to coarse grained, bedded, pale grey stained orange-brown to red-brown	MW				3.00 m: HB 3.07 m: DB		
					3.5							3.69 m: JT, 10°, PR, RF, SN, Fe 3.75 m: JT, 10°, PR, RF, SN, Fe 3.83 m: DB 3.88 m: BP, 0°, UN, RF, SN, Fe 3.95 m: HF, 5°		

DRILLING AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller PQ Rotary core (85mm) HQ Rotary core (63.5mm) NMLC Rotary core (51.94mm) DT Diatube concrete coring PT Push tube PS Percussion sampling SON Sonic drilling AH Air hammer		WATER  Water Level on date shown  water inflow  water outflow ROCK QUALITY DESCRIPTIONS RQD Rock Quality Designation (%) TCR Total Core Recovery (%)		ROCK STRENGTH EH Extremely High VH Very High H High M Medium L Low VL Very Low ROCK WEATHERING FR Fresh SW Slightly Weathered DW Distinctly Weathered MW Moderately Weathered HW Highly Weathered XW Extremely Weathered		DEFECT TYPE JT Joint SZ Sheared zone BP Bedding Parting SM Seam FL Foliation VN Vein CL Cleavage CS Crushed Seam FZ Fracture Zone DL Drift Lift HB Handing Break DB Drilling Break		PLANARITY CU Curved DIS Discontinuous IR Irregular PR Planar ST Stepped UN Undulose ROUGHNESS VR Very Rough RF Rough S Smooth SL Slockensided POL Polished		COATING CN Clean SN Stained VNR Veneer (thin or patchy) CT Coating (up to 1mm) INFILL MATERIALS X Carbonaceous MU Unidentified mineral MS Secondary mineral KT Chlorite CA Calcite Fe Iron Oxide Qz Quartz	
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Refer to explanatory notes for details of abbreviations and basis of descriptions

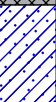
Client: NSW Health Infrastructure		Job No: 8202118201		Sheet: 3 of 3	
Project: Shoalhaven Hospital		Angle from Horizontal: 90°		Surface Elevation:	
Location: Scenic Drive, Nowra NSW 2541		Rig Type: Hanjin D&B 8D		Driller: CM	
Casing Diameter: HW		Bit Type: NMLC		Bit Condition: Good	
Data Started: 21/6/21		Date Completed: 21/6/21		Logged By: BA	
				Checked By: DR	

Coring					Material Description				Defect Description			
Method	Fluid	TCR (%)	RQD (%)	RL (m AHD)	Depth (m)	Graphic Log	SOIL TYPE, plasticity or particle characteristic, colour, secondary & minor components ROCK NAME, grain size and type, colour, fabric and texture, inclusions & minor components	Weathering	Estimated Strength Is ₍₅₀₎ MPa ● - Axial ○ - Diametral VL 0.1 0.3 1 3 5 10 30 60 100 200 300 600 1000 2000 L M S F V H EH	Average Natural Defect Spacing (mm)	Visual	Additional Data DEFECT TYPE, orientation, shape, roughness, infilling or coating, thickness, other
NMLC	0% LOSS	100	87		4.5		SANDSTONE, medium to coarse grained, bedded, pale grey stained orange-brown to red-brown (continued)	MW				3.97 m: BP, 0°, UN, RF, SN, Fe 4.00 m: BP, 0°, UN, RF, SN, Fe 4.02 m: HF, 5° 4.04 m: HF, 0° 4.09 m: BP, 5°, UN, RF, SN, Fe 4.18 m: BP, 10°, UN, RF, SN, Fe 4.20 m: BP, 5°, UN, RF, SN, Fe
					4.53 m: HB							
					5.0							4.88 m: BP, 5°, UN, RF, CN 5.00 m: HB 5.03 m: BP, 10°, UN, RF, CN 5.16 m: BP, 5°, UN, RF, CN 5.37 m: BP, 10°, UN, RF, CN 5.51 m: BP, 10°, UN, RF, CN 5.59 m: BP, 10°, UN, RF, CN 5.73 m: BP, 10°, UN, RF, CN 5.75 m: DB 5.77 m: DB
	0% LOSS	100	91		6.0							6.00 m: HB 6.19 m: BP, 0°, IR, RF, CN, on Fossil
					6.5		TERMINATED AT 6.48 m Target depth					
					7.0							
					7.5							

DRILLING AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller PQ Rotary core (85mm) HQ Rotary core (63.5mm) NMLC Rotary core (51.94mm) DT Diatube concrete coring PT Push tube PS Percussion sampling SON Sonic drilling AH Air hammer	WATER Water Level on date shown water inflow water outflow ROCK QUALITY DESCRIPTIONS RQD Rock Quality Designation (%) TCR Total Core Recovery (%)	ROCK STRENGTH EH Extremely High VH Very High H High M Medium L Low VL Very Low ROCK WEATHERING FR Fresh SW Slightly Weathered DW Distinctly Weathered MW Moderately Weathered HW Highly Weathered XW Extremely Weathered	DEFECT TYPE JT Joint SZ Sheared zone BP Bedding Parting SM Seam FL Foliation VN Vein CL Cleavage CS Crushed Seam FZ Fracture Zone DL Drift Lift HB Handing Break DB Drilling Break	PLANARITY CU Curved DIS Discontinuous IR Irregular PR Planar ST Stepped UN Undulose ROUGHNESS VR Very Rough RF Rough S Smooth SL Stockensided POL Polished	COATING CN Clean SN Stained VNR Veneer (thin or patchy) CT Coating (up to 1mm) INFILL MATERIALS X Carbonaceous MU Unidentified mineral MS Secondary mineral KT Chlorite CA Calcite Fe Iron Oxide Qz Quartz
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Refer to explanatory notes for details of abbreviations and basis of descriptions

Client: NSW Health Infrastructure Project: Shoalhaven Hospital Location: Scenic Drive, Nowra NSW 2541				Job No: 8202118201 Sheet: 1 of 3			
Position:				Angle from Horizontal: 90°		Surface Elevation:	
Rig Type: Hanjin D&B 8D				Mounting: Track		Driller: CM	
Casing Diameter: HW				Contractor: Total Drilling			
Data Started: 21/6/21		Date Completed: 21/6/21		Logged By: BA		Checked By: DR	

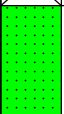
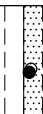
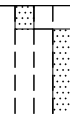
Drilling			Sampling & Testing		Material Description						
Method	Resistance	Casing	Water	Sample or Field Test	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
AD/T WB H VH F HW	E			ES 0.10 m PID 0.10 m 1 ppm			SM	FILL: Silty SAND: fine to coarse grained, dark grey and dark brown, trace fine to coarse grained sand, no odour observed	M		FILL
				ES 0.50 m SPT 0.50 - 0.95 m 3, 3, 5 N=8 PID 0.50 m 0.7 ppm	0.5			Sandy CLAY: low to medium plasticity, orange-brown, fine to coarse grained, sub-rounded to sub-angular sand, trace fine to coarse, sub-rounded to sub-angular gravel, no odour observed			RESIDUAL SOIL
					1.0		CL-CI		M (>PL)	St	
				D 1.20 - 1.50 m							
				SPT 1.50 - 1.95 m 4, 4, 5 N=9	1.5						
					2.0			Sandy CLAY: low to medium plasticity, red-brown, fine to coarse grained, sub-rounded to sub-angular sand, with fine to coarse, sub-rounded to sub-angular gravel, no odour observed			
					2.5		CL-CI		M (<PL)	VSt	
				D 2.70 - 3.00 m							
				SPT 3.00 - 3.35 m 8, 10, 8/50mm N=R	3.0						
					3.10m			SC	Clayey Gravelly SAND: fine to coarse grained, sub-rounded to sub-angular, grey, fine to coarse, sub-angular to sub-rounded gravel, no odour observed	M	D - VD
				3.50m							
Continued as Cored Drill Hole											

METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller	PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER  Water Level on Date shown  water inflow  water outflow	FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)	SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content	SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
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Refer to explanatory notes for details of abbreviations and basis of descriptions

Client: NSW Health Infrastructure Project: Shoalhaven Hospital Location: Scenic Drive, Nowra NSW 2541	Job No: 8202118201	Sheet: 2 of 3
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Position: Rig Type: Hanjin D&B 8D Casing Diameter: HW Data Started: 21/6/21	Angle from Horizontal: 90° Mounting: Track Bit Type: NMLC Date Completed: 21/6/21 Logged By: BA	Surface Elevation: Driller: CM Bit Condition: Good Contractor: Total Drilling Checked By: DR
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Coring				Depth (m)	Material Description				Defect Description			
Method	Fluid	TCR (%)	RQD (%)		RL (m AHD)	Graphic Log	SOIL TYPE, plasticity or particle characteristic, colour, secondary & minor components ROCK NAME, grain size and type, colour, fabric and texture, inclusions & minor components	Weathering	Estimated Strength Is ₍₅₀₎ MPa ● - Axial ○ - Diametral VL 0.1 L M H VL EH 1 2 3 4 5 6 7 8 9 10	Average Natural Defect Spacing (mm) 20 60 200 600 2000	Visual	Additional Data DEFECT TYPE, orientation, shape, roughness, infilling or coating, thickness, other
					0.5							
					1.0							
					1.5							
					2.0							
					2.5							
					3.0							
					3.5							
↑ NMLC	0% LOSS	92	79		3.50m	START CORING AT 3.50m		MW				
					3.66m	CORE LOSS 0.16m (3.50-3.66)						
						SANDSTONE, medium to coarse grained, bedded, pale grey stained orange-brown to red-brown					3.73 - 3.75 m: SM, 20 mm, Clay 3.78 m: DB 3.81 m: HB	

DRILLING AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller PQ Rotary core (85mm) HQ Rotary core (63.5mm) NMLC Rotary core (51.94mm) DT Diatube concrete coring PT Push tube PS Percussion sampling SON Sonic drilling AH Air hammer	WATER  Water Level on date shown  water inflow  water outflow ROCK QUALITY DESCRIPTIONS RQD Rock Quality Designation (%) TCR Total Core Recovery (%)	ROCK STRENGTH EH Extremely High VH Very High H High M Medium L Low VL Very Low ROCK WEATHERING FR Fresh SW Slightly Weathered DW Distinctly Weathered MW Moderately Weathered HW Highly Weathered XW Extremely Weathered	DEFECT TYPE JT Joint SZ Sheared zone BP Bedding Parting SM Seam FL Foliation VN Vein CL Cleavage CS Crushed Seam FZ Fracture Zone DL Drift Lift HB Handing Break DB Drilling Break	PLANARITY CU Curved DIS Discontinuous IR Irregular PR Planar ST Stepped UN Undulose ROUGHNESS VR Very Rough RF Rough S Smooth SL Slockensided POL Polished	COATING CN Clean SN Stained VNR Veneer (thin or patchy) CT Coating (up to 1mm) INFILL MATERIALS X Carbonaceous MU Unidentified mineral MS Secondary mineral KT Chlorite CA Calcite Fe Iron Oxide Qz Quartz
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Refer to explanatory notes for details of abbreviations and basis of descriptions

Client: NSW Health Infrastructure
 Project: Shoalhaven Hospital
 Location: Scenic Drive, Nowra NSW 2541
 Job No: 8202118201
 Sheet: 3 of 3

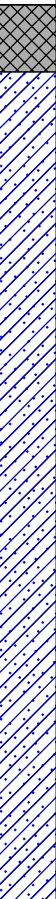
Position: Angle from Horizontal: 90° Surface Elevation:
 Rig Type: Hanjin D&B 8D Mounting: Track Driller: CM
 Casing Diameter: HW Bit Type: NMLC Bit Condition: Good Contractor: Total Drilling
 Data Started: 21/6/21 Date Completed: 21/6/21 Logged By: BA Checked By: DR

Coring					Material Description					Defect Description				
Method	Fluid	TCR (%)	RQD (%)	RL (m AHD)	Depth (m)	Graphic Log	SOIL TYPE, plasticity or particle characteristic, colour, secondary & minor components ROCK NAME, grain size and type, colour, fabric and texture, inclusions & minor components	Weathering	Estimated Strength Is ₍₅₀₎ MPa ● - Axial ○ - Diametral VL 0.1 L 0.3 1 3 5 10 20 VH 10 20 30 40 50 60 80 100 120 150 200 300 400 600 800 1000 1500 2000	Average Natural Defect Spacing (mm) 20 60 200 600 2000	Visual	Additional Data DEFECT TYPE, orientation, shape, roughness, infilling or coating, thickness, other		
NMLC	0% LOSS	92	79		4.5		SANDSTONE, medium to coarse grained, bedded, pale grey stained orange-brown to red-brown (continued)	MW					4.00 m: HB	
	0% LOSS	100	89		5.0								4.41 m: BP, 10°, UN, RF, SN, Fe 4.85 m: BP, 5°, UN, RF, SN, Fe 4.91 m: BP, 10°, UN, RF, VNR, Clay 4.93 m: BP, 0°, UN, RF, VNR, Clay 4.94 - 5.00 m: SM, 5°, 60 mm, Clay 5.10 m: BP, 5°, UN, RF, VNR, Clay 5.14 m: BP, 10°, UN, RF, VNR, Clay	
					5.5								5.51 m: BP, 5°, UN, RF, CN	
					6.0								5.77 m: BP, 5°, UN, RF, SN, Fe 5.93 m: BP, 10°, UN, RF, SN, Fe 6.00 m: HB	
					6.5			HW					6.41 m: JT, 60°, PR, RF, SN, Fe 6.50 m: JT, 20°, PR, RF, SN, Fe 6.58 m: JT, 20°, PR, RF, SN, Fe	
					7.0		7.00m	SW					6.71 m: BP, 5°, UN, RF, CN 6.86 m: BP, 10°, UN, RF, CN, on Fossil	
					7.0		TERMINATED AT 7.00 m Target depth						7.00 m: DB	
					7.5									

DRILLING AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller PQ Rotary core (85mm) HQ Rotary core (63.5mm) NMLC Rotary core (51.94mm) DT Diatube concrete coring PT Push tube PS Percussion sampling SON Sonic drilling AH Air hammer		WATER Water Level on date shown water inflow water outflow ROCK QUALITY DESCRIPTIONS RQD Rock Quality Designation (%) TCR Total Core Recovery (%)		ROCK STRENGTH EH Extremely High VH Very High H High M Medium L Low VL Very Low ROCK WEATHERING FR Fresh SW Slightly Weathered DW Distinctly Weathered MW Moderately Weathered HW Highly Weathered XW Extremely Weathered		DEFECT TYPE JT Joint SZ Sheared zone BP Bedding Parting SM Seam FL Foliation VN Vein CL Cleavage CS Crushed Seam FZ Fracture Zone DL Drift Lift HB Handing Break DB Drilling Break		PLANARITY CU Curved DIS Discontinuous IR Irregular PR Planar ST Stepped UN Undulose ROUGHNESS VR Very Rough RF Rough S Smooth SL Stockensided POL Polished		COATING CN Clean SN Stained VNR Veneer (thin or patchy) CT Coating (up to 1mm) INFILL MATERIALS X Carbonaceous MU Unidentified mineral MS Secondary mineral KT Chlorite CA Calcite Fe Iron Oxide QZ Quartz	
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Refer to explanatory notes for details of abbreviations and basis of descriptions

Client: NSW Health Infrastructure Project: Shoalhaven Hospital Location: Scenic Drive, Nowra NSW 2541				Job No: 8202118201 Sheet: 1 of 3			
Position:				Angle from Horizontal: 90°		Surface Elevation:	
Rig Type: Hanjin D&B 8D				Mounting: Track		Driller: CM	
Casing Diameter: HW				Contractor: Total Drilling			
Data Started: 22/6/21		Date Completed: 22/6/21		Logged By: BA		Checked By: DR	

Drilling			Sampling & Testing		Material Description						
Method	Resistance	Casing	Water	Sample or Field Test	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
AD/T ↑ E ↓ F ↓ H ↓ WB ↓ VH	E	HW	Not Encountered	ES 0.10 m PID 0.10 m 0.8 ppm	0.5		SM	FILL: Silty SAND: fine to coarse grained, dark grey and dark brown, trace fine to coarse grained sand, no odour observed	M		FILL
				B 0.50 - 1.00 m ES 0.50 m SPT 0.50 - 0.95 m 3, 5, 5 N=10 PID 0.50 m 0.6 ppm			CL- CI	Sandy CLAY: low to medium plasticity, orange-brown, fine to coarse grained, sub-rounded to sub-angular sand, trace fine to coarse, sub-rounded to sub-angular gravel, no odour observed	M (>PL)	St	RESIDUAL SOIL
				1.00 m C 1.00 m							
				D 1.20 - 1.50 m							
				SPT 1.50 - 1.95 m 8, 13, 21 N=34	1.5			Sandy CLAY: low to medium plasticity, red-brown and grey, fine to coarse grained, sub-rounded to sub-angular sand, with fine to coarse, sub-rounded to sub-angular gravel, no odour observed	M (<PL)	VSt	EXTREMELY WEATHERED
				D 2.70 - 3.00 m	2.0						
					2.5						
					2.70m						
				SPT 3.00 - 3.10 m 12/100mm N=R	3.0			Clayey Gravelly SAND: fine to coarse grained, sub-rounded to sub-angular, mottled red-brown and grey, fine to coarse, sub-angular to sub-rounded gravel, no odour observed	M	D - VD	
					3.50m						
					3.5			Continued as Cored Drill Hole			

METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller	PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER  Water Level on Date shown  water inflow  water outflow	FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)	SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content	SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
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Refer to explanatory notes for details of abbreviations and basis of descriptions

Client: NSW Health Infrastructure
Project: Shoalhaven Hospital
Location: Scenic Drive, Nowra NSW 2541

Job No: 8202118201

Sheet: 2 of 3

Position: **Angle from Horizontal: 90°**

Surface Elevation:

Rig Type: Hanjin D&B 8D

Mounting: Track

Driller: CM

Casing Diameter: HW

Bit Type: NMLC

Bit Condition: Good

Contractor: Total Drilling

Data Started: 22/6/21

Date Completed: 22/6/21

Logged By: BA

Checked By: DR

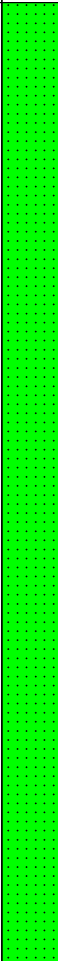
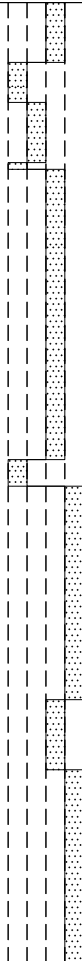
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Client: NSW Health Infrastructure
Project: Shoalhaven Hospital
Location: Scenic Drive, Nowra NSW 2541

Job No: 8202118201

Sheet: 3 of 3

Position: Angle from Horizontal: 90° Surface Elevation:
Rig Type: Hanjin D&B 8D Mounting: Track Driller: CM
Casing Diameter: HW Bit Type: NMLC Bit Condition: Good Contractor: Total Drilling
Data Started: 22/6/21 Date Completed: 22/6/21 Logged By: BA Checked By: DR

Coring					Material Description					Defect Description				
Method	Fluid	TCR (%)	RQD (%)	RL (m AHD)	Depth (m)	Graphic Log	SOIL TYPE, plasticity or particle characteristic, colour, secondary & minor components ROCK NAME, grain size and type, colour, fabric and texture, inclusions & minor components	Weathering	Estimated Strength Is ₍₅₀₎ MPa ● - Axial ○ - Diametral VL 0.1 L 0.3 M 1 H 3 VH 10 EH	Average Natural Defect Spacing (mm) 20 60 200 600 2000	Visual	Additional Data DEFECT TYPE, orientation, shape, roughness, infilling or coating, thickness, other		
NMLC	0% LOSS	100	87		4.5		SANDSTONE, medium to coarse grained, bedded, pale grey stained orange-brown to red-brown (continued)	MW				4.00 m: HB 4.08 m: HB 4.18 m: BP, 10°, UN, RF, SN, Fe 4.23 m: JT, 20°, PR, RF, SN, Fe 4.25 m: JT, 30°, PR, RF, SN, Fe 4.30 m: BP, 10°, UN, RF, SN, Fe 4.48 - 4.50 m: SM, 5°, Clay 4.51 m: HF, 10° 4.54 m: HF, 10° 4.57 m: HF, 10° 4.73 m: JT, 10°, PR, RF, CN, on Fossil 4.86 m: HB 5.00 m: HB 5.10 m: BP, 10°, UN, RF, CN, on Fossil 5.37 m: BP, 10°, PR, RF, SN, Fe 5.40 m: BP, 10°, PR, RF, SN, Fe 5.45 m: BP, 20°, UN, RF, SN, Fe 5.66 m: DB 6.00 m: HB 6.09 m: BP, 20°, UN, RF, CN, on Fossil 6.30 m: BP, 20°, UN, RF, CN, on Fossil		
	0% LOSS	100	100		5.0			SW						
					5.5			HW SW						
					6.0									
					6.5									
					6.90m									
					7.0		TERMINATED AT 6.90 m Target depth							
					7.5									
DRILLING AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller PQ Rotary core (85mm) HQ Rotary core (63.5mm) NMLC Rotary core (51.94mm) DT Diatube concrete coring PT Push tube PS Percussion sampling SON Sonic drilling AH Air hammer				WATER  Water Level on date shown  water inflow  water outflow ROCK QUALITY DESCRIPTIONS RQD Rock Quality Designation (%) TCR Total Core Recovery (%)		ROCK STRENGTH EH Extremely High VH Very High H High M Medium L Low VL Very Low ROCK WEATHERING FR Fresh SW Slightly Weathered DW Distinctly Weathered MW Moderately Weathered HW Highly Weathered XW Extremely Weathered		DEFECT TYPE JT Joint SZ Sheared zone BP Bedding Parting SM Seam FL Foliation VN Vein CL Cleavage CS Crushed Seam FZ Fracture Zone DL Drift Lift HB Handing Break DB Drilling Break		PLANARITY CU Curved DIS Discontinuous IR Irregular PR Planar ST Stepped UN Undulose ROUGHNESS VR Very Rough RF Rough S Smooth SL Stockensided POL Polished		COATING CN Clean SN Stained VNR Veneer (thin or patchy) CT Coating (up to 1mm) INFILL MATERIALS X Carbonaceous MU Unidentified mineral MS Secondary mineral KT Chlorite CA Calcite Fe Iron Oxide Qz Quartz		
Refer to explanatory notes for details of abbreviations and basis of descriptions													CARDNO (NSW/ACT) PTY LTD	

Refer to explanatory notes for details of abbreviations and basis of descriptions

CARDNO (NSW/ACT) PTY LTD

Client: NSW Health Infrastructure
Project: Shoalhaven Hospital
Location: Scenic Drive, Nowra NSW 2541

Job No: 8202118201

Sheet: 1 of 1

Position:
Rig Type: Hanjin D&B 8D

Angle from Horizontal: 90°
Mounting: Track

Surface Elevation:

Casing Diameter:

Contractor: Total Drilling

Data Started: 21/6/21

Date Completed: 21/6/21

Logged By: BA

Checked By: DR

Drilling			Sampling & Testing			Material Description									
Method	Resistance	Casing	Water	Sample or Field Test	(blows per 150 mm)	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations			
AD/T	H		Not Encountered	ES 0.10 m PID 0.10 m 0.4 ppm	1 3 6 12	0.05		GC	0.05m ASPHALT: 0.05m thick, no odour observed	D		FILL 0.05 m: Roadbase Material			
	CL							FILL: Clayey Sandy GRAVEL: fine to medium, angular, grey to dark grey, fine to coarse grained sand, no odour observed							
				0.40m	FILL: Gravelly Sandy CLAY: low plasticity, brown, fine to coarse grained sand, fine to coarse gravel, trace fine to coarse, sub-rounded to sub-angular gravel, no odour observed										
				1.0	1.70m	Sandy CLAY: orange-brown, fine to coarse grained, sub-rounded to sub-angular sand, trace fine to coarse, sub-rounded to sub-angular gravel, no odour observed									
							2.0	2.50m	Clayey Gravelly SAND: fine to coarse grained, sub-rounded to sub-angular, mottled red-brown and grey, fine to coarse, sub-angular to sub-rounded gravel, no odour observed						
										2.5	2.75m	TERMINATED AT 2.75 m Refusal TC-Bit Auger Refusal			
				H	D 2.50 - 2.70 m										
				VH											
METHOD				PENETRATION			FIELD TESTS			SAMPLES		SOIL CONSISTENCY			
EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller				VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER Water Level on Date shown water inflow water outflow			SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)			B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content		VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense			
Refer to explanatory notes for details of abbreviations and basis of descriptions													CARDNO (NSW/ACT) PTY LTD		

Client: NSW Health Infrastructure Project: Shoalhaven Hospital Location: Scenic Drive, Nowra NSW 2541				Job No: 8202118201 Sheet: 1 of 1			
Position:				Angle from Horizontal: 90°		Surface Elevation:	
Rig Type: Hanjin D&B 8D				Mounting: Track		Driller: CM	
Casing Diameter:				Contractor: Total Drilling			
Data Started: 22/6/21		Date Completed: 22/6/21		Logged By: BA		Checked By: DR	

Drilling			Sampling & Testing		Material Description						
Method	Resistance	Casing	Water	Sample or Field Test	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
AD/T 	H		Not Encountered	ES 0.10 m PID 0.10 m 0.4 ppm	0.10m		GC	ASPHALT: 0.05m thick, no odour observed	M		FILL
	F							0.30m			
	E			ES 0.50 m SPT 0.50 - 0.95 m 3, 4, 4 N=8 PID 0.50 m 0.8 ppm	0.5		CI	Sandy CLAY: mottled orange-brown, red-brown and grey, fine to coarse grained, sub-rounded to sub-angular sand, trace fine to coarse, sub-rounded to sub-angular gravel, no odour observed	M (<PL)	St	RESIDUAL SOIL
	F			D 1.20 - 1.50 m	1.0						
	H			SPT 1.50 - 1.64 m 25/140mm N=R	1.5						
	VH					1.80m		SC	Clayey Gravelly SAND: fine to coarse grained, sub-rounded to sub-angular, orange-brown, fine to coarse, sub-angular to sub-rounded gravel, no odour observed	M	D - VD
							TERMINATED AT 1.80 m Refusal TC-Bit Auger Refusal				
					2.0						
					2.5						
					3.0						
					3.5						

METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller	PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER Water Level on Date shown water inflow water outflow	FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)	SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content	SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
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Client: NSW Health Infrastructure
Project: Shoalhaven Hospital
Location: Scenic Drive, Nowra NSW 2541

Job No: 8202118201

Sheet: 1 of 1

Position:

Angle from Horizontal: 90°

Surface Elevation:

Equipment: Hand Auger

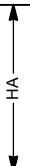
Casing Diameter:

Contractor: Cardno

Data Started: 17/6/21

Logged By: CL

Checked By: CC

Drilling			Water	Sampling & Testing	Depth (m)	Material Description				
Method	Resistance	Casing		Sample or Field Test		Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density
			Not Encountered	ES 0.10 m PID 0.10 m 0.5 ppm		CL	FILL: Silty CLAY: low plasticity, dark brown, trace fine to coarse, sub-angular to sub-rounded gravel, no odour observed	M		FILL 0.00 m: Organic matter (grass and rootlets)
						0.40m				
				ES 0.50 m PID 0.50 m 0.3 ppm		SC	FILL: Clayey SAND: fine to coarse grained, well graded, sub-rounded to sub-angular, light brown / orange, low to medium plasticity clay, no odour observed TERMINATED AT 0.50 m Refusal Hand Auger Refusal	M		

METHOD	PENETRATION	FIELD TESTS	SAMPLES	SOIL CONSISTENCY
EX Excavator bucket	VE Very Easy (No Resistance)	SPT - Standard Penetration Test	B - Bulk disturbed sample	VS - Very Soft
R Ripper	E Easy	HP - Hand/Pocket Penetrometer	D - Disturbed sample	S - Soft
HA Hand auger	F Firm	DCP - Dynamic Cone Penetrometer	ES - Environmental sample	F - Firm
PT Push tube	H Hard	PSP - Perth Sand Penetrometer	U - Thin wall tube 'undisturbed'	St - Stiff
SON Sonic drilling	VH Very Hard (Refusal)	MC - Moisture Content		VSt - Very Stiff
AH Air hammer		PBT - Plate Bearing Test		H - Hard
PS Percussion sampler		IMP - Borehole Impression Test		
AS Short spiral auger		PID - Photoionisation Detector	MOISTURE	RELATIVE DENSITY
AD/V Solid flight auger: V-Bit	 Water Level on Date shown	VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)	D - Dry	VL - Very Loose
AD/T Solid flight auger: TC-Bit	 water inflow		M - Moist	L - Loose
HFA Hollow flight auger	 water outflow		W - Wet	MD - Medium Dense
WB Washbore drilling			PL - Plastic limit	D - Dense
RR Rock roller			LL - Liquid limit	VD - Very Dense
			w - Moisture content	

Refer to explanatory notes for details of abbreviations and basis of descriptions.

CARDNO (NSW/ACT) PTY LTD

Client: NSW Health Infrastructure Project: Shoalhaven Hospital Location: Scenic Drive, Nowra NSW 2541				Hole No: HA02 Job No: 8202118201 Sheet: 1 of 1			
Position:				Angle from Horizontal: 90°		Surface Elevation:	
Equipment: Hand Auger							
Casing Diameter:				Contractor: Cardno			
Data Started: 17/6/21				Logged By: CL		Checked By: CC	

Drilling			Sampling & Testing		Material Description						
Method	Resistance	Casing	Water	Sample or Field Test	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
 HA			Not Encountered	ES 0.10 m PID 0.10 m 0.3 ppm	0.5		CL	FILL: Silty CLAY: low plasticity, dark brown, trace fine to coarse, sub-angular to sub-rounded gravel, no odour observed	M		FILL 0.00 m: Organic matter (grass and rootlets)
				ES 0.50 m PID 0.50 m 0.2 ppm			CL	FILL: Silty Sandy CLAY: low plasticity, dark brown, fine to coarse grained sand, trace fine to coarse, sub-angular to sub-rounded gravel, trace fine to coarse, sub-angular to sub-rounded cobbles, no odour observed	M	0.60 m: Increasing amount of sandstone gravels towards base	
				ES 0.90 m PID 0.90 m 0.2 ppm	1.0			TERMINATED AT 0.90 m Refusal Hand Auger Refusal			0.90 m: Hole 1 - Refusal at 0.9m, hole moved 2m east. Hole 2 - Refusal at 0.9m on suspected boulder / rock
					1.5						
					2.0						
					2.5						
					3.0						
					3.5						

METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller	PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER Water Level on Date shown water inflow water outflow	FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)	SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content	SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
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Client: NSW Health Infrastructure Project: Shoalhaven Hospital Location: Scenic Drive, Nowra NSW 2541				Hole No: HA03 Sheet: 1 of 1			
Position:				Angle from Horizontal: 90°		Surface Elevation:	
Equipment: Hand Auger							
Casing Diameter:				Contractor: Cardno			
Data Started: 17/6/21				Logged By: CL		Checked By: CC	

Drilling			Sampling & Testing		Depth (m)	Material Description						
Method	Resistance	Casing	Water	Sample or Field Test		Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations	
 HA 			Not Encountered	ES 0.10 m QA/QC101 PID 0.10 m 0.3 ppm	0.5		CL	FILL: Silty CLAY: low plasticity, dark brown, trace fine to coarse, sub-angular to sub-rounded gravel, no odour observed	M		FILL 0.00 m: Organic matter (grass and rootlets)	
				ES 0.50 m PID 0.50 m 0.2 ppm			CL	0.50m 0.60m FILL: Silty Sandy CLAY: low plasticity, light brown with mottled orange and red, fine to coarse grained sand, with fine to coarse, sub-angular to sub-rounded gravel, with fine to coarse, sub-angular to sub-rounded cobbles, no odour observed TERMINATED AT 0.60 m Refusal Hand Auger Refusal	M			
					1.0							
					1.5							
					2.0							
					2.5							
					3.0							
					3.5							

METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller	PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER Water Level on Date shown water inflow water outflow	FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)	SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content	SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
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Client: NSW Health Infrastructure Project: Shoalhaven Hospital Location: Scenic Drive, Nowra NSW 2541				Job No: 8202118201 Sheet: 1 of 1			
Position:				Angle from Horizontal: 90°		Surface Elevation:	
Equipment: Hand Auger							
Casing Diameter:				Contractor: Cardno			
Data Started: 17/6/21				Logged By: CL		Checked By: CC	

Drilling			Sampling & Testing		Depth (m)	Material Description				
Method	Resistance	Casing	Water	Sample or Field Test		Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density
 HA 			Not Encountered	ES 0.10 m PID 0.10 m 0.8 ppm		ML	FILL: CLAY: low plasticity, dark brown, trace fine to coarse, sub-rounded to sub-angular gravel, no odour observed	D to M		FILL 0.00 m: Organic matter (grass and rootlets)
				SP		FILL: Gravelly SAND: fine to coarse grained, gap graded, sub-rounded to sub-angular, orange / brown, fine to coarse, sub-rounded to sub-angular gravel, with fine to coarse, sub-rounded to sub-angular gravel, no odour observed				
				ES 0.50 m PID 0.50 m 0.4 ppm	0.5		TERMINATED AT 0.50 m Refusal Hand Auger Refusal			
					1.0					
					1.5					
					2.0					
					2.5					
					3.0					
					3.5					

METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller	PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER Water Level on Date shown water inflow water outflow	FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)	SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content	SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
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Client: NSW Health Infrastructure
Project: Shoalhaven Hospital
Location: Scenic Drive, Nowra NSW 2541

Job No: 8202118201

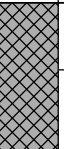
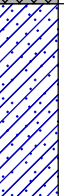
Sheet: 1 of 1

Position: Angle from Horizontal: 90° Surface Elevation:

Machine Type: Backhoe Excavation Method: Excavator Bucket

Excavation Dimensions: 1.50m LONG AND 0.50m WIDE Contractor: Lynch Civil

Date Excavated: 17/6/21 Logged By: BA Checked By: DR

Excavation			Sampling & Testing		Depth (m)	Material Description						
Method	Resistance	Stability	Water	Sample or Field Test		(blows per 150 mm)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
EX	E	Stable	Not Encountered	D 0.10 - 0.20 m ES 0.10 m PID 0.10 m 0.4 ppm	1 3 6 12		ML	FILL: Sandy SILT: low plasticity, dark brown, fine to coarse grained sand, trace fine gravel, no odour observed	M (<PL)		FILL 0.00 m: Organic matter (grass and rootlets), trace plastic and river stones observed	
					SC		FILL: Clayey SAND: fine to coarse grained, orange-brown, no odour observed	M				
	F			ES 0.50 m PID 0.50 m 1.1 ppm PP 0.70 m =200 - 250 kPa	0.5		CI	Sandy CLAY: medium plasticity, mottled orange-brown, red-brown and grey, fine to coarse grained, sub-rounded to sub-angular sand, trace fine to coarse, sub-rounded to sub-angular gravel, no odour observed	M (>PL)	St	RESIDUAL SOIL	
				ES 1.00 m PID 1.00 m 1.7 ppm	1.0		SC	Clayey Gravelly SAND: fine to coarse grained, sub-rounded to sub-angular, mottled red-brown and grey, fine to coarse, sub-angular to sub-rounded gravel, no odour observed	M			
	H			VH			D 1.20 - 0.40 m					M
								TERMINATED AT 1.40 m Refusal Backhoe Bucket Refusal				

METHOD

EX Excavator bucket
R Ripper
HA Hand auger
PT Push tube
SON Sonic drilling
AH Air hammer
PS Percussion sampler
AS Short spiral auger
AD/V Solid flight auger: V-Bit
AD/T Solid flight auger: TC-Bit
HFA Hollow flight auger
WB Washbore drilling
RR Rock roller

PENETRATION

VE Very Easy (No Resistance)
E Easy
F Firm
H Hard
VH Very Hard (Refusal)

WATER

 Water Level on Date shown
 water inflow
 water outflow

FIELD TESTS

SPT - Standard Penetration Test
HP - Hand/Pocket Penetrometer
DCP - Dynamic Cone Penetrometer
PSP - Perth Sand Penetrometer
MC - Moisture Content
PBT - Plate Bearing Test
IMP - Borehole Impression Test
PID - Photoionisation Detector
VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)

SAMPLES

B - Bulk disturbed sample
D - Disturbed sample
ES - Environmental sample
U - Thin wall tube 'undisturbed'

MOISTURE

D - Dry
M - Moist
W - Wet
PL - Plastic limit
LL - Liquid limit
w - Moisture content

SOIL CONSISTENCY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard

RELATIVE DENSITY

VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Client: NSW Health Infrastructure Project: Shoalhaven Hospital Location: Scenic Drive, Nowra NSW 2541	Job No: 8202118201 Sheet: 1 of 1
Position:	Angle from Horizontal: 90° Surface Elevation:
Machine Type: Backhoe	Excavation Method: Excavator Bucket
Excavation Dimensions: 1.50m LONG AND 0.50m WIDE	Contractor: Lynch Civil
Date Excavated: 17/6/21	Logged By: BA Checked By: DR

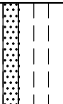
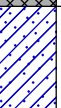
Excavation			Water	Sampling & Testing		Depth (m)	Material Description				
Method	Resistance	Stability		Sample or Field Test	(blows per 150 mm)		Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density
↑ EX ↓	E	Stable	Not Encountered	ES 0.10 m PID 0.10 m 0.5 ppm							

METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller	PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER  Water Level on Date shown  water inflow  water outflow	FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)	SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content	SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
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Refer to explanatory notes for details of abbreviations and basis of descriptions

Client: NSW Health Infrastructure
Project: Shoalhaven Hospital
Location: Scenic Drive, Nowra NSW 2541
Job No: 8202118201
Sheet: 1 of 1

Position: _____ **Angle from Horizontal:** 90° **Surface Elevation:** _____
Machine Type: Backhoe **Excavation Method:** Excavator Bucket
Excavation Dimensions: 1.50m LONG AND 0.50m WIDE **Contractor:** Lynch Civil
Date Excavated: 17/6/21 **Logged By:** BA **Checked By:** DR

Excavation			Water	Sampling & Testing		Depth (m)	Material Description						
Method	Resistance	Stability		Sample or Field Test	(blows per 150 mm)		Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations	
↑ EX ↓	E	Stable	Not Encountered	D 0.10 - 0.20 m ES 0.10 m PID 0.10 m 1.1 ppm		SM	FILL: Silty SAND: fine to coarse grained, dark grey, no odour observed	M		FILL 0.00 m: Organic matter (grass and rootlets)			
					0.30m	SC	FILL: Clayey SAND: fine to coarse grained, orange-brown, trace fine to coarse, sub-angular to sub-rounded gravel, no odour observed						
				F		ES 0.50 m PID 0.50 m 1.5 ppm	0.5		CI	Sandy CLAY: medium plasticity, mottled orange-brown, red-brown and grey, fine to coarse grained, sub-rounded to sub-angular sand, trace fine to coarse, sub-rounded to sub-angular gravel, no odour observed	M (>PL)	F	RESIDUAL SOIL
					D 1.00 - 1.20 m ES 1.00 m PID 1.00 m 1.1 ppm	1.0							
	H			D 1.50 - 1.60 m	1.5		SC	Clayey Gravelly SAND: fine to coarse grained, sub-rounded to sub-angular, mottled red-brown and grey, fine to coarse, sub-angular to sub-rounded gravel, no odour observed	M	D - VD	EXTREMELY WEATHERED		
	VH				1.80m								
										TERMINATED AT 1.80 m Refusal Backhoe Bucket Refusal			

METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller		PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER  Water Level on Date shown  water inflow  water outflow		FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)		SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content		SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense	
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Refer to explanatory notes for details of abbreviations and basis of descriptions

Client: NSW Health Infrastructure
Project: Shoalhaven Hospital
Location: Scenic Drive, Nowra NSW 2541

Job No: 8202118201

Sheet: 1 of 1

Position: **Angle from Horizontal: 90°** **Surface Elevation:**

Machine Type: Backhoe	Excavation Method: Excavator Bucket
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Excavation Dimensions: 1.50m LONG AND 0.50m WIDE

Contractor: Lynch Civil

Date Excavated: 17/6/21

Logged By: BA

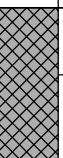
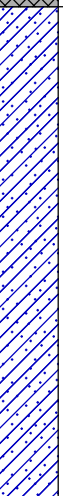
Checked By: DR

Excavation			Sampling & Testing			Material Description						
Method	Resistance	Stability	Water	Sample or Field Test	(blows per 150 mm)	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
EX	E	Stable	Not Encountered	ES 0.10 m PID 0.10 m 1 ppm D 0.20 - 0.40 m	1 3 6 12	0.5		SM	FILL: Silty SAND: fine to coarse grained, dark grey and dark brown, no odour observed			FILL 0.00 m: Organic matter (grass and rootlets), trace ceramics and charcoal observed
				ES 0.50 m PID 0.50 m 1.2 ppm D 0.60 - 0.80 m	SC			FILL: Clayey SAND: fine to coarse grained, orange-brown, trace fine to coarse, sub-angular to sub-rounded gravel, trace rootlets, no odour observed				
	F			ES 1.00 m PID 1.00 m 0.5 ppm PP 1.20 m =300 - 350 kPa	1.0		CI	Sandy CLAY: medium plasticity, mottled orange-brown, red-brown and grey, fine to coarse grained, sub-rounded to sub-angular sand, trace fine to coarse, sub-rounded to sub-angular gravel, no odour observed	M (>PL)	St	RESIDUAL SOIL	
				VH			M (<PL)	VSt				
					10/10mm R	1.5			TERMINATED AT 1.50 m Refusal Backhoe Bucket Refusal			

Client: NSW Health Infrastructure
 Project: Shoalhaven Hospital
 Location: Scenic Drive, Nowra NSW 2541

Job No: 8202118201
 Sheet: 1 of 1

Position: Angle from Horizontal: 90° Surface Elevation:
 Machine Type: Backhoe Excavation Method: Excavator Bucket
 Excavation Dimensions: 1.50m LONG AND 0.50m WIDE Contractor: Lynch Civil
 Date Excavated: 17/6/21 Logged By: BA Checked By: DR

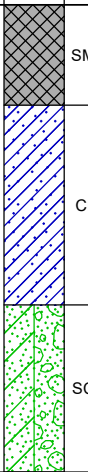
Excavation			Sampling & Testing		Material Description								
Method	Resistance	Stability	Water	Sample or Field Test	(blows per 150 mm)	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations	
EX	E	Stable	Not Encountered	ES 0.10 m PID 0.10 m 0.5 ppm	1 3 6 12	0.20m		SM	FILL: Silty SAND: fine to coarse grained, dark grey, no odour observed	M		FILL 0.00 m: Organic matter (grass and rootlets)	
				SC	FILL: Clayey SAND: fine to coarse grained, orange-brown, trace fine to coarse, sub-angular to sub-rounded gravel, no odour observed								
	F			ES 0.50 m PID 0.50 m 0.8 ppm	0.50m		CI	Sandy CLAY: medium plasticity, mottled orange-brown, red-brown and grey, fine to coarse grained, sub-rounded to sub-angular sand, trace fine to coarse, sub-rounded to sub-angular gravel, no odour observed	M (>PL)	St	RESIDUAL SOIL		
				D 1.00 - 1.20 m ES 1.00 m PP 1.00 m =200 - 250 kPa PID 1.00 m 0.7 ppm									
	H			PP 2.00 m =250 - 300 kPa	25/90mm R		SC	Clayey Gravelly SAND: fine to coarse grained, sub-rounded to sub-angular, mottled red-brown and grey, fine to coarse, sub-angular to sub-rounded gravel, no odour observed	M	VD	EXTREMELY WEATHERED		
	VH						SC	TERMINATED AT 2.40 m Refusal Backhoe Bucket Refusal					
						2.5							
						3.0							
						3.5							

METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller	PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER  Water Level on Date shown  water inflow  water outflow	FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)	SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content	SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
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Refer to explanatory notes for details of abbreviations and basis of descriptions

Client: NSW Health Infrastructure
Project: Shoalhaven Hospital
Location: Scenic Drive, Nowra NSW 2541
Job No: 8202118201
Sheet: 1 of 1

Position: _____ **Angle from Horizontal:** 90° **Surface Elevation:** _____
Machine Type: Backhoe **Excavation Method:** Excavator Bucket
Excavation Dimensions: 1.50m LONG AND 0.50m WIDE **Contractor:** Lynch Civil
Date Excavated: 17/6/21 **Logged By:** BA **Checked By:** DR

Excavation			Sampling & Testing		Depth (m)	Material Description				
Method	Resistance	Stability	Water	Sample or Field Test		Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density
EX	E	Stable	Not Encountered	ES 0.10 m PID 0.10 m 0.6 ppm	1 3 6 12		SM	FILL: Silty SAND: fine to coarse grained, dark brown, no odour observed	M	FILL 0.00 m: Organic matter (grass and rootlets)
	F			D 0.40 - 0.60 m ES 0.50 m PID 0.50 m 0.9 ppm			CI	Sandy CLAY: medium plasticity, mottled orange-brown, red-brown and grey, fine to coarse grained, sub-rounded to sub-angular sand, trace fine to coarse, sub-rounded to sub-angular gravel, no odour observed	M (<PL)	F St
	H			D 1.00 - 1.20 m			SC	Clayey Gravelly SAND: fine to coarse grained, sub-rounded to sub-angular, mottled red-brown and grey, fine to coarse, sub-angular to sub-rounded gravel, no odour observed	M (<PL)	VSt
	VH							TERMINATED AT 1.40 m Refusal Backhoe Bucket Refusal		H
					1.5					
					2.0					
					2.5					
					3.0					
					3.5					

METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller	PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER  Water Level on Date shown  water inflow  water outflow	FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)	SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content	SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
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Refer to explanatory notes for details of abbreviations and basis of descriptions

Client: NSW Health Infrastructure Project: Shoalhaven Hospital Location: Scenic Drive, Nowra NSW 2541				Job No: 8202118201 Sheet: 1 of 1			
Position:				Angle from Horizontal: 90°		Surface Elevation:	
Machine Type: Backhoe				Excavation Method: Excavator Bucket			
Excavation Dimensions: 1.50m LONG AND 0.50m WIDE				Contractor: Lynch Civil			
Date Excavated: 17/6/21				Logged By: CL		Checked By: CC	

Excavation			Sampling & Testing		Material Description							
Method	Resistance	Stability	Water	Sample or Field Test	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations	
↑ EX ↓		Stable	Not Encountered	ES 0.10 m PID 0.10 m 0.4 ppm	0.5	[Pattern]	SM	FILL: Silty SAND: fine to coarse grained, dark brown, trace fine to coarse sub-rounded gravel, trace fine to coarse sub-rounded cobbles, no odour observed	D to M		FILL 0.00 m: Organic matter (grass and rootlets) Trace glass, brick and fine to coarse grained sandstone boulders observed Frequent wood observed	
				ES 0.50 m PID 0.50 m 0.1 ppm								
				ES 1.00 m PID 1.00 m 0.4 ppm				1.0			[Pattern]	CI
					1.5			TERMINATED AT 1.40 m Target depth Target Depth Reached				
					2.0							
					2.5							
					3.0							
					3.5							

METHOD EX Excavator bucket R Ripper HA Hand auger PT Push tube SON Sonic drilling AH Air hammer PS Percussion sampler AS Short spiral auger AD/V Solid flight auger: V-Bit AD/T Solid flight auger: TC-Bit HFA Hollow flight auger WB Washbore drilling RR Rock roller	PENETRATION VE Very Easy (No Resistance) E Easy F Firm H Hard VH Very Hard (Refusal) WATER  Water Level on Date shown  water inflow  water outflow	FIELD TESTS SPT - Standard Penetration Test HP - Hand/Pocket Penetrometer DCP - Dynamic Cone Penetrometer PSP - Perth Sand Penetrometer MC - Moisture Content PBT - Plate Bearing Test IMP - Borehole Impression Test PID - Photoionisation Detector VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)	SAMPLES B - Bulk disturbed sample D - Disturbed sample ES - Environmental sample U - Thin wall tube 'undisturbed' MOISTURE D - Dry M - Moist W - Wet PL - Plastic limit LL - Liquid limit w - Moisture content	SOIL CONSISTENCY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard RELATIVE DENSITY VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
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Client: NSW Health Infrastructure
 Project: Shoalhaven Hospital
 Location: Scenic Drive, Nowra NSW 2541

Job No: 8202118201

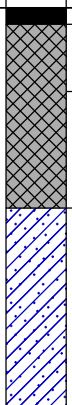
Sheet: 1 of 1

Position: Angle from Horizontal: 90° Surface Elevation:

Machine Type: Backhoe Excavation Method: Excavator Bucket

Excavation Dimensions: 1.50m LONG AND 0.50m WIDE Contractor: Lynch Civil

Date Excavated: 17/6/21 Logged By: CL Checked By: CC

Excavation			Water	Sampling & Testing	Depth (m)	Material Description					
Method	Resistance	Stability		Sample or Field Test		Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
↑ EX ↓		Stable	Not Encountered	ES 0.10 m QA/QC100 PID 0.10 m 0.2 ppm	0.5		0.05m ASPHALT: 0.05m thick, no odour observed	D		PAVEMENT	
				ES 0.30 m PID 0.30 m 0.7 ppm			FILL: Gravelly SAND: fine to coarse grained, gap graded, sub-rounded to sub-angular, orange / brown, fine to coarse grained, sub-rounded to sub-angular gravel, with fine to coarse grained, sub-rounded to sub-angular cobbles, no odour observed	D to M		FILL 0.05 m: Organic matter (grass and rootlets) 0.25 m: Organic matter (grass and rootlets)	
							FILL: Clayey SAND: fine to coarse grained, well graded, sub-rounded to sub-angular, light brown, low to medium plasticity clay, trace fine to coarse grained, sub-rounded to sub-angular gravel, no odour observed	M			
				ES 1.00 m PID 1.00 m 0.3 ppm			Sandy CLAY: low to medium plasticity, orange / brown, fine to coarse grained, sub-rounded to sub-angular sand, trace fine to coarse grained, sub-rounded to sub-angular gravel, no odour observed	M		RESIDUAL SOIL 0.60 m: Organic matter (rootlets) observed	
					1.0		1.20m	TERMINATED AT 1.20 m Target depth Target Depth Reached			
					1.5						
					2.0						
					2.5						
					3.0						
					3.5						

METHOD

EX Excavator bucket
 R Ripper
 HA Hand auger
 PT Push tube
 SON Sonic drilling
 AH Air hammer
 PS Percussion sampler
 AS Short spiral auger
 AD/V Solid flight auger: V-Bit
 AD/T Solid flight auger: TC-Bit
 HFA Hollow flight auger
 WB Washbore drilling
 RR Rock roller

PENETRATION

VE Very Easy (No Resistance)
 E Easy
 F Firm
 H Hard
 VH Very Hard (Refusal)

WATER

 Water Level on Date shown
 water inflow
 water outflow

FIELD TESTS

SPT - Standard Penetration Test
 HP - Hand/Pocket Penetrometer
 DCP - Dynamic Cone Penetrometer
 PSP - Perth Sand Penetrometer
 MC - Moisture Content
 PBT - Plate Bearing Test
 IMP - Borehole Impression Test
 PID - Photoionisation Detector
 VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)

SAMPLES

B - Bulk disturbed sample
 D - Disturbed sample
 ES - Environmental sample
 U - Thin wall tube 'undisturbed'

MOISTURE

D - Dry
 M - Moist
 W - Wet
 PL - Plastic limit
 LL - Liquid limit
 w - Moisture content

SOIL CONSISTENCY

VS - Very Soft
 S - Soft
 F - Firm
 St - Stiff
 VSt - Very Stiff
 H - Hard

RELATIVE DENSITY

VL - Very Loose
 L - Loose
 MD - Medium Dense
 D - Dense
 VD - Very Dense

Refer to explanatory notes for details of abbreviations and basis of descriptions

CARDNO (NSW/ACT) PTY LTD

APPENDIX

E

DATA SUMMARY TABLES



now



	TPH Fractions							BTEX							Metals								Inorganics				
	C6-C10	C10-C16	C16-C34	C34-C40	C10 - C40 (sum of total)	F1: C6-C10 less BTEX	F2: >C10-C16 less NAPHTHALENE	Naphthalene (VOC)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Arsenic	Cadmium	Chromium (III+VI)	Copper	Iron	Lead	Mercury	Nickel	Zinc	% Clay*	Conductivity (1:5 aqueous extract)	CEC	pH (Lab)
EQL	20	50	100	100	100	20	50	0.5	0.1	0.1	0.1	0.2	0.1	0.3	2	0.4	5	5	20	5	0.1	5	5	1	10	0.05	0.1
CRCCARE 2011 Soil HSL for Direct Contact, HSL-A Residential	4400	3300	4500	6300					100	14000	4500			12000													
NEPM 2013 HIL, Residential A															100	20		6000		300	40	400	7400				
NEPM 2013 Soil HSL Residential A&B, for Vapour Intrusion, Sand																											
0-1m						45	110		0.5	160	55			40													
NEPM 2013 EIL UR/POS, Calc from TP06_0.1															100		350	50		1100		6	160				
NEPM 2013 ESL UR/POS, Coarse Soil		120	300	2800		180			50	85	70			105													
NEPM 2013 Management Limits, R/P&POS, Coarse Soil	700	1000	2500	10000																							

Sample ID	Location ID	Sample Depth	Sample Date																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													</
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				OPP						Insecticides	Pesticides		SVOC
				Phorate	Pyrazophos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos	Tokuthion	Parathion	Pyrimiphos-methyl	EPN
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
CRCCARE 2011 Soil HSL for Direct Contact, HSL-A Residential													
NEPM 2013 HIL, Residential A													
NEPM 2013 Soil HSL Residential A&B, for Vapour Intrusion, Sand													
0-1m													
NEPM 2013 EIL UR/POS, Calc from TP06_0.1													
NEPM 2013 ESL UR/POS, Coarse Soil													
NEPM 2013 Management Limits, R/P&POS, Coarse Soil													

Sample ID	Location ID	Sample Depth	Sample Date	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
BH01_0.1	BH01	0.1	22/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BH01_0.5	BH01	0.5	22/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BH01E1_0.1	BH01E1	0.1	21/03/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BH01E1_0.5	BH01E1	0.5	21/03/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BH01N1_0.1	BH01N1	0.1	21/03/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BH01N1_0.5	BH01N1	0.5	21/03/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BH01S1_0.1	BH01S1	0.1	21/03/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BH01S1_0.5	BH01S1	0.5	21/03/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BH01W1_0.1	BH01W1	0.1	21/03/2022	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH01W1_0.5	BH01W1	0.5	21/03/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BH02_0.1	BH02	0.1	21/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BH03_0.1	BH03	0.1	21/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BH04_0.1	BH04	0.1	22/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BH05_0.1	BH05	0.1	21/06/2021	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH05_0.5	BH05	0.5	21/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BH06_0.1	BH06	0.1	22/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BH07_0.1	BH07	0.1	21/03/2022	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH07_0.5	BH07	0.5	21/03/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BH08_0.1	BH08	0.1	21/03/2022	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH08_0.5	BH08	0.5	21/03/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
HA01_0.1	HA01	0.1	17/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
HA01_0.5	HA01	0.5	17/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
HA02_0.1	HA02	0.1	17/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
HA02_0.9	HA02	0.9	17/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
HA03_0.1	HA03	0.1	17/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
QA101	HA03	0.1	17/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
QC101	HA03	0.1	17/06/2021	-	-	<0.1	-	-	-	-	<0.1	-	-
HA03_0.5	HA03	0.5	17/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
HA04_0.1	HA04	0.1	17/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
HA04_0.5	HA04	0.5	17/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
HA05_0.1	HA05	0.1	21/03/2022	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QA201	HA05	0.1	23/03/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
QC201	HA05	0.1	21/03/2022	-	-	<0.1	-	-	-	-	<0.1	-	-
HA06_0.1	HA06	0.1	21/03/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
HA07_0.1	HA07	0.1	21/03/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
HA08_0.1	HA08	0.1	21/03/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
HA09_0.1	HA09	0.1	21/03/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
TP02_0.1	TP02	0.1	17/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
TP02_1	TP02	1	17/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
TP03_0.1	TP03	0.1	17/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
TP04_0.5	TP04	0.5	17/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
TP05_0.1	TP05	0.1	17/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
TP05_0.5	TP05	0.5	17/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
TP06_0.1	TP06	0.1	17/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
TP07_0.1	TP07	0.1	17/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
TP07_0.5	TP07	0.5	17/06/2021	-	-	-	-	-	-	-	-	-	-
TP08_0.1	TP08	0.1	17/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
QA100	TP10	0.1	17/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
QC100	TP10	0.1	17/06/2021	-	-	<0.1	-	-	-	-	<0.1	-	-
TP10_0.1	TP10	0.1	17/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
TP10_0.5	TP10	0.5	17/06/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
TP24_0.1	TP24	0.1	23/03/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
TP25_0.1	TP25	0.1	23/03/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
QA204	TP26	0.1	23/03/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
QC204	TP26	0.1	23/03/2022	-	-	<0.1	-	-	-	-	<0.1	-	-
TP26_0.1	TP26	0.1	23/03/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
TP27_0.1	TP27	0.1	23/03/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
TP28_0.1	TP28	0.1	23/03/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
TP29_0.1	TP29	0.1	23/03/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
TP30_0.1	TP30	0.1	23/03/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
QA205	TP31	0.1	23/03/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
QC205	TP31	0.1	23/03/2022	-	-	<0.1	-	-	-	-	<0.1	-	-
TP31_0.1	TP31	0.1	23/03/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Field ID	HA05_0.1	QA201	RPD	TP26_0.1	QA204	RPD	TP31_0.1	QA205	RPD	HA05_0.1	QC201	RPD
Sampled Date/Time	21/03/2022	21/03/2022		23/03/2022	23/03/2022		23/03/2022	23/03/2022		21/03/2022	21/03/2022	

Chemistry Group	Chemical Name	Units	EQL												
TPH Fractions	C6-C10	mg/kg	20 : 25 (Interlab)	<20	<20	0	<20	<20	0	<20	<20	0	<20	<25	0
	C10-C16	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0
	C16-C34	mg/kg	100	100	<100	0	<100	<100	0	<100	<100	0	100	170	52
	C34-C40	mg/kg	100	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0
	C10 - C40 (Sum of total)	mg/kg	100 : 50 (Interlab)	100	<100	0	<100	<100	0	<100	<100	0	100	170	52
	F1: C6-C10 less BTEX	mg/kg	20 : 25 (Interlab)	<20	<20	0	<20	<20	0	<20	<20	0	<20	<25	0
	F2: >C10-C16 less NAPHTHALENE	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0
BTEX	Naphthalene (VOC)	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<1	0
	Benzene	mg/kg	0.1 : 0.2 (Interlab)	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.2	0
	Toluene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.5	0
	Ethylbenzene	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<1	0
	Xylene (m & p)	mg/kg	0.2 : 2 (Interlab)	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<2	0
	Xylene (o)	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<1	0
	Xylene Total	mg/kg	0.3 : 1 (Interlab)	<0.3	<0.3	0	<0.3	<0.3	0	<0.3	<0.3	0	<0.3	<1	0
Metals	Arsenic	mg/kg	2 : 4 (Interlab)	<2	6.3	104	2.9	3.2	10	7.2	6.9	4	<2	5	86
	Cadmium	mg/kg	0.4	<0.4	<0.4	0	<0.4	<0.4	0	<0.4	<0.4	0	<0.4	<0.4	0
	Chromium (III+VI)	mg/kg	5 : 1 (Interlab)	<5	14	95	20	17	16	29	25	15	<5	8	46
	Copper	mg/kg	5 : 1 (Interlab)	8.2	19	79	<5	<5	0	14	10	33	8.2	12	38
	Lead	mg/kg	5 : 1 (Interlab)	9.4	15	46	23	13	56	61	54	12	9.4	10	6
	Mercury	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
	Nickel	mg/kg	5 : 1 (Interlab)	<5	9.9	66	<5	5.5	10	5.3	6.2	16	<5	6	18
	Zinc	mg/kg	5 : 1 (Interlab)	24	78	106	13	9.1	35	52	52	0	24	40	50
	PAH	Naphthalene	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1
Acenaphthylene		mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0
Acenaphthene		mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0
Fluorene		mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0
Phenanthrene		mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0
Anthracene		mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0
Fluoranthene		mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0
Pyrene		mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0
Benz(a)anthracene		mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0
Chrysene		mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0
Benzo(k)fluoranthene		mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	-	-
Benzo(b+j)fluoranthene		mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	-	-
Benzo(a)pyrene		mg/kg	0.5 : 0.05 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.05	0
Indeno(1,2,3-c,d)pyrene		mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0
Dibenzo(a,h)anthracene		mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0
Benzo(g,h,i)perylene		mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0
Benzo(a)pyrene TEQ (Zero LOR)		mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Benzo(a)pyrene TEQ (Half LOR)		mg/kg	0.5	0.6	0.6	0	0.6	0.6	0	0.6	0.6	0	0.6	<0.5	18
Benzo(a)pyrene TEQ (Full LOR)		mg/kg	0.5	1.2	1.2	0	1.2	1.2	0	1.2	1.2	0	1.2	<0.5	82
PAHs (Sum of total)		mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	-	-
Organochlorine Pesticides	4,4-DDE	mg/kg	0.05 : 0.1 (Interlab)	<0.5	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.1	0
	a-BHC	mg/kg	0.05 : 0.1 (Interlab)	<0.5	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.1	0
	Aldrin	mg/kg	0.05 : 0.1 (Interlab)	<0.5	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.1	0
	Aldrin + Dieldrin	mg/kg	0.05	<0.5	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	-	-
	b-BHC	mg/kg	0.05 : 0.1 (Interlab)	<0.5	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.1	0
	Chlordane	mg/kg	0.1	<1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<1	-	-
	d-BHC	mg/kg	0.05 : 0.1 (Interlab)	<0.5	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.1	0
	DDD	mg/kg	0.05 : 0.1 (Interlab)	<0.5	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.1	0
	DDT	mg/kg	0.05 : 0.1 (Interlab)	<0.5	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.1	0
	DDT+DDE+DDD	mg/kg	0.05 : 0.1 (Interlab)	<0.5	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.1	0
	Dieldrin	mg/kg	0.05 : 0.1 (Interlab)	<0.5	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.1	0
	Endosulfan I	mg/kg	0.05 : 0.1 (Interlab)	<0.5	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.1	0
	Endosulfan II	mg/kg	0.05 : 0.1 (Interlab)	<0.5	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.1	0
	Endosulfan sulphate	mg/kg	0.05 : 0.1 (Interlab)	<0.5	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.1	0
	Endrin	mg/kg	0.05 : 0.1 (Interlab)	<0.5	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.1	0
	Endrin aldehyde	mg/kg	0.05 : 0.1 (Interlab)	<0.5	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.1	0
	Endrin ketone	mg/kg	0.05	<0.5	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	-	-
	g-BHC (Lindane)	mg/kg	0.05 : 0.1 (Interlab)	<0.5	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.1	0
	Heptachlor	mg/kg	0.05 : 0.1 (Interlab)	<0.5	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.1	0
	Heptachlor epoxide	mg/kg	0.05 : 0.1 (Interlab)	<0.5	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.1	0
	Hexachlorobenzene	mg/kg	0.05 : 0.1 (Interlab)	<0.5	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.1	0
	Methoxychlor	mg/kg	0.05 : 0.1 (Interlab)	<0.5	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.1	0
	Toxaphene	mg/kg	0.5	<10	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<10	-	-
Organophosphorous Pesticides	Azinophos methyl	mg/kg	0.2 : 0.1 (Interlab)	<0.5	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.5	<0.1	0
	Bolstar (Sulprofos)	mg/kg	0.2	<0.5	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.5	-	-
	Chlorfenvinphos	mg/kg	0.2	<0.5	<0.2	0</									

Field ID Sampled Date/Time				TP26_0.1 23/03/2022	QC204 23/03/2022	RPD	TP31_0.1 23/03/2022	QC205 23/03/2022	RPD
Chemistry Group	Chemical Name	Units	EQL						
TPH Fractions	C6-C10	mg/kg	20 : 25 (Interlab)	<20	<25	0	<20	<25	0
	C10-C16	mg/kg	50	<50	<50	0	<50	<50	0
	C16-C34	mg/kg	100	<100	<100	0	<100	<100	0
	C34-C40	mg/kg	100	<100	<100	0	<100	<100	0
	C10 - C40 (Sum of total)	mg/kg	100 : 50 (Interlab)	<100	<50	0	<100	<50	0
	F1: C6-C10 less BTEX	mg/kg	20 : 25 (Interlab)	<20	<25	0	<20	<25	0
	F2: >C10-C16 less NAPHTHALENE	mg/kg	50	<50	<50	0	<50	<50	0
BTEX	Naphthalene (VOC)	mg/kg	0.5 : 1 (Interlab)	<0.5	<1	0	<0.5	<1	0
	Benzene	mg/kg	0.1 : 0.2 (Interlab)	<0.1	<0.2	0	<0.1	<0.2	0
	Toluene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.5	0	<0.1	<0.5	0
	Ethylbenzene	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<1	0
	Xylene (m & p)	mg/kg	0.2 : 2 (Interlab)	<0.2	<2	0	<0.2	<2	0
	Xylene (o)	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<1	0
	Xylene Total	mg/kg	0.3 : 1 (Interlab)	<0.3	<1	0	<0.3	<1	0
Metals	Arsenic	mg/kg	2 : 4 (Interlab)	2.9	<4	0	7.2	5	36
	Cadmium	mg/kg	0.4	<0.4	<0.4	0	<0.4	<0.4	0
	Chromium (III+VI)	mg/kg	5 : 1 (Interlab)	20	13	42	29	17	52
	Copper	mg/kg	5 : 1 (Interlab)	<5	2	0	14	9	43
	Lead	mg/kg	5 : 1 (Interlab)	23	13	56	61	38	46
	Mercury	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0
	Nickel	mg/kg	5 : 1 (Interlab)	<5	2	0	5.3	3	55
	Zinc	mg/kg	5 : 1 (Interlab)	13	8	48	52	29	57
PAH	Naphthalene	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.1	0	<0.5	<0.1	0
	Acenaphthylene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.1	0	<0.5	<0.1	0
	Acenaphthene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.1	0	<0.5	<0.1	0
	Fluorene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.1	0	<0.5	<0.1	0
	Phenanthrene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.1	0	<0.5	0.1	0
	Anthracene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.1	0	<0.5	<0.1	0
	Fluoranthene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	0.1	0	<0.5	0.3	0
	Pyrene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	0.1	0	<0.5	0.3	0
	Benzo(a)anthracene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	0.1	0	<0.5	0.3	0
	Chrysene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.1	0	<0.5	0.2	0
	Benzo(k)fluoranthene	mg/kg	0.5	<0.5	-	-	<0.5	-	-
	Benzo(b+j)fluoranthene	mg/kg	0.5	<0.5	-	-	<0.5	-	-
	Benzo(a)pyrene	mg/kg	0.5 : 0.05 (Interlab)	<0.5	0.07	0	<0.5	0.2	0
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.1	0	<0.5	0.1	0
	Dibenzo(a,h)anthracene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.1	0	<0.5	<0.1	0
	Benzo(g,h,i)perylene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.1	0	<0.5	0.2	0
	Benzo(a)pyrene TEQ (Zero LOR)	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(a)pyrene TEQ (Half LOR)	mg/kg	0.5	0.6	<0.5	18	0.6	<0.5	18
	Benzo(a)pyrene TEQ (Full LOR)	mg/kg	0.5	1.2	<0.5	82	1.2	<0.5	82
	PAHs (Sum of total)	mg/kg	0.5	<0.5	-	-	<0.5	-	-
Organochlorine Pesticides	4,4-DDE	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.1	0	<0.05	<0.1	0
	a-BHC	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.1	0	<0.05	<0.1	0
	Aldrin	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.1	0	<0.05	<0.1	0
	Aldrin + Dieldrin	mg/kg	0.05	<0.05	-	-	<0.05	-	-
	b-BHC	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.1	0	<0.05	<0.1	0
	Chlordane	mg/kg	0.1	<0.1	-	-	<0.1	-	-
	d-BHC	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.1	0	<0.05	<0.1	0
	DDD	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.1	0	<0.05	<0.1	0
	DDT	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.1	0	<0.05	<0.1	0
	DDT+DDE+DDD	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.1	0	<0.05	<0.1	0
	Dieldrin	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.1	0	<0.05	<0.1	0
	Endosulfan I	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.1	0	<0.05	<0.1	0
	Endosulfan II	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.1	0	<0.05	<0.1	0
	Endosulfan sulphate	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.1	0	<0.05	<0.1	0
	Endrin	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.1	0	<0.05	<0.1	0
	Endrin aldehyde	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.1	0	<0.05	<0.1	0
	Endrin ketone	mg/kg	0.05	<0.05	-	-	<0.05	-	-
	g-BHC (Lindane)	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.1	0	<0.05	<0.1	0
	Heptachlor	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.1	0	<0.05	<0.1	0
	Heptachlor epoxide	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.1	0	<0.05	<0.1	0
	Hexachlorobenzene	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.1	0	<0.05	<0.1	0
	Methoxychlor	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.1	0	<0.05	<0.1	0
	Toxaphene	mg/kg	0.5	<0.5	-	-	<0.5	-	-
Organophosphorous Pesticides	Azinophos methyl	mg/kg	0.2 : 0.1 (Interlab)	<0.2	<0.1	0	<0.2	<0.1	0
	Bolstar (Sulprofos)	mg/kg	0.2	<0.2	-	-	<0.2	-	-
	Chlorfenvinphos	mg/kg	0.2	<0.2	-	-	<0.2	-	-
	Chlorpyrifos	mg/kg	0.2 : 0.1 (Interlab)	<0.2	<0.1	0	<0.2	<0.1	0
	Chlorpyrifos-methyl	mg/kg	0.2 : 0.1 (Interlab)	<0.2	<0.1	0	<0.2	<0.1	0
	Coumaphos	mg/kg	2	<2	-	-	<2	-	-
	Demeton-O	mg/kg	0.2	<0.2	-	-	<0.2	-	-
	Demeton-S	mg/kg	0.2	<0.2	-	-	<0.2	-	-
	Diazinon	mg/kg	0.2 : 0.1 (Interlab)	<0.2	<0.1	0	<0.2	<0.1	0
	Dichlorvos	mg/kg	0.2 : 0.1 (Interlab)	<0.2	<0.1	0	<0.2	<0.1	0
	Dimethoate	mg/kg	0.2 : 0.1 (Interlab)	<0.2	<0.1	0	<0.2	<0.1	0
	Disulfoton	mg/kg	0.2	<0.2	-	-	<0.2	-	-
	Ethion	mg/kg	0.2 : 0.1 (Interlab)	<0.2	<0.1	0	<0.2	<0.1	0
	Ethoprop	mg/kg	0.2	<0.2	-	-	<0.2	-	-
	Fenitrothion	mg/kg	0.2 : 0.1 (Interlab)	<0.2	<0.1	0	<0.2	<0.1	0
	Fensulfothion	mg/kg	0.2	<0.2	-	-	<0.2	-	-
	Fenthion	mg/kg	0.2	<0.2	-	-	<0.2	-	-
	Malathion	mg/kg	0.2 : 0.1 (Interlab)	<0.2	<0.1	0	<0.2	<0.1	0
	Merphos	mg/kg	0.2	<0.2	-	-	<0.2	-	-
	Methyl parathion	mg/kg	0.2	<0.2	-	-	<0.2	-	-
	Mevinphos (Phosdrin)	mg/kg	0.2	<0.2	-	-	<0.2	-	-
	Monocrotophos	mg/kg	2	<2	-	-	<2	-	-
	Naled (Dibrom)	mg/kg	0.2	<0.2	-	-	<0.2	-	-
	Omethoate	mg/kg	2	<2	-	-	<2	-	-
	Phorate	mg/kg	0.2	<0.2	-	-	<0.2	-	-
	Pyrazophos	mg/kg	0.2	<0.2	-	-	<0.2	-	-
	Ronnel	mg/kg	0.2 : 0.1 (Interlab)	<0.2	<0.1	0	<0.2	<0.1	0
	Terbufos	mg/kg	0.2	<0.2	-	-	<0.2	-	-
	Trichloronate	mg/kg	0.2	<0.2	-	-	<0.2	-	-
	Tetrachlorvinphos	mg/kg	0.2	<0.2	-	-	<0.2	-	-
Insecticides	Tokuthion	mg/kg	0.2	<0.2	-	-	<0.2	-	-
Pesticides	Parathion	mg/kg	0.2 : 0.1 (Interlab)	<0.2	<0.1	0	<0.2	<0.1	0
	Pirimiphos-methyl	mg/kg	0.2	<0.2	-	-	<0.2	-	-
SVOCs	EPN	mg/kg	0.2	<0.2	-	-	<0.2	-	-

Lab Report Number	875523	875523
Field ID	Trip Spike	Trip Blank
Sampled Date	23/03/2022	23/03/2022

Chemical Group	Chemical Name	Units	EQL		
CRC Care TPH Fractions	C6-C10	mg/kg	20	<20	88
	F1: C6-C10 less BTEX	mg/kg	20	<20	-
BTEX	Naphthalene (VOC)	mg/kg	0.5	<0.5	75
	Benzene	mg/kg	0.1	<0.1	89
	Toluene	mg/kg	0.1	<0.1	88
	Ethylbenzene	mg/kg	0.1	<0.1	90
	Xylene (m & p)	mg/kg	0.2	<0.2	88
	Xylene (o)	mg/kg	0.1	<0.1	88
	Xylene Total	mg/kg	0.3	<0.3	88

APPENDIX

F

LABORATORY ANALYTICAL REPORTS



now



Cardno Pty Ltd (WOLL)
Ground Floor, 16 Burelli Street
Wollongong
NSW 2500



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, proficiency testing scheme providers and
reference materials producers reports and certificates.

Attention: Callum Laker

Report 875523-S
Project name SHOALHAVEN HOSPITAL
Project ID 8202118201
Received Date Mar 29, 2022

Client Sample ID			BH01N1_0.1	BH01N1_0.5	BH01E1_0.1	BH01E1_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62532	W22-Ma62533	W22-Ma62534	W22-Ma62535
Date Sampled			Mar 21, 2022	Mar 21, 2022	Mar 21, 2022	Mar 21, 2022
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	%	69	96	105	112
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
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

Client Sample ID			BH01N1_0.1	BH01N1_0.5	BH01E1_0.1	BH01E1_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62532	W22-Ma62533	W22-Ma62534	W22-Ma62535
Date Sampled			Mar 21, 2022	Mar 21, 2022	Mar 21, 2022	Mar 21, 2022
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
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	%	108	119	100	106
p-Terphenyl-d14 (surr.)	1	%	75	118	74	73
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
α-HCH	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
β-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
δ-HCH	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
γ-HCH (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	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
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	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	91	84	104	104
Tetrachloro-m-xylene (surr.)	1	%	97	118	86	89
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			BH01N1_0.1	BH01N1_0.5	BH01E1_0.1	BH01E1_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62532	W22-Ma62533	W22-Ma62534	W22-Ma62535
Date Sampled			Mar 21, 2022	Mar 21, 2022	Mar 21, 2022	Mar 21, 2022
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	84	92	100	96
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	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
Metals M8						
Arsenic	2	mg/kg	10	22	14	4.6
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	24	100	39	26
Copper	5	mg/kg	110	13	31	< 5
Lead	5	mg/kg	12	17	13	6.3
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	16	12	17	5.4
Zinc	5	mg/kg	65	23	52	6.5
% Moisture	1	%	6.5	11	9.4	11

Client Sample ID			G01 BH01W1_0.1	BH01W1_0.5	BH01S1_0.1	BH01S1_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62536	W22-Ma62537	W22-Ma62538	W22-Ma62539
Date Sampled			Mar 21, 2022	Mar 21, 2022	Mar 21, 2022	Mar 21, 2022
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	< 40	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 100	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	160	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	160	< 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	%	122	107	110	95
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 100	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
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	%	78	115	106	63
p-Terphenyl-d14 (surr.)	1	%	82	77	77	88
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-HCH	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-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05

Client Sample ID			G01 BH01W1_0.1	BH01W1_0.5	BH01S1_0.1	BH01S1_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62536	W22-Ma62537	W22-Ma62538	W22-Ma62539
Date Sampled			Mar 21, 2022	Mar 21, 2022	Mar 21, 2022	Mar 21, 2022
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
d-HCH	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-HCH (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	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
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	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	128	102	92	105
Tetrachloro-m-xylene (surr.)	1	%	92	93	94	84
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 5	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 5	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 5	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2

Client Sample ID			G01 BH01W1_0.1	BH01W1_0.5	BH01S1_0.1	BH01S1_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62536	W22-Ma62537	W22-Ma62538	W22-Ma62539
Date Sampled			Mar 21, 2022	Mar 21, 2022	Mar 21, 2022	Mar 21, 2022
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Pyrazophos	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	69	98	86	72
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 100	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 200	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	220	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	220	< 100	< 100	< 100
Metals M8						
Arsenic	2	mg/kg	8.0	6.4	7.8	5.7
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	20	31	15	34
Copper	5	mg/kg	56	< 5	130	< 5
Lead	5	mg/kg	8.7	6.6	13	6.4
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	15	6.8	16	6.3
Zinc	5	mg/kg	64	8.6	73	5.7
% Moisture	1	%	7.8	16	5.9	13

Client Sample ID			G01 BH07_0.1	BH07_0.5	G01 BH08_0.1	BH08_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62540	W22-Ma62541	W22-Ma62542	W22-Ma62543
Date Sampled			Mar 21, 2022	Mar 21, 2022	Mar 21, 2022	Mar 21, 2022
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	< 40	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 100	< 50	64	< 50
TRH C29-C36	50	mg/kg	170	< 50	120	< 50
TRH C10-C36 (Total)	50	mg/kg	170	< 50	184	< 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	%	111	95	93	123
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 100	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20

Client Sample ID			G01 BH07_0.1	BH07_0.5	G01 BH08_0.1	BH08_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62540	W22-Ma62541	W22-Ma62542	W22-Ma62543
Date Sampled			Mar 21, 2022	Mar 21, 2022	Mar 21, 2022	Mar 21, 2022
Test/Reference	LOR	Unit				
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
Benzo(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	%	81	96	INT	110
p-Terphenyl-d14 (surr.)	1	%	78	74	INT	78
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 1	< 0.1	< 1	< 0.1
4,4'-DDD	0.05	mg/kg	< 0.5	< 0.05	< 0.5	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.5	< 0.05	< 0.5	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.5	< 0.05	< 0.5	< 0.05
α-HCH	0.05	mg/kg	< 0.5	< 0.05	< 0.5	< 0.05
Aldrin	0.05	mg/kg	< 0.5	< 0.05	< 0.5	< 0.05
β-HCH	0.05	mg/kg	< 0.5	< 0.05	< 0.5	< 0.05
δ-HCH	0.05	mg/kg	< 0.5	< 0.05	< 0.5	< 0.05
Dieldrin	0.05	mg/kg	< 0.5	< 0.05	< 0.5	< 0.05
Endosulfan I	0.05	mg/kg	< 0.5	< 0.05	< 0.5	< 0.05
Endosulfan II	0.05	mg/kg	< 0.5	< 0.05	< 0.5	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.5	< 0.05	< 0.5	< 0.05
Endrin	0.05	mg/kg	< 0.5	< 0.05	< 0.5	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.5	< 0.05	< 0.5	< 0.05
Endrin ketone	0.05	mg/kg	< 0.5	< 0.05	< 0.5	< 0.05
γ-HCH (Lindane)	0.05	mg/kg	< 0.5	< 0.05	< 0.5	< 0.05
Heptachlor	0.05	mg/kg	< 0.5	< 0.05	< 0.5	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.5	< 0.05	< 0.5	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.5	< 0.05	< 0.5	< 0.05
Methoxychlor	0.05	mg/kg	< 0.5	< 0.05	< 0.5	< 0.05
Toxaphene	0.5	mg/kg	< 10	< 0.5	< 10	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.5	< 0.05	< 0.5	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.5	< 0.05	< 0.5	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 1	< 0.1	< 1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 1	< 0.1	< 1	< 0.1
Dibutylchloroendate (surr.)	1	%	100	97	INT	103
Tetrachloro-m-xylene (surr.)	1	%	91	85	INT	87

Client Sample ID			G01 BH07_0.1	BH07_0.5	G01 BH08_0.1	BH08_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62540	W22-Ma62541	W22-Ma62542	W22-Ma62543
Date Sampled			Mar 21, 2022	Mar 21, 2022	Mar 21, 2022	Mar 21, 2022
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Bolstar	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Coumaphos	2	mg/kg	< 5	< 2	< 5	< 2
Demeton-S	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Demeton-O	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Diazinon	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Dichlorvos	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Dimethoate	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Disulfoton	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
EPN	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Ethion	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Ethoprop	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Fenitrothion	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Fensulfothion	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Fenthion	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Malathion	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Merphos	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Methyl parathion	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Mevinphos	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Monocrotophos	2	mg/kg	< 5	< 2	< 5	< 2
Naled	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Omethoate	2	mg/kg	< 5	< 2	< 5	< 2
Phorate	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Pyrazophos	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Ronnel	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Terbufos	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Tokuthion	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Trichloronate	0.2	mg/kg	< 0.5	< 0.2	< 0.5	< 0.2
Triphenylphosphate (surr.)	1	%	80	90	132	97
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 100	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 200	< 100	150	< 100
TRH >C34-C40	100	mg/kg	250	< 100	120	< 100
TRH >C10-C40 (total)*	100	mg/kg	250	< 100	270	< 100
Metals M8						
Arsenic	2	mg/kg	3.8	9.3	6.1	10.0
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	9.7	71	21	47
Copper	5	mg/kg	110	< 5	47	< 5
Lead	5	mg/kg	7.8	9.9	8.4	8.8
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	9.4	7.4	12	8.8
Zinc	5	mg/kg	55	5.2	46	6.1

Client Sample ID			G01 BH07_0.1	BH07_0.5	G01 BH08_0.1	BH08_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62540	W22-Ma62541	W22-Ma62542	W22-Ma62543
Date Sampled			Mar 21, 2022	Mar 21, 2022	Mar 21, 2022	Mar 21, 2022
Test/Reference	LOR	Unit				
% Moisture	1	%	8.1	15	8.0	13

Client Sample ID			G01 HA05_0.1	HA06_0.1	HA07_0.1	HA08_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62544	W22-Ma62545	W22-Ma62546	W22-Ma62547
Date Sampled			Mar 21, 2022	Mar 21, 2022	Mar 21, 2022	Mar 21, 2022
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	47	< 20
TRH C15-C28	50	mg/kg	< 50	51	360	< 50
TRH C29-C36	50	mg/kg	80	52	360	< 50
TRH C10-C36 (Total)	50	mg/kg	80	103	767	< 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	%	114	114	102	127
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	55	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
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	%	INT	114	143	114
p-Terphenyl-d14 (surr.)	1	%	INT	108	126	88

Client Sample ID			G01 HA05_0.1 Soil W22-Ma62544 Mar 21, 2022	HA06_0.1 Soil W22-Ma62545 Mar 21, 2022	HA07_0.1 Soil W22-Ma62546 Mar 21, 2022	HA08_0.1 Soil W22-Ma62547 Mar 21, 2022
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.5	0.06	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.5	< 0.1	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 10	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.5	0.06	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	INT	126	122	115
Tetrachloro-m-xylene (surr.)	1	%	INT	INT	141	98
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 5	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2

Client Sample ID			G01 HA05_0.1 Soil W22-Ma62544 Mar 21, 2022	HA06_0.1 Soil W22-Ma62545 Mar 21, 2022	HA07_0.1 Soil W22-Ma62546 Mar 21, 2022	HA08_0.1 Soil W22-Ma62547 Mar 21, 2022
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Methyl parathion	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 5	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 5	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	135	95	120	113
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	55	< 50
TRH >C16-C34	100	mg/kg	100	< 100	610	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	200	< 100
TRH >C10-C40 (total)*	100	mg/kg	100	< 100	865	< 100
Metals M8						
Arsenic	2	mg/kg	< 2	9.0	2.3	8.7
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	< 5	17	6.7	18
Copper	5	mg/kg	8.2	41	7.5	22
Lead	5	mg/kg	9.4	18	41	20
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	6.7	< 5	6.9
Zinc	5	mg/kg	24	44	79	100
% Moisture	1	%	16	15	25	17

Client Sample ID			HA09_0.1 Soil W22-Ma62548 Mar 21, 2022	TP11_0.1 Soil W22-Ma62549 Mar 22, 2022	TP11_1.5 Soil W22-Ma62550 Mar 22, 2022	TP12_0.1 Soil W22-Ma62551 Mar 22, 2022
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
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	85	< 50	55	< 50
TRH C29-C36	50	mg/kg	130	< 50	57	< 50
TRH C10-C36 (Total)	50	mg/kg	215	< 50	112	< 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

Client Sample ID			HA09_0.1 Soil W22-Ma62548 Mar 21, 2022	TP11_0.1 Soil W22-Ma62549 Mar 22, 2022	TP11_1.5 Soil W22-Ma62550 Mar 22, 2022	TP12_0.1 Soil W22-Ma62551 Mar 22, 2022
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
BTEX						
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	105	115	119	110
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
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	%	115	109	95	103
p-Terphenyl-d14 (surr.)	1	%	115	101	93	88
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-HCH	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-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	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-HCH (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

Client Sample ID			HA09_0.1	TP11_0.1	TP11_1.5	TP12_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62548	W22-Ma62549	W22-Ma62550	W22-Ma62551
Date Sampled			Mar 21, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
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	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorodate (surr.)	1	%	100	99	113	99
Tetrachloro-m-xylene (surr.)	1	%	150	104	113	98
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	89	78	98	92
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	180	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	180	< 100	< 100	< 100

Client Sample ID			HA09_0.1	TP11_0.1	TP11_1.5	TP12_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62548	W22-Ma62549	W22-Ma62550	W22-Ma62551
Date Sampled			Mar 21, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
Test/Reference	LOR	Unit				
Metals M8						
Arsenic	2	mg/kg	3.5	< 2	4.4	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	7.1	< 5	11	7.4
Copper	5	mg/kg	7.6	< 5	< 5	< 5
Lead	5	mg/kg	7.1	6.5	7.6	8.3
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	< 5	< 5
Zinc	5	mg/kg	29	6.9	8.3	< 5
% Moisture	1	%	19	10	11	12

Client Sample ID			TP12_0.5	TP13_0.1	TP13_0.5	TP14_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62552	W22-Ma62553	W22-Ma62554	W22-Ma62555
Date Sampled			Mar 22, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
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	68	< 50	< 50	83
TRH C29-C36	50	mg/kg	66	< 50	< 50	76
TRH C10-C36 (Total)	50	mg/kg	134	< 50	< 50	159
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	%	114	108	120	113
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
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

Client Sample ID			TP12_0.5	TP13_0.1	TP13_0.5	TP14_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62552	W22-Ma62553	W22-Ma62554	W22-Ma62555
Date Sampled			Mar 22, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
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	0.7
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	0.6
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.8
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	2.1
2-Fluorobiphenyl (surr.)	1	%	99	79	97	89
p-Terphenyl-d14 (surr.)	1	%	110	90	73	80
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
α-HCH	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
β-HCH	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
δ-HCH	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
γ-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Dibutylchloroendate (surr.)	1	%	111	112	-	90
Tetrachloro-m-xylene (surr.)	1	%	109	92	-	113
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	-	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2

Client Sample ID			TP12_0.5	TP13_0.1	TP13_0.5	TP14_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62552	W22-Ma62553	W22-Ma62554	W22-Ma62555
Date Sampled			Mar 22, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	-	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Omethoate	2	mg/kg	< 2	< 2	-	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Triphenylphosphate (surr.)	1	%	92	81	-	80
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	110	< 100	< 100	130
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	110	< 100	< 100	130
Metals M8						
Arsenic	2	mg/kg	< 2	5.1	2.7	2.8
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	< 5	21	16	9.7
Copper	5	mg/kg	< 5	< 5	< 5	7.2
Lead	5	mg/kg	< 5	18	7.5	11
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	< 5	< 5
Zinc	5	mg/kg	< 5	8.8	< 5	18
% Moisture	1	%	16	12	12	17

Client Sample ID			TP14_0.5	TP15_0.1	TP15_0.5	TP15_1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62557	W22-Ma62558	W22-Ma62559	W22-Ma62560
Date Sampled			Mar 22, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
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	56	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	56	< 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	%	125	123	100	122
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
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	0.6	< 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	0.6	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	1.2	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	76	101	115	115
p-Terphenyl-d14 (surr.)	1	%	84	78	85	82
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05

Client Sample ID			TP14_0.5	TP15_0.1	TP15_0.5	TP15_1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62557	W22-Ma62558	W22-Ma62559	W22-Ma62560
Date Sampled			Mar 22, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
d-HCH	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	-	109	110	99
Tetrachloro-m-xylene (surr.)	1	%	-	87	94	93
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	-	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	-	< 2	< 2	< 2
Naled	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	-	< 2	< 2	< 2
Phorate	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2

Client Sample ID			TP14_0.5	TP15_0.1	TP15_0.5	TP15_1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62557	W22-Ma62558	W22-Ma62559	W22-Ma62560
Date Sampled			Mar 22, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Pyrazophos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	-	109	110	93
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	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
Metals M8						
Arsenic	2	mg/kg	2.3	12	2.3	6.1
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	15	40	10	43
Copper	5	mg/kg	< 5	10	< 5	< 5
Lead	5	mg/kg	< 5	78	27	10.0
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	< 5	8.8
Zinc	5	mg/kg	< 5	28	160	12
% Moisture	1	%	10	15	13	18

Client Sample ID			TP16_0.1	TP16_0.5	TP16_1	TP17_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62561	W22-Ma62562	W22-Ma62563	W22-Ma62564
Date Sampled			Mar 22, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
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	63	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	63	< 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	%	116	126	116	122
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20

Client Sample ID			TP16_0.1	TP16_0.5	TP16_1	TP17_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62561	W22-Ma62562	W22-Ma62563	W22-Ma62564
Date Sampled			Mar 22, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
Test/Reference	LOR	Unit				
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
Benzo(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	0.6	< 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	0.7	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	1.3	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	110	130	105	115
p-Terphenyl-d14 (surr.)	1	%	83	92	75	83
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
α-HCH	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
β-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
δ-HCH	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
γ-HCH (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	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
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	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	107	114	86	103
Tetrachloro-m-xylene (surr.)	1	%	94	104	88	97

Client Sample ID			TP16_0.1	TP16_0.5	TP16_1	TP17_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62561	W22-Ma62562	W22-Ma62563	W22-Ma62564
Date Sampled			Mar 22, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	111	104	79	98
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	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
Metals M8						
Arsenic	2	mg/kg	15	3.1	10	2.8
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	46	15	58	11
Copper	5	mg/kg	6.6	< 5	< 5	< 5
Lead	5	mg/kg	87	< 5	13	23
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	10	< 5
Zinc	5	mg/kg	31	< 5	6.5	8.5

Client Sample ID			TP16_0.1	TP16_0.5	TP16_1	TP17_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62561	W22-Ma62562	W22-Ma62563	W22-Ma62564
Date Sampled			Mar 22, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
Test/Reference	LOR	Unit				
% Moisture	1	%	14	15	19	20

Client Sample ID			TP17_0.5	TP18_0.1	TP18_0.5	TP18_1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62565	W22-Ma62566	W22-Ma62567	W22-Ma62568
Date Sampled			Mar 22, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
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	%	105	100	105	118
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
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	%	109	110	112	100
p-Terphenyl-d14 (surr.)	1	%	126	119	124	110

Client Sample ID			TP17_0.5	TP18_0.1	TP18_0.5	TP18_1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62565	W22-Ma62566	W22-Ma62567	W22-Ma62568
Date Sampled			Mar 22, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
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-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	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-HCH (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	0.5	mg/kg	-	< 0.5	-	-
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	-	-
Dibutylchloroendate (surr.)	1	%	-	144	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	118	-	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	-	< 0.2	-	-
Bolstar	0.2	mg/kg	-	< 0.2	-	-
Chlorfenvinphos	0.2	mg/kg	-	< 0.2	-	-
Chlorpyrifos	0.2	mg/kg	-	< 0.2	-	-
Chlorpyrifos-methyl	0.2	mg/kg	-	< 0.2	-	-
Coumaphos	2	mg/kg	-	< 2	-	-
Demeton-S	0.2	mg/kg	-	< 0.2	-	-
Demeton-O	0.2	mg/kg	-	< 0.2	-	-
Diazinon	0.2	mg/kg	-	< 0.2	-	-
Dichlorvos	0.2	mg/kg	-	< 0.2	-	-
Dimethoate	0.2	mg/kg	-	< 0.2	-	-
Disulfoton	0.2	mg/kg	-	< 0.2	-	-
EPN	0.2	mg/kg	-	< 0.2	-	-
Ethion	0.2	mg/kg	-	< 0.2	-	-
Ethoprop	0.2	mg/kg	-	< 0.2	-	-
Ethyl parathion	0.2	mg/kg	-	< 0.2	-	-
Fenitrothion	0.2	mg/kg	-	< 0.2	-	-
Fensulfothion	0.2	mg/kg	-	< 0.2	-	-
Fenthion	0.2	mg/kg	-	< 0.2	-	-
Malathion	0.2	mg/kg	-	< 0.2	-	-
Merphos	0.2	mg/kg	-	< 0.2	-	-

Client Sample ID			TP17_0.5	TP18_0.1	TP18_0.5	TP18_1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62565	W22-Ma62566	W22-Ma62567	W22-Ma62568
Date Sampled			Mar 22, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Methyl parathion	0.2	mg/kg	-	< 0.2	-	-
Mevinphos	0.2	mg/kg	-	< 0.2	-	-
Monocrotophos	2	mg/kg	-	< 2	-	-
Naled	0.2	mg/kg	-	< 0.2	-	-
Omethoate	2	mg/kg	-	< 2	-	-
Phorate	0.2	mg/kg	-	< 0.2	-	-
Pirimiphos-methyl	0.2	mg/kg	-	< 0.2	-	-
Pyrazophos	0.2	mg/kg	-	< 0.2	-	-
Ronnel	0.2	mg/kg	-	< 0.2	-	-
Terbufos	0.2	mg/kg	-	< 0.2	-	-
Tetrachlorvinphos	0.2	mg/kg	-	< 0.2	-	-
Tokuthion	0.2	mg/kg	-	< 0.2	-	-
Trichloronate	0.2	mg/kg	-	< 0.2	-	-
Triphenylphosphate (surr.)	1	%	-	115	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	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
Metals M8						
Arsenic	2	mg/kg	9.2	3.9	< 2	11
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	51	8.9	< 5	57
Copper	5	mg/kg	< 5	9.3	< 5	< 5
Lead	5	mg/kg	11	15	5.7	14
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	9.2	< 5	< 5	11
Zinc	5	mg/kg	6.1	26	7.8	7.3
% Moisture	1	%	18	23	13	17

Client Sample ID			TP19_0.1	TP19_0.5	TP19_0.9	TP20_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62569	W22-Ma62570	W22-Ma62571	W22-Ma62572
Date Sampled			Mar 22, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
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

Client Sample ID			TP19_0.1	TP19_0.5	TP19_0.9	TP20_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62569	W22-Ma62570	W22-Ma62571	W22-Ma62572
Date Sampled			Mar 22, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
Test/Reference	LOR	Unit				
BTEX						
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	110	106	109	111
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
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	%	102	110	104	119
p-Terphenyl-d14 (surr.)	1	%	112	129	114	139
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05

Client Sample ID			TP19_0.1	TP19_0.5	TP19_0.9	TP20_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62569	W22-Ma62570	W22-Ma62571	W22-Ma62572
Date Sampled			Mar 22, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Dibutylchloroendate (surr.)	1	%	89	93	-	140
Tetrachloro-m-xylene (surr.)	1	%	101	114	-	125
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	-	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	-	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Omethoate	2	mg/kg	< 2	< 2	-	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Triphenylphosphate (surr.)	1	%	87	98	-	124
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	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

Client Sample ID			TP19_0.1	TP19_0.5	TP19_0.9	TP20_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62569	W22-Ma62570	W22-Ma62571	W22-Ma62572
Date Sampled			Mar 22, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
Test/Reference	LOR	Unit				
Metals M8						
Arsenic	2	mg/kg	< 2	2.9	13	2.4
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	7.1	16	61	9.9
Copper	5	mg/kg	< 5	< 5	< 5	10
Lead	5	mg/kg	6.1	5.4	13	160
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	9.0	< 5
Zinc	5	mg/kg	6.6	< 5	< 5	140
% Moisture	1	%	15	13	18	19

Client Sample ID			TP20_0.4	TP20_0.7	TP21_0.1	TP21_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62574	W22-Ma62576	W22-Ma62577	W22-Ma62578
Date Sampled			Mar 22, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
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	%	108	106	111	120
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
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

Client Sample ID			TP20_0.4	TP20_0.7	TP21_0.1	TP21_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62574	W22-Ma62576	W22-Ma62577	W22-Ma62578
Date Sampled			Mar 22, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
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	%	85	110	102	121
p-Terphenyl-d14 (surr.)	1	%	86	141	107	115
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	< 0.1	-
4,4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	-
4,4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	-
4,4'-DDT	0.05	mg/kg	< 0.05	-	< 0.05	-
α-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
β-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
δ-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	-
γ-HCH (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	-
Methoxychlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Toxaphene	0.5	mg/kg	< 0.5	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	< 0.1	-
Dibutylchloroendate (surr.)	1	%	80	-	117	-
Tetrachloro-m-xylene (surr.)	1	%	89	-	106	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	-
Bolstar	0.2	mg/kg	< 0.2	-	< 0.2	-
Chlorfenvinphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Chlorpyrifos	0.2	mg/kg	< 0.2	-	< 0.2	-
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	-
Coumaphos	2	mg/kg	< 2	-	< 2	-
Demeton-S	0.2	mg/kg	< 0.2	-	< 0.2	-
Demeton-O	0.2	mg/kg	< 0.2	-	< 0.2	-
Diazinon	0.2	mg/kg	< 0.2	-	< 0.2	-
Dichlorvos	0.2	mg/kg	< 0.2	-	< 0.2	-

Client Sample ID			TP20_0.4	TP20_0.7	TP21_0.1	TP21_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62574	W22-Ma62576	W22-Ma62577	W22-Ma62578
Date Sampled			Mar 22, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Dimethoate	0.2	mg/kg	< 0.2	-	< 0.2	-
Disulfoton	0.2	mg/kg	< 0.2	-	< 0.2	-
EPN	0.2	mg/kg	< 0.2	-	< 0.2	-
Ethion	0.2	mg/kg	< 0.2	-	< 0.2	-
Ethoprop	0.2	mg/kg	< 0.2	-	< 0.2	-
Ethyl parathion	0.2	mg/kg	< 0.2	-	< 0.2	-
Fenitrothion	0.2	mg/kg	< 0.2	-	< 0.2	-
Fensulfothion	0.2	mg/kg	< 0.2	-	< 0.2	-
Fenthion	0.2	mg/kg	< 0.2	-	< 0.2	-
Malathion	0.2	mg/kg	< 0.2	-	< 0.2	-
Merphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Methyl parathion	0.2	mg/kg	< 0.2	-	< 0.2	-
Mevinphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Monocrotophos	2	mg/kg	< 2	-	< 2	-
Naled	0.2	mg/kg	< 0.2	-	< 0.2	-
Omethoate	2	mg/kg	< 2	-	< 2	-
Phorate	0.2	mg/kg	< 0.2	-	< 0.2	-
Pirimiphos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	-
Pyrazophos	0.2	mg/kg	< 0.2	-	< 0.2	-
Ronnel	0.2	mg/kg	< 0.2	-	< 0.2	-
Terbufos	0.2	mg/kg	< 0.2	-	< 0.2	-
Tetrachlorvinphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Tokuthion	0.2	mg/kg	< 0.2	-	< 0.2	-
Trichloronate	0.2	mg/kg	< 0.2	-	< 0.2	-
Triphenylphosphate (surr.)	1	%	67	-	107	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	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
Metals M8						
Arsenic	2	mg/kg	< 2	9.3	2.3	12
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	6.5	56	11	63
Copper	5	mg/kg	< 5	< 5	< 5	< 5
Lead	5	mg/kg	40	13	12	12
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	10	< 5	11
Zinc	5	mg/kg	18	7.9	9.3	5.7
% Moisture	1	%	16	18	12	22

Client Sample ID			TP22_0.1	TP22_0.5	G01TP23_0.1	TP23_0.3
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62579	W22-Ma62580	W22-Ma62581	W22-Ma62582
Date Sampled			Mar 22, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
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	62	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	62	< 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	%	123	127	129	134
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
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	%	112	106	146	126
p-Terphenyl-d14 (surr.)	1	%	113	119	INT	100
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	< 1	< 0.1
4,4'-DDD	0.05	mg/kg	< 0.05	-	< 0.5	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	-	< 0.5	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	-	< 0.5	< 0.05
a-HCH	0.05	mg/kg	< 0.05	-	< 0.5	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	< 0.5	< 0.05
b-HCH	0.05	mg/kg	< 0.05	-	< 0.5	< 0.05

Client Sample ID			TP22_0.1	TP22_0.5	G01TP23_0.1	TP23_0.3
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62579	W22-Ma62580	W22-Ma62581	W22-Ma62582
Date Sampled			Mar 22, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
d-HCH	0.05	mg/kg	< 0.05	-	< 0.5	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.5	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.5	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.5	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.5	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	< 0.5	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.5	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.5	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	< 0.5	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.5	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.5	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.5	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	-	< 0.5	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	-	< 10	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	< 0.5	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	< 0.5	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	< 1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	< 1	< 0.1
Dibutylchloroendate (surr.)	1	%	124	-	107	117
Tetrachloro-m-xylene (surr.)	1	%	110	-	INT	128
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Bolstar	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Coumaphos	2	mg/kg	< 2	-	< 5	< 2
Demeton-S	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Diazinon	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
EPN	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Ethion	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Fenthion	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Malathion	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Merphos	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Monocrotophos	2	mg/kg	< 2	-	< 5	< 2
Naled	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Omethoate	2	mg/kg	< 2	-	< 5	< 2
Phorate	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2

Client Sample ID			TP22_0.1	TP22_0.5	G01 TP23_0.1	TP23_0.3
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62579	W22-Ma62580	W22-Ma62581	W22-Ma62582
Date Sampled			Mar 22, 2022	Mar 22, 2022	Mar 22, 2022	Mar 22, 2022
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Pyrazophos	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Ronnel	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Terbufos	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	-	< 0.5	< 0.2
Triphenylphosphate (surr.)	1	%	100	-	119	100
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	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
Metals M8						
Arsenic	2	mg/kg	4.3	6.4	< 2	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	12	36	5.5	7.1
Copper	5	mg/kg	< 5	< 5	< 5	< 5
Lead	5	mg/kg	9.8	8.1	16	5.2
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	< 5	< 5
Zinc	5	mg/kg	7.3	< 5	110	16
% Moisture	1	%	12	12	15	11

Client Sample ID			TP23_0.7	TP24_0.1	TP25_0.1	TP26_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62584	W22-Ma62585	W22-Ma62586	W22-Ma62587
Date Sampled			Mar 22, 2022	Mar 23, 2022	Mar 23, 2022	Mar 23, 2022
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	%	107	73	121	120
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20

Client Sample ID			TP23_0.7	TP24_0.1	TP25_0.1	TP26_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62584	W22-Ma62585	W22-Ma62586	W22-Ma62587
Date Sampled			Mar 22, 2022	Mar 23, 2022	Mar 23, 2022	Mar 23, 2022
Test/Reference	LOR	Unit				
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
Benzo(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	%	105	103	101	100
p-Terphenyl-d14 (surr.)	1	%	117	114	109	108
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
α-HCH	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
β-HCH	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
δ-HCH	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
γ-HCH (Lindane)	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	-	86	95	93
Tetrachloro-m-xylene (surr.)	1	%	-	101	103	102

Client Sample ID			TP23_0.7	TP24_0.1	TP25_0.1	TP26_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62584	W22-Ma62585	W22-Ma62586	W22-Ma62587
Date Sampled			Mar 22, 2022	Mar 23, 2022	Mar 23, 2022	Mar 23, 2022
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	-	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	-	< 2	< 2	< 2
Naled	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	-	< 2	< 2	< 2
Phorate	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	-	87	93	93
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	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
Metals M8						
Arsenic	2	mg/kg	5.1	3.3	2.7	2.9
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	46	7.6	16	20
Copper	5	mg/kg	< 5	< 5	< 5	< 5
Lead	5	mg/kg	< 5	8.6	12	23
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	5.7	< 5	< 5
Zinc	5	mg/kg	< 5	18	6.2	13

Client Sample ID			TP23_0.7	TP24_0.1	TP25_0.1	TP26_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62584	W22-Ma62585	W22-Ma62586	W22-Ma62587
Date Sampled			Mar 22, 2022	Mar 23, 2022	Mar 23, 2022	Mar 23, 2022
Test/Reference	LOR	Unit				
% Moisture	1	%	19	19	11	21

Client Sample ID			TP27_0.1	TP28_0.1	TP29_0.1	TP30_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62588	W22-Ma62589	W22-Ma62590	W22-Ma62591
Date Sampled			Mar 23, 2022	Mar 23, 2022	Mar 23, 2022	Mar 23, 2022
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	53	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	290	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	100	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	443	< 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	%	135	126	119	126
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
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	%	103	105	94	100
p-Terphenyl-d14 (surr.)	1	%	112	114	97	110

Client Sample ID			TP27_0.1	TP28_0.1	TP29_0.1	TP30_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62588	W22-Ma62589	W22-Ma62590	W22-Ma62591
Date Sampled			Mar 23, 2022	Mar 23, 2022	Mar 23, 2022	Mar 23, 2022
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-HCH	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-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	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-HCH (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	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
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	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	93	99	87	100
Tetrachloro-m-xylene (surr.)	1	%	106	107	96	103
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			TP27_0.1	TP28_0.1	TP29_0.1	TP30_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62588	W22-Ma62589	W22-Ma62590	W22-Ma62591
Date Sampled			Mar 23, 2022	Mar 23, 2022	Mar 23, 2022	Mar 23, 2022
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	96	97	81	98
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	460	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	460	< 100
Metals M8						
Arsenic	2	mg/kg	2.9	2.8	< 2	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	25	21	11	8.6
Copper	5	mg/kg	< 5	5.4	< 5	< 5
Lead	5	mg/kg	7.4	11	26	18
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	< 5	< 5
Zinc	5	mg/kg	7.2	16	28	15
% Moisture	1	%	9.0	13	22	15

Client Sample ID			TP31_0.1	QA201	QA202	QA203
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62592	W22-Ma62593	W22-Ma62594	W22-Ma62595
Date Sampled			Mar 23, 2022	Mar 23, 2022	Mar 23, 2022	Mar 23, 2022
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

Client Sample ID			TP31_0.1 Soil W22-Ma62592 Mar 23, 2022	QA201 Soil W22-Ma62593 Mar 23, 2022	QA202 Soil W22-Ma62594 Mar 23, 2022	QA203 Soil W22-Ma62595 Mar 23, 2022
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
BTEX						
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	133	125	122	106
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
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	%	102	100	100	103
p-Terphenyl-d14 (surr.)	1	%	110	110	107	112
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-HCH	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-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	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-HCH (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

Client Sample ID			TP31_0.1	QA201	QA202	QA203
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62592	W22-Ma62593	W22-Ma62594	W22-Ma62595
Date Sampled			Mar 23, 2022	Mar 23, 2022	Mar 23, 2022	Mar 23, 2022
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
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	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorodate (surr.)	1	%	109	107	102	101
Tetrachloro-m-xylene (surr.)	1	%	106	103	102	106
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	102	101	99	101
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	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

Client Sample ID			TP31_0.1 Soil	QA201 Soil	QA202 Soil	QA203 Soil
Sample Matrix			W22-Ma62592	W22-Ma62593	W22-Ma62594	W22-Ma62595
Eurofins Sample No.			Mar 23, 2022	Mar 23, 2022	Mar 23, 2022	Mar 23, 2022
Date Sampled						
Test/Reference	LOR	Unit				
Metals M8						
Arsenic	2	mg/kg	7.2	6.3	3.0	5.3
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	29	14	14	28
Copper	5	mg/kg	14	19	6.9	< 5
Lead	5	mg/kg	61	15	14	25
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	5.3	9.9	< 5	< 5
Zinc	5	mg/kg	52	78	16	13
% Moisture	1	%	12	22	12	21

Client Sample ID			QA204 Soil	QA205 Soil	TRIP SPIKE Soil	TRIP BLANK Soil
Sample Matrix			W22-Ma62596	W22-Ma62597	W22-Ma62598	W22-Ma62599
Eurofins Sample No.			Mar 23, 2022	Mar 23, 2022	Mar 23, 2022	Mar 23, 2022
Date Sampled						
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	-	< 20
TRH C10-C14	20	mg/kg	< 20	28	-	-
TRH C15-C28	50	mg/kg	< 50	56	-	-
TRH C29-C36	50	mg/kg	< 50	< 50	-	-
TRH C10-C36 (Total)	50	mg/kg	< 50	84	-	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	122	116	-	120
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	-	-
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	-	-
TRH C6-C10	20	mg/kg	< 20	< 20	-	-
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	-	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	-	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	-	-
Anthracene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	-
Chrysene	0.5	mg/kg	< 0.5	< 0.5	-	-

Client Sample ID			QA204	QA205	TRIP SPIKE	TRIP BLANK
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62596	W22-Ma62597	W22-Ma62598	W22-Ma62599
Date Sampled			Mar 23, 2022	Mar 23, 2022	Mar 23, 2022	Mar 23, 2022
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	-
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	-
Fluorene	0.5	mg/kg	< 0.5	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-	-
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Pyrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	-	-
2-Fluorobiphenyl (surr.)	1	%	106	109	-	-
p-Terphenyl-d14 (surr.)	1	%	115	119	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	-	-
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	-	-
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	-	-
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	-	-
α-HCH	0.05	mg/kg	< 0.05	< 0.05	-	-
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
β-HCH	0.05	mg/kg	< 0.05	< 0.05	-	-
δ-HCH	0.05	mg/kg	< 0.05	< 0.05	-	-
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-	-
γ-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-	-
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	-	-
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	-	-
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	-
Dibutylchloroendate (surr.)	1	%	104	117	-	-
Tetrachloro-m-xylene (surr.)	1	%	110	114	-	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	-
Bolstar	0.2	mg/kg	< 0.2	< 0.2	-	-
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	-	-
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	-	-
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	-
Coumaphos	2	mg/kg	< 2	< 2	-	-
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	-	-
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	-	-
Diazinon	0.2	mg/kg	< 0.2	< 0.2	-	-
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	-	-

Client Sample ID			QA204	QA205	TRIP SPIKE	TRIP BLANK
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62596	W22-Ma62597	W22-Ma62598	W22-Ma62599
Date Sampled			Mar 23, 2022	Mar 23, 2022	Mar 23, 2022	Mar 23, 2022
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	-	-
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	-	-
EPN	0.2	mg/kg	< 0.2	< 0.2	-	-
Ethion	0.2	mg/kg	< 0.2	< 0.2	-	-
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	-	-
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	-	-
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	-	-
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	-	-
Fenthion	0.2	mg/kg	< 0.2	< 0.2	-	-
Malathion	0.2	mg/kg	< 0.2	< 0.2	-	-
Merphos	0.2	mg/kg	< 0.2	< 0.2	-	-
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	-	-
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	-	-
Monocrotophos	2	mg/kg	< 2	< 2	-	-
Naled	0.2	mg/kg	< 0.2	< 0.2	-	-
Omethoate	2	mg/kg	< 2	< 2	-	-
Phorate	0.2	mg/kg	< 0.2	< 0.2	-	-
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	-
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	-	-
Ronnel	0.2	mg/kg	< 0.2	< 0.2	-	-
Terbufos	0.2	mg/kg	< 0.2	< 0.2	-	-
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	-	-
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	-	-
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	-	-
Triphenylphosphate (surr.)	1	%	102	108	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	-	-
TRH >C16-C34	100	mg/kg	< 100	< 100	-	-
TRH >C34-C40	100	mg/kg	< 100	< 100	-	-
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	-	-
Metals M8						
Arsenic	2	mg/kg	3.2	6.9	-	-
Cadmium	0.4	mg/kg	< 0.4	< 0.4	-	-
Chromium	5	mg/kg	17	25	-	-
Copper	5	mg/kg	< 5	10	-	-
Lead	5	mg/kg	13	54	-	-
Mercury	0.1	mg/kg	< 0.1	< 0.1	-	-
Nickel	5	mg/kg	5.5	6.2	-	-
Zinc	5	mg/kg	9.1	52	-	-
% Moisture	1	%	21	13	-	-
TRH C6-C10	1	%	-	-	88	-
Naphthalene ^{N02}	0.5	mg/kg	-	-	-	< 0.5
Total Recoverable Hydrocarbons						
Naphthalene	1	%	-	-	75	-
TRH C6-C9	1	%	-	-	88	-
TRH C6-C10	20	mg/kg	-	-	-	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	-	-	-	< 20

Client Sample ID			QA204	QA205	TRIP SPIKE	TRIP BLANK
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W22-Ma62596	W22-Ma62597	W22-Ma62598	W22-Ma62599
Date Sampled			Mar 23, 2022	Mar 23, 2022	Mar 23, 2022	Mar 23, 2022
Test/Reference	LOR	Unit				
BTEX						
Benzene	1	%	-	-	89	-
Ethylbenzene	1	%	-	-	90	-
m&p-Xylenes	1	%	-	-	88	-
o-Xylene	1	%	-	-	88	-
Toluene	1	%	-	-	88	-
Xylenes - Total	1	%	-	-	88	-
4-Bromofluorobenzene (surr.)	1	%	-	-	107	-

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

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
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Apr 04, 2022	14 Days
BTEX - Method: LTM-ORG-2010 BTEX and Volatile TRH	Sydney	Apr 04, 2022	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Apr 04, 2022	14 Days
Total Recoverable Hydrocarbons - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Apr 04, 2022	14 Days
Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Sydney	Apr 07, 2022	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Apr 04, 2022	14 Days
Metals M8 - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Sydney	Apr 04, 2022	28 Days
Organochlorine Pesticides - Method: LTM-ORG-2220 OCP & PCB in Soil and Water	Sydney	Apr 04, 2022	14 Days
Organophosphorus Pesticides - Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS	Sydney	Apr 04, 2022	14 Days
% Moisture - Method: LTM-GEN-7080 Moisture	Sydney	Mar 30, 2022	14 Days

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NSW 2500

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Project ID: 8202118201

Order No.: 8202118201
Report #: 875523
Phone: 02 4231 9672
Fax:

Received: Mar 29, 2022 11:40 AM
Due: Apr 5, 2022
Priority: 5 Day
Contact Name: Callum Laker

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Suite B14: OCP/OPP	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254													
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794													
Mayfield Laboratory - NATA # 1261 Site # 25079													
Perth Laboratory - NATA # 2377 Site # 2370													
External Laboratory													
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID								
1	BH01N1 0.1	Mar 21, 2022		Soil	W22-Ma62532				X	X	X		
2	BH01N1 0.5	Mar 21, 2022		Soil	W22-Ma62533				X	X	X		
3	BH01E1 0.1	Mar 21, 2022		Soil	W22-Ma62534				X	X	X		
4	BH01E1 0.5	Mar 21, 2022		Soil	W22-Ma62535				X	X	X		
5	BH01W1 0.1	Mar 21, 2022		Soil	W22-Ma62536				X	X	X		
6	BH01W1 0.5	Mar 21, 2022		Soil	W22-Ma62537				X	X	X		
7	BH01S1 0.1	Mar 21, 2022		Soil	W22-Ma62538				X	X	X		
8	BH01S1 0.5	Mar 21, 2022		Soil	W22-Ma62539				X	X	X		
9	BH07 0.1	Mar 21, 2022		Soil	W22-Ma62540				X	X	X		

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Melbourne Laboratory - NATA # 1261 Site # 1254													
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794													
Mayfield Laboratory - NATA # 1261 Site # 25079													
Perth Laboratory - NATA # 2377 Site # 2370													
External Laboratory													
10	BH07_0.5	Mar 21, 2022		Soil	W22-Ma62541				X	X	X		
11	BH08_0.1	Mar 21, 2022		Soil	W22-Ma62542				X	X	X		
12	BH08_0.5	Mar 21, 2022		Soil	W22-Ma62543				X	X	X		
13	HA05_0.1	Mar 21, 2022		Soil	W22-Ma62544	X			X	X	X		
14	HA06_0.1	Mar 21, 2022		Soil	W22-Ma62545	X			X	X	X		
15	HA07_0.1	Mar 21, 2022		Soil	W22-Ma62546				X	X	X		
16	HA08_0.1	Mar 21, 2022		Soil	W22-Ma62547	X			X	X	X		
17	HA09_0.1	Mar 21, 2022		Soil	W22-Ma62548	X			X	X	X		
18	TP11_0.1	Mar 22, 2022		Soil	W22-Ma62549	X			X	X	X		
19	TP11_1.5	Mar 22, 2022		Soil	W22-Ma62550				X	X	X		
20	TP12_0.1	Mar 22, 2022		Soil	W22-Ma62551	X			X	X	X		

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Sample Detail						Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Suite B14: OCP/OPP	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254													
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794													
Mayfield Laboratory - NATA # 1261 Site # 25079													
Perth Laboratory - NATA # 2377 Site # 2370													
External Laboratory													
21	TP12_0.5	Mar 22, 2022		Soil	W22-Ma62552				X	X	X		
22	TP13_0.1	Mar 22, 2022		Soil	W22-Ma62553	X			X	X	X		
23	TP13_0.5	Mar 22, 2022		Soil	W22-Ma62554					X	X		
24	TP14_0.1	Mar 22, 2022		Soil	W22-Ma62555	X			X	X	X		
25	TP14_0.1_PA CM	Mar 22, 2022		Building Materials	W22-Ma62556		X						
26	TP14_0.5	Mar 22, 2022		Soil	W22-Ma62557	X				X	X		
27	TP15_0.1	Mar 22, 2022		Soil	W22-Ma62558	X			X	X	X		
28	TP15_0.5	Mar 22, 2022		Soil	W22-Ma62559	X			X	X	X		
29	TP15_1	Mar 22, 2022		Soil	W22-Ma62560	X			X	X	X		
30	TP16_0.1	Mar 22, 2022		Soil	W22-Ma62561	X			X	X	X		

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Sample Detail						Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Suite B14: OCP/OPP	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254													
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794													
Mayfield Laboratory - NATA # 1261 Site # 25079													
Perth Laboratory - NATA # 2377 Site # 2370													
External Laboratory													
31	TP16_0.5	Mar 22, 2022		Soil	W22-Ma62562				X	X	X		
32	TP16_1	Mar 22, 2022		Soil	W22-Ma62563				X	X	X		
33	TP17_0.1	Mar 22, 2022		Soil	W22-Ma62564	X			X	X	X		
34	TP17_0.5	Mar 22, 2022		Soil	W22-Ma62565					X	X		
35	TP18_0.1	Mar 22, 2022		Soil	W22-Ma62566	X			X	X	X		
36	TP18_0.5	Mar 22, 2022		Soil	W22-Ma62567					X	X		
37	TP18_1	Mar 22, 2022		Soil	W22-Ma62568					X	X		
38	TP19_0.1	Mar 22, 2022		Soil	W22-Ma62569	X			X	X	X		
39	TP19_0.5	Mar 22, 2022		Soil	W22-Ma62570				X	X	X		
40	TP19_0.9	Mar 22, 2022		Soil	W22-Ma62571					X	X		
41	TP20_0.1	Mar 22, 2022		Soil	W22-Ma62572	X			X	X	X		

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Sample Detail						Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Suite B14: OCP/OPP	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254													
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794													
Mayfield Laboratory - NATA # 1261 Site # 25079													
Perth Laboratory - NATA # 2377 Site # 2370													
External Laboratory													
42	TP20_0.1_PA CM	Mar 22, 2022		Building Materials	W22-Ma62573		X						
43	TP20_0.4	Mar 22, 2022		Soil	W22-Ma62574	X			X	X	X		
44	TP20_0.4_PA CM	Mar 22, 2022		Building Materials	W22-Ma62575		X						
45	TP20_0.7	Mar 22, 2022		Soil	W22-Ma62576					X	X		
46	TP21_0.1	Mar 22, 2022		Soil	W22-Ma62577	X			X	X	X		
47	TP21_0.5	Mar 22, 2022		Soil	W22-Ma62578					X	X		
48	TP22_0.1	Mar 22, 2022		Soil	W22-Ma62579	X			X	X	X		
49	TP22_0.5	Mar 22, 2022		Soil	W22-Ma62580					X	X		
50	TP23_0.1	Mar 22, 2022		Soil	W22-Ma62581	X			X	X	X		

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Melbourne Laboratory - NATA # 1261 Site # 1254													
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794													
Mayfield Laboratory - NATA # 1261 Site # 25079													
Perth Laboratory - NATA # 2377 Site # 2370													
External Laboratory													
51	TP23_0.3	Mar 22, 2022		Soil	W22-Ma62582	X			X	X	X		
52	TP23_0.3_PA CM	Mar 22, 2022		Building Materials	W22-Ma62583		X						
53	TP23_0.7	Mar 22, 2022		Soil	W22-Ma62584	X				X	X		
54	TP24_0.1	Mar 23, 2022		Soil	W22-Ma62585	X			X	X	X		
55	TP25_0.1	Mar 23, 2022		Soil	W22-Ma62586	X			X	X	X		
56	TP26_0.1	Mar 23, 2022		Soil	W22-Ma62587	X			X	X	X		
57	TP27_0.1	Mar 23, 2022		Soil	W22-Ma62588	X			X	X	X		
58	TP28_0.1	Mar 23, 2022		Soil	W22-Ma62589	X			X	X	X		
59	TP29_0.1	Mar 23, 2022		Soil	W22-Ma62590	X			X	X	X		
60	TP30_0.1	Mar 23, 2022		Soil	W22-Ma62591	X			X	X	X		

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Sample Detail						Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Suite B14: OCP/OPP	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254													
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794													
Mayfield Laboratory - NATA # 1261 Site # 25079													
Perth Laboratory - NATA # 2377 Site # 2370													
External Laboratory													
61	TP31_0.1	Mar 23, 2022		Soil	W22-Ma62592	X			X	X	X		
62	QA201	Mar 23, 2022		Soil	W22-Ma62593				X	X	X		
63	QA202	Mar 23, 2022		Soil	W22-Ma62594				X	X	X		
64	QA203	Mar 23, 2022		Soil	W22-Ma62595				X	X	X		
65	QA204	Mar 23, 2022		Soil	W22-Ma62596				X	X	X		
66	QA205	Mar 23, 2022		Soil	W22-Ma62597				X	X	X		
67	TRIP SPIKE	Mar 23, 2022		Soil	W22-Ma62598								X
68	TRIP BLANK	Mar 23, 2022		Soil	W22-Ma62599							X	
69	LAB SPIKE	Mar 23, 2022		Soil	W22-Ma62600							X	
70	BH01N1_1	Mar 21, 2022		Soil	W22-Ma62601			X					
71	BH01N2_0.1	Mar 21, 2022		Soil	W22-Ma62602			X					

Company Name:	Cardno Pty Ltd (WOLL)	Order No.:	8202118201	Received:	Mar 29, 2022 11:40 AM
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Project ID:	8202118201	Fax:		Contact Name:	Callum Laker

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Suite B14: OCP/OPP	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254													
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794													
Mayfield Laboratory - NATA # 1261 Site # 25079													
Perth Laboratory - NATA # 2377 Site # 2370													
External Laboratory													
72	BH01N2_0.5	Mar 21, 2022		Soil	W22-Ma62603			X					
73	BH01N2_1	Mar 21, 2022		Soil	W22-Ma62604			X					
74	BH01E1_1	Mar 21, 2022		Soil	W22-Ma62605			X					
75	BH01E2_0.1	Mar 21, 2022		Soil	W22-Ma62606			X					
76	BH01E2_0.5	Mar 21, 2022		Soil	W22-Ma62607			X					
77	BH01E2_1	Mar 21, 2022		Soil	W22-Ma62608			X					
78	BH01W1_1	Mar 21, 2022		Soil	W22-Ma62609			X					
79	BH01W2_0.1	Mar 21, 2022		Soil	W22-Ma62610			X					
80	BH01W2_0.5	Mar 21, 2022		Soil	W22-Ma62611			X					
81	BH01W2_1	Mar 21, 2022		Soil	W22-Ma62612			X					
82	BH01S1_1	Mar 21, 2022		Soil	W22-Ma62613			X					

Company Name: Cardno Pty Ltd (WOLL)
Address: Ground Floor, 16 Burelli Street
Wollongong
NSW 2500

Project Name: SHOALHAVEN HOSPITAL
Project ID: 8202118201

Order No.: 8202118201
Report #: 875523
Phone: 02 4231 9672
Fax:

Received: Mar 29, 2022 11:40 AM
Due: Apr 5, 2022
Priority: 5 Day
Contact Name: Callum Laker

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Suite B14: OCP/OPP	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254													
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794													
Mayfield Laboratory - NATA # 1261 Site # 25079													
Perth Laboratory - NATA # 2377 Site # 2370													
External Laboratory													
83	BH01S2_0.1	Mar 21, 2022		Soil	W22-Ma62614			X					
84	BH01S2_0.5	Mar 21, 2022		Soil	W22-Ma62615			X					
85	BH01S2_1	Mar 21, 2022		Soil	W22-Ma62616			X					
86	BH07_1	Mar 21, 2022		Soil	W22-Ma62617			X					
87	BH08_1	Mar 21, 2022		Soil	W22-Ma62618			X					
88	HA05_0.5	Mar 21, 2022		Soil	W22-Ma62619			X					
89	HA05_0.8	Mar 21, 2022		Soil	W22-Ma62620			X					
90	HA07_0.5	Mar 21, 2022		Soil	W22-Ma62621			X					
91	HA08_0.4	Mar 21, 2022		Soil	W22-Ma62622			X					
92	HA09_0.3	Mar 21, 2022		Soil	W22-Ma62623			X					
93	TP11_0.5	Mar 22, 2022		Soil	W22-Ma62624			X					

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Melbourne Laboratory - NATA # 1261 Site # 1254													
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794													
Mayfield Laboratory - NATA # 1261 Site # 25079													
Perth Laboratory - NATA # 2377 Site # 2370													
External Laboratory													
94	TP11_1	Mar 22, 2022		Soil	W22-Ma62625			X					
95	TP11_2	Mar 22, 2022		Soil	W22-Ma62626			X					
96	TP11_2.5	Mar 22, 2022		Soil	W22-Ma62627			X					
97	TP12_1	Mar 22, 2022		Soil	W22-Ma62628			X					
98	TP14_1	Mar 22, 2022		Soil	W22-Ma62629			X					
99	TP15_1.5	Mar 22, 2022		Soil	W22-Ma62630			X					
100	TP20_1	Mar 22, 2022		Soil	W22-Ma62631			X					
101	TP21_1	Mar 22, 2022		Soil	W22-Ma62632			X					
102	TP22_1	Mar 22, 2022		Soil	W22-Ma62633			X					
103	TP23_1	Mar 22, 2022		Soil	W22-Ma62634			X					
104	TP24_0.5	Mar 23, 2022		Soil	W22-Ma62635			X					

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Sample Detail						Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Suite B14: OCP/OPP	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254													
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794													
Mayfield Laboratory - NATA # 1261 Site # 25079													
Perth Laboratory - NATA # 2377 Site # 2370													
External Laboratory													
105	TP24_1	Mar 23, 2022		Soil	W22-Ma62636			X					
106	TP25_0.5	Mar 23, 2022		Soil	W22-Ma62637			X					
107	TP25_1	Mar 23, 2022		Soil	W22-Ma62638			X					
108	TP26_0.5	Mar 23, 2022		Soil	W22-Ma62639			X					
109	TP27_0.5	Mar 23, 2022		Soil	W22-Ma62640			X					
110	TP28_0.5	Mar 23, 2022		Soil	W22-Ma62641			X					
111	TP28_1	Mar 23, 2022		Soil	W22-Ma62642			X					
112	TP29_0.5	Mar 23, 2022		Soil	W22-Ma62643			X					
113	TP30_0.5	Mar 23, 2022		Soil	W22-Ma62644			X					
114	TP30_1	Mar 23, 2022		Soil	W22-Ma62645			X					
115	TP31_0.5	Mar 23, 2022		Soil	W22-Ma62646			X					

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Melbourne Laboratory - NATA # 1261 Site # 1254													
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794													
Mayfield Laboratory - NATA # 1261 Site # 25079													
Perth Laboratory - NATA # 2377 Site # 2370													
External Laboratory													
116	TP31_1	Mar 23, 2022		Soil	W22-Ma62647			X					
Test Counts						31	4	47	52	62	62	2	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.

Units

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

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - 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.
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.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

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%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

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. 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.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. 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	
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	
Total PAH*	mg/kg	-			0.5	N/A	
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-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	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	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (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	< 0.5			0.5	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/kg	< 0.2			0.2	Pass	
Bolstar	mg/kg	< 0.2			0.2	Pass	
Chlorfenvinphos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos-methyl	mg/kg	< 0.2			0.2	Pass	
Coumaphos	mg/kg	< 2			2	Pass	
Demeton-S	mg/kg	< 0.2			0.2	Pass	
Demeton-O	mg/kg	< 0.2			0.2	Pass	
Diazinon	mg/kg	< 0.2			0.2	Pass	
Dichlorvos	mg/kg	< 0.2			0.2	Pass	
Dimethoate	mg/kg	< 0.2			0.2	Pass	
Disulfoton	mg/kg	< 0.2			0.2	Pass	
EPN	mg/kg	< 0.2			0.2	Pass	
Ethion	mg/kg	< 0.2			0.2	Pass	
Ethoprop	mg/kg	< 0.2			0.2	Pass	
Ethyl parathion	mg/kg	< 0.2			0.2	Pass	
Fenitrothion	mg/kg	< 0.2			0.2	Pass	
Fensulfothion	mg/kg	< 0.2			0.2	Pass	
Fenthion	mg/kg	< 0.2			0.2	Pass	
Malathion	mg/kg	< 0.2			0.2	Pass	
Merphos	mg/kg	< 0.2			0.2	Pass	
Methyl parathion	mg/kg	< 0.2			0.2	Pass	
Mevinphos	mg/kg	< 0.2			0.2	Pass	
Monocrotophos	mg/kg	< 2			2	Pass	
Naled	mg/kg	< 0.2			0.2	Pass	
Omethoate	mg/kg	< 2			2	Pass	
Phorate	mg/kg	< 0.2			0.2	Pass	
Pirimiphos-methyl	mg/kg	< 0.2			0.2	Pass	
Pyrazophos	mg/kg	< 0.2			0.2	Pass	
Ronnel	mg/kg	< 0.2			0.2	Pass	
Terbufos	mg/kg	< 0.2			0.2	Pass	
Tetrachlorvinphos	mg/kg	< 0.2			0.2	Pass	
Tokuthion	mg/kg	< 0.2			0.2	Pass	
Trichloronate	mg/kg	< 0.2			0.2	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
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							
Metals M8							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
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	
Method Blank							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C10	mg/kg	< 20			20	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	75			70-130	Pass	
TRH C10-C14	%	103			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	83			70-130	Pass	
Toluene	%	82			70-130	Pass	
Ethylbenzene	%	78			70-130	Pass	
m&p-Xylenes	%	77			70-130	Pass	
o-Xylene	%	78			70-130	Pass	
Xylenes - Total*	%	77			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	91			70-130	Pass	
TRH C6-C10	%	74			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	73			70-130	Pass	
Acenaphthylene	%	84			70-130	Pass	
Anthracene	%	72			70-130	Pass	
Benz(a)anthracene	%	71			70-130	Pass	
Benzo(a)pyrene	%	71			70-130	Pass	
Benzo(b&j)fluoranthene	%	72			70-130	Pass	
Benzo(g,h,i)perylene	%	102			70-130	Pass	
Benzo(k)fluoranthene	%	74			70-130	Pass	
Chrysene	%	77			70-130	Pass	
Dibenz(a,h)anthracene	%	110			70-130	Pass	
Fluoranthene	%	78			70-130	Pass	
Fluorene	%	77			70-130	Pass	
Indeno(1,2,3-cd)pyrene	%	71			70-130	Pass	
Naphthalene	%	76			70-130	Pass	
Phenanthrene	%	75			70-130	Pass	
Pyrene	%	79			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	94			70-130	Pass	
4,4'-DDD	%	83			70-130	Pass	
4,4'-DDE	%	101			70-130	Pass	
4,4'-DDT	%	78			70-130	Pass	
a-HCH	%	80			70-130	Pass	
Aldrin	%	86			70-130	Pass	
b-HCH	%	80			70-130	Pass	
d-HCH	%	81			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dieldrin			%	93			70-130	Pass	
Endosulfan I			%	86			70-130	Pass	
Endosulfan II			%	81			70-130	Pass	
Endosulfan sulphate			%	84			70-130	Pass	
Endrin			%	86			70-130	Pass	
Endrin aldehyde			%	83			70-130	Pass	
Endrin ketone			%	84			70-130	Pass	
g-HCH (Lindane)			%	95			70-130	Pass	
Heptachlor			%	97			70-130	Pass	
Heptachlor epoxide			%	95			70-130	Pass	
Hexachlorobenzene			%	91			70-130	Pass	
Methoxychlor			%	100			70-130	Pass	
LCS - % Recovery									
Organophosphorus Pesticides									
Diazinon	%	82				70-130	Pass		
Dimethoate	%	76				70-130	Pass		
Ethion	%	125				70-130	Pass		
Fenitrothion	%	71				70-130	Pass		
Methyl parathion	%	82				70-130	Pass		
Mevinphos	%	83				70-130	Pass		
LCS - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions									
TRH >C10-C16	%	102				70-130	Pass		
LCS - % Recovery									
Metals M8									
Arsenic	%	98				80-120	Pass		
Cadmium	%	102				80-120	Pass		
Chromium	%	101				80-120	Pass		
Copper	%	102				80-120	Pass		
Lead	%	100				80-120	Pass		
Mercury	%	96				80-120	Pass		
Nickel	%	101				80-120	Pass		
Zinc	%	101				80-120	Pass		
LCS - % Recovery									
Naphthalene	%	80				70-130	Pass		
LCS - % Recovery									
Total Recoverable Hydrocarbons									
TRH C6-C10	%	72				70-130	Pass		
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	S22-Ma52884	NCP	%	92			70-130	Pass	
Dimethoate	S22-Ma52884	NCP	%	113			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	W22-Ma62535	CP	%	82			70-130	Pass	
Acenaphthylene	W22-Ma62535	CP	%	81			70-130	Pass	
Anthracene	W22-Ma62535	CP	%	75			70-130	Pass	
Benz(a)anthracene	W22-Ma62535	CP	%	80			70-130	Pass	
Benzo(a)pyrene	W22-Ma62535	CP	%	81			70-130	Pass	
Benzo(b&j)fluoranthene	W22-Ma62535	CP	%	86			70-130	Pass	
Benzo(g,h,i)perylene	W22-Ma62535	CP	%	86			70-130	Pass	
Benzo(k)fluoranthene	W22-Ma62535	CP	%	73			70-130	Pass	
Chrysene	W22-Ma62535	CP	%	78			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dibenz(a,h)anthracene	W22-Ma62535	CP	%	80			70-130	Pass	
Fluoranthene	W22-Ma62535	CP	%	79			70-130	Pass	
Fluorene	W22-Ma62535	CP	%	85			70-130	Pass	
Indeno(1,2,3-cd)pyrene	W22-Ma62535	CP	%	79			70-130	Pass	
Naphthalene	W22-Ma62535	CP	%	84			70-130	Pass	
Phenanthrene	W22-Ma62535	CP	%	88			70-130	Pass	
Pyrene	W22-Ma62535	CP	%	82			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	W22-Ma62535	CP	%	80			70-130	Pass	
4,4'-DDD	W22-Ma62535	CP	%	89			70-130	Pass	
4,4'-DDE	W22-Ma62535	CP	%	82			70-130	Pass	
4,4'-DDT	W22-Ma62535	CP	%	99			70-130	Pass	
a-HCH	W22-Ma62535	CP	%	76			70-130	Pass	
Aldrin	W22-Ma62535	CP	%	78			70-130	Pass	
b-HCH	W22-Ma62535	CP	%	94			70-130	Pass	
d-HCH	W22-Ma62535	CP	%	89			70-130	Pass	
Dieldrin	W22-Ma62535	CP	%	84			70-130	Pass	
Endosulfan I	W22-Ma62535	CP	%	78			70-130	Pass	
Endosulfan II	W22-Ma62535	CP	%	84			70-130	Pass	
Endosulfan sulphate	W22-Ma62535	CP	%	70			70-130	Pass	
Endrin	W22-Ma62535	CP	%	81			70-130	Pass	
Endrin aldehyde	W22-Ma62535	CP	%	76			70-130	Pass	
Endrin ketone	W22-Ma62535	CP	%	91			70-130	Pass	
g-HCH (Lindane)	W22-Ma62535	CP	%	88			70-130	Pass	
Heptachlor	W22-Ma62535	CP	%	76			70-130	Pass	
Heptachlor epoxide	W22-Ma62535	CP	%	82			70-130	Pass	
Hexachlorobenzene	W22-Ma62535	CP	%	77			70-130	Pass	
Methoxychlor	W22-Ma62535	CP	%	115			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Ethion	W22-Ma62535	CP	%	104			70-130	Pass	
Fenitrothion	W22-Ma62535	CP	%	96			70-130	Pass	
Methyl parathion	W22-Ma62535	CP	%	121			70-130	Pass	
Mevinphos	W22-Ma62535	CP	%	71			70-130	Pass	
Spike - % Recovery									
Metals M8				Result 1					
Lead	W22-Ma62546	CP	%	105			75-125	Pass	
Spike - % Recovery									
Metals M8				Result 1					
Arsenic	W22-Ma62563	CP	%	118			75-125	Pass	
Cadmium	W22-Ma62563	CP	%	112			75-125	Pass	
Chromium	W22-Ma62563	CP	%	110			75-125	Pass	
Copper	W22-Ma62563	CP	%	109			75-125	Pass	
Lead	W22-Ma62563	CP	%	120			75-125	Pass	
Mercury	W22-Ma62563	CP	%	99			75-125	Pass	
Nickel	W22-Ma62563	CP	%	115			75-125	Pass	
Zinc	W22-Ma62563	CP	%	113			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	W22-Ma62587	CP	%	82			70-130	Pass	
TRH C10-C14	W22-Ma62587	CP	%	93			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzene	W22-Ma62587	CP	%	93			70-130	Pass	
Toluene	W22-Ma62587	CP	%	83			70-130	Pass	
Ethylbenzene	W22-Ma62587	CP	%	91			70-130	Pass	
m&p-Xylenes	W22-Ma62587	CP	%	91			70-130	Pass	
o-Xylene	W22-Ma62587	CP	%	95			70-130	Pass	
Xylenes - Total*	W22-Ma62587	CP	%	93			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	W22-Ma62587	CP	%	95			70-130	Pass	
TRH C6-C10	W22-Ma62587	CP	%	85			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	W22-Ma62587	CP	%	90			70-130	Pass	
Spike - % Recovery									
Metals M8				Result 1					
Arsenic	W22-Ma62587	CP	%	91			75-125	Pass	
Cadmium	W22-Ma62587	CP	%	97			75-125	Pass	
Chromium	W22-Ma62587	CP	%	115			75-125	Pass	
Copper	W22-Ma62587	CP	%	120			75-125	Pass	
Lead	W22-Ma62587	CP	%	107			75-125	Pass	
Mercury	W22-Ma62587	CP	%	124			75-125	Pass	
Nickel	W22-Ma62587	CP	%	117			75-125	Pass	
Zinc	W22-Ma62587	CP	%	115			75-125	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Metals M8				Result 1	Result 2	RPD			
Arsenic	W22-Ma62535	CP	mg/kg	4.6	4.0	13	30%	Pass	
Cadmium	W22-Ma62535	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	W22-Ma62535	CP	mg/kg	26	25	4.0	30%	Pass	
Copper	W22-Ma62535	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Lead	W22-Ma62535	CP	mg/kg	6.3	5.4	15	30%	Pass	
Mercury	W22-Ma62535	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	W22-Ma62535	CP	mg/kg	5.4	< 5	18	30%	Pass	
Zinc	W22-Ma62535	CP	mg/kg	6.5	< 5	56	30%	Fail	Q15
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	W22-Ma62535	CP	%	11	11	3.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	W22-Ma62536	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	W22-Ma62536	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	W22-Ma62536	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	W22-Ma62536	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	W22-Ma62536	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	W22-Ma62536	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g,h,i)perylene	W22-Ma62536	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	W22-Ma62536	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	W22-Ma62536	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a,h)anthracene	W22-Ma62536	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	W22-Ma62536	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	W22-Ma62536	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1,2,3-cd)pyrene	W22-Ma62536	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	W22-Ma62536	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	W22-Ma62536	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	W22-Ma62536	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	W22-Ma62536	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4,4'-DDD	W22-Ma62536	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDE	W22-Ma62536	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDT	W22-Ma62536	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-HCH	W22-Ma62536	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	W22-Ma62536	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-HCH	W22-Ma62536	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-HCH	W22-Ma62536	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	W22-Ma62536	CP	mg/kg	< 0.05	0.10	200	30%	Fail Q15
Endosulfan I	W22-Ma62536	CP	mg/kg	< 0.05	0.11	200	30%	Fail Q15
Endosulfan II	W22-Ma62536	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	W22-Ma62536	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	W22-Ma62536	CP	mg/kg	0.05	0.07	14	30%	Pass
Endrin aldehyde	W22-Ma62536	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	W22-Ma62536	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-HCH (Lindane)	W22-Ma62536	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	W22-Ma62536	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	W22-Ma62536	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	W22-Ma62536	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	W22-Ma62536	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	W22-Ma62536	CP	%	7.8	8.6	10	30%	Pass
Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Acenaphthene	W22-Ma62538	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Acenaphthylene	W22-Ma62538	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Anthracene	W22-Ma62538	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benz(a)anthracene	W22-Ma62538	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(a)pyrene	W22-Ma62538	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(b&j)fluoranthene	W22-Ma62538	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(g,h,i)perylene	W22-Ma62538	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(k)fluoranthene	W22-Ma62538	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chrysene	W22-Ma62538	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibenz(a,h)anthracene	W22-Ma62538	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluoranthene	W22-Ma62538	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluorene	W22-Ma62538	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	W22-Ma62538	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Naphthalene	W22-Ma62538	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phenanthrene	W22-Ma62538	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pyrene	W22-Ma62538	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	W22-Ma62538	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4,4'-DDD	W22-Ma62538	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDE	W22-Ma62538	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDT	W22-Ma62538	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-HCH	W22-Ma62538	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	W22-Ma62538	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-HCH	W22-Ma62538	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-HCH	W22-Ma62538	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	W22-Ma62538	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	W22-Ma62538	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	W22-Ma62538	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass

Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Endosulfan sulphate	W22-Ma62538	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	W22-Ma62538	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	W22-Ma62538	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	W22-Ma62538	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-HCH (Lindane)	W22-Ma62538	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	W22-Ma62538	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	W22-Ma62538	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	W22-Ma62538	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	W22-Ma62538	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Toxaphene	W22-Ma62538	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Organophosphorus Pesticides				Result 1	Result 2	RPD		
Azinphos-methyl	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Bolstar	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorfenvinphos	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorpyrifos	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorpyrifos-methyl	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Coumaphos	W22-Ma62538	CP	mg/kg	< 2	< 2	<1	30%	Pass
Demeton-S	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Demeton-O	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Diazinon	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Dichlorvos	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Dimethoate	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Disulfoton	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
EPN	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethion	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethoprop	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethyl parathion	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fenitrothion	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fensulfothion	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fenthion	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Malathion	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Merphos	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Methyl parathion	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Mevinphos	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Monocrotophos	W22-Ma62538	CP	mg/kg	< 2	< 2	<1	30%	Pass
Naled	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Omethoate	W22-Ma62538	CP	mg/kg	< 2	< 2	<1	30%	Pass
Phorate	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Pirimiphos-methyl	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Pyrazophos	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ronnel	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Terbufos	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Tetrachlorvinphos	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Tokuthion	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Trichloronate	W22-Ma62538	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Duplicate								
Metals M8				Result 1	Result 2	RPD		
Arsenic	W22-Ma62540	CP	mg/kg	3.8	6.1	47	30%	Fail
Cadmium	W22-Ma62540	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	W22-Ma62540	CP	mg/kg	9.7	22	79	30%	Fail
Copper	W22-Ma62540	CP	mg/kg	110	86	24	30%	Pass
Lead	W22-Ma62540	CP	mg/kg	7.8	7.5	4.0	30%	Pass
Mercury	W22-Ma62540	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass

Duplicate								
Metals M8				Result 1	Result 2	RPD		
Nickel	W22-Ma62540	CP	mg/kg	9.4	11	12	30%	Pass
Zinc	W22-Ma62540	CP	mg/kg	55	40	31	30%	Fail
Q15								
Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Acenaphthene	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Acenaphthylene	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Anthracene	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benz(a)anthracene	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(a)pyrene	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(b&j)fluoranthene	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(g,h,i)perylene	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(k)fluoranthene	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chrysene	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibenz(a,h)anthracene	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluoranthene	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluorene	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Naphthalene	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phenanthrene	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pyrene	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	W22-Ma62542	CP	mg/kg	< 1	< 1	<1	30%	Pass
4,4'-DDD	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
4,4'-DDE	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
4,4'-DDT	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
a-HCH	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aldrin	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
b-HCH	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
d-HCH	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dieldrin	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Endosulfan I	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Endosulfan II	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Endosulfan sulphate	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Endrin	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Endrin aldehyde	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Endrin ketone	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
g-HCH (Lindane)	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Heptachlor	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Heptachlor epoxide	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Hexachlorobenzene	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Methoxychlor	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Organophosphorus Pesticides				Result 1	Result 2	RPD		
Azinphos-methyl	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Bolstar	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chlorfenvinphos	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chlorpyrifos	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chlorpyrifos-methyl	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Coumaphos	W22-Ma62542	CP	mg/kg	< 5	< 5	<1	30%	Pass
Demeton-S	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Demeton-O	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Diazinon	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dichlorvos	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass

Duplicate								
Organophosphorus Pesticides				Result 1	Result 2	RPD		
Dimethoate	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Disulfoton	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
EPN	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Ethion	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Ethoprop	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Ethyl parathion	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fenitrothion	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fensulfthion	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fenthion	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Malathion	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Merphos	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Methyl parathion	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Mevinphos	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Monocrotophos	W22-Ma62542	CP	mg/kg	< 5	< 5	<1	30%	Pass
Naled	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Omethoate	W22-Ma62542	CP	mg/kg	< 5	< 5	<1	30%	Pass
Phorate	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pirimiphos-methyl	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pyrazophos	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Ronnel	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Terbufos	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Tetrachlorvinphos	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Tokuthion	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Trichloronate	W22-Ma62542	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Metals M8				Result 1	Result 2	RPD		
Arsenic	W22-Ma62542	CP	mg/kg	6.1	8.2	28	30%	Pass
Cadmium	W22-Ma62542	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	W22-Ma62542	CP	mg/kg	21	29	32	30%	Fail
Copper	W22-Ma62542	CP	mg/kg	47	46	4.0	30%	Pass
Lead	W22-Ma62542	CP	mg/kg	8.4	11	24	30%	Pass
Mercury	W22-Ma62542	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Nickel	W22-Ma62542	CP	mg/kg	12	15	18	30%	Pass
Zinc	W22-Ma62542	CP	mg/kg	46	52	13	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD		
TRH C6-C9	W22-Ma62543	CP	mg/kg	< 20	< 20	<1	30%	Pass
Duplicate								
BTEX				Result 1	Result 2	RPD		
Benzene	W22-Ma62543	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Toluene	W22-Ma62543	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Ethylbenzene	W22-Ma62543	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
m&p-Xylenes	W22-Ma62543	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
o-Xylene	W22-Ma62543	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Xylenes - Total*	W22-Ma62543	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	W22-Ma62543	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
TRH C6-C10	W22-Ma62543	CP	mg/kg	< 20	< 20	<1	30%	Pass

Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Acenaphthene	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Acenaphthylene	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Anthracene	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benz(a)anthracene	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(a)pyrene	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(b&j)fluoranthene	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(g,h,i)perylene	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(k)fluoranthene	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chrysene	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibenz(a,h)anthracene	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluoranthene	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluorene	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Naphthalene	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phenanthrene	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pyrene	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	W22-Ma62544	CP	mg/kg	< 1	< 1	<1	30%	Pass
4,4'-DDD	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
4,4'-DDE	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
4,4'-DDT	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
a-HCH	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aldrin	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
b-HCH	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
d-HCH	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dieldrin	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Endosulfan I	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Endosulfan II	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Endosulfan sulphate	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Endrin	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Endrin aldehyde	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Endrin ketone	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
g-HCH (Lindane)	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Heptachlor	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Heptachlor epoxide	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Hexachlorobenzene	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Methoxychlor	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Organophosphorus Pesticides				Result 1	Result 2	RPD		
Azinphos-methyl	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Bolstar	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chlorfenvinphos	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chlorpyrifos	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chlorpyrifos-methyl	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Coumaphos	W22-Ma62544	CP	mg/kg	< 5	< 5	<1	30%	Pass
Demeton-S	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Demeton-O	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Diazinon	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dichlorvos	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dimethoate	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Disulfoton	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
EPN	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Ethion	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass

Duplicate								
Organophosphorus Pesticides				Result 1	Result 2	RPD		
Ethoprop	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Ethyl parathion	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fenitrothion	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fensulfothion	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fenthion	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Malathion	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Merphos	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Methyl parathion	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Mevinphos	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Monocrotophos	W22-Ma62544	CP	mg/kg	< 5	< 5	<1	30%	Pass
Naled	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Omethoate	W22-Ma62544	CP	mg/kg	< 5	< 5	<1	30%	Pass
Phorate	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pirimiphos-methyl	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pyrazophos	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Ronnel	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Terbufos	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Tetrachlorvinphos	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Tokuthion	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Trichloronate	W22-Ma62544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD		
TRH C6-C9	W22-Ma62551	CP	mg/kg	< 20	< 20	<1	30%	Pass
Duplicate								
BTEX				Result 1	Result 2	RPD		
Benzene	W22-Ma62551	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Toluene	W22-Ma62551	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Ethylbenzene	W22-Ma62551	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
m&p-Xylenes	W22-Ma62551	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
o-Xylene	W22-Ma62551	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Xylenes - Total*	W22-Ma62551	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	W22-Ma62551	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
TRH C6-C10	W22-Ma62551	CP	mg/kg	< 20	< 20	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	W22-Ma62551	CP	%	12	13	9.0	30%	Pass
Duplicate								
Metals M8				Result 1	Result 2	RPD		
Arsenic	W22-Ma62552	CP	mg/kg	< 2	< 2	<1	30%	Pass
Cadmium	W22-Ma62552	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	W22-Ma62552	CP	mg/kg	< 5	< 5	<1	30%	Pass
Copper	W22-Ma62552	CP	mg/kg	< 5	< 5	<1	30%	Pass
Lead	W22-Ma62552	CP	mg/kg	< 5	< 5	<1	30%	Pass
Mercury	W22-Ma62552	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Nickel	W22-Ma62552	CP	mg/kg	< 5	< 5	<1	30%	Pass
Zinc	W22-Ma62552	CP	mg/kg	< 5	< 5	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD		
TRH C6-C9	W22-Ma62562	CP	mg/kg	< 20	< 20	<1	30%	Pass

Duplicate								
BTX				Result 1	Result 2	RPD		
Benzene	W22-Ma62562	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Toluene	W22-Ma62562	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Ethylbenzene	W22-Ma62562	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
m&p-Xylenes	W22-Ma62562	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
o-Xylene	W22-Ma62562	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Xylenes - Total*	W22-Ma62562	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	W22-Ma62562	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
TRH C6-C10	W22-Ma62562	CP	mg/kg	< 20	< 20	<1	30%	Pass
Duplicate								
Metals M8				Result 1	Result 2	RPD		
Arsenic	W22-Ma62562	CP	mg/kg	3.1	2.9	7.0	30%	Pass
Cadmium	W22-Ma62562	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	W22-Ma62562	CP	mg/kg	15	19	24	30%	Pass
Copper	W22-Ma62562	CP	mg/kg	< 5	< 5	<1	30%	Pass
Lead	W22-Ma62562	CP	mg/kg	< 5	18	120	30%	Fail Q15
Mercury	W22-Ma62562	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Nickel	W22-Ma62562	CP	mg/kg	< 5	< 5	<1	30%	Pass
Zinc	W22-Ma62562	CP	mg/kg	< 5	5.2	63	30%	Fail Q15
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	W22-Ma62562	CP	%	15	14	4.0	30%	Pass
Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Acenaphthene	W22-Ma62563	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Acenaphthylene	W22-Ma62563	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Anthracene	W22-Ma62563	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benz(a)anthracene	W22-Ma62563	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(a)pyrene	W22-Ma62563	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(b&j)fluoranthene	W22-Ma62563	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(g,h,i)perylene	W22-Ma62563	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(k)fluoranthene	W22-Ma62563	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chrysene	W22-Ma62563	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibenz(a,h)anthracene	W22-Ma62563	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluoranthene	W22-Ma62563	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluorene	W22-Ma62563	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	W22-Ma62563	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Naphthalene	W22-Ma62563	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phenanthrene	W22-Ma62563	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pyrene	W22-Ma62563	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	W22-Ma62563	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4,4'-DDD	W22-Ma62563	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDE	W22-Ma62563	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDT	W22-Ma62563	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-HCH	W22-Ma62563	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	W22-Ma62563	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-HCH	W22-Ma62563	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-HCH	W22-Ma62563	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	W22-Ma62563	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	W22-Ma62563	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	W22-Ma62563	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass

Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Endosulfan sulphate	W22-Ma62563	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	W22-Ma62563	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	W22-Ma62563	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	W22-Ma62563	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-HCH (Lindane)	W22-Ma62563	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	W22-Ma62563	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	W22-Ma62563	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	W22-Ma62563	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	W22-Ma62563	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Toxaphene	W22-Ma62563	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Organophosphorus Pesticides				Result 1	Result 2	RPD		
Azinphos-methyl	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Bolstar	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorfenvinphos	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorpyrifos	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorpyrifos-methyl	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Coumaphos	W22-Ma62563	CP	mg/kg	< 2	< 2	<1	30%	Pass
Demeton-S	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Demeton-O	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Diazinon	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Dichlorvos	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Dimethoate	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Disulfoton	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
EPN	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethion	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethoprop	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethyl parathion	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fenitrothion	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fensulfthion	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fenthion	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Malathion	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Merphos	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Methyl parathion	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Mevinphos	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Monocrotophos	W22-Ma62563	CP	mg/kg	< 2	< 2	<1	30%	Pass
Naled	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Omethoate	W22-Ma62563	CP	mg/kg	< 2	< 2	<1	30%	Pass
Phorate	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Pirimiphos-methyl	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Pyrazophos	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ronnel	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Terbufos	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Tetrachlorvinphos	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Tokuthion	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Trichloronate	W22-Ma62563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD		
TRH C6-C9	W22-Ma62564	CP	mg/kg	< 20	< 20	<1	30%	Pass

Duplicate								
BTEX				Result 1	Result 2	RPD		
Benzene	W22-Ma62564	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Toluene	W22-Ma62564	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Ethylbenzene	W22-Ma62564	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
m&p-Xylenes	W22-Ma62564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
o-Xylene	W22-Ma62564	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Xylenes - Total*	W22-Ma62564	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	W22-Ma62564	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
TRH C6-C10	W22-Ma62564	CP	mg/kg	< 20	< 20	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD		
TRH C10-C14	W22-Ma62566	CP	mg/kg	< 20	< 20	<1	30%	Pass
TRH C15-C28	W22-Ma62566	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH C29-C36	W22-Ma62566	CP	mg/kg	< 50	< 50	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
TRH >C10-C16	W22-Ma62566	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C16-C34	W22-Ma62566	CP	mg/kg	< 100	< 100	<1	30%	Pass
TRH >C34-C40	W22-Ma62566	CP	mg/kg	< 100	< 100	<1	30%	Pass
Duplicate								
Metals M8				Result 1	Result 2	RPD		
Arsenic	W22-Ma62572	CP	mg/kg	2.4	2.7	12	30%	Pass
Cadmium	W22-Ma62572	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	W22-Ma62572	CP	mg/kg	9.9	11	6.0	30%	Pass
Copper	W22-Ma62572	CP	mg/kg	10	11	7.0	30%	Pass
Lead	W22-Ma62572	CP	mg/kg	160	170	7.0	30%	Pass
Mercury	W22-Ma62572	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Nickel	W22-Ma62572	CP	mg/kg	< 5	< 5	<1	30%	Pass
Zinc	W22-Ma62572	CP	mg/kg	140	150	10	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	W22-Ma62572	CP	%	19	19	4.0	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD		
TRH C10-C14	W22-Ma62580	CP	mg/kg	< 20	< 20	<1	30%	Pass
TRH C15-C28	W22-Ma62580	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH C29-C36	W22-Ma62580	CP	mg/kg	< 50	< 50	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
TRH >C10-C16	W22-Ma62580	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C16-C34	W22-Ma62580	CP	mg/kg	< 100	< 100	<1	30%	Pass
TRH >C34-C40	W22-Ma62580	CP	mg/kg	< 100	< 100	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	W22-Ma62585	CP	%	19	17	11	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD		
TRH C10-C14	W22-Ma62588	CP	mg/kg	< 20	< 20	<1	30%	Pass
TRH C15-C28	W22-Ma62588	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH C29-C36	W22-Ma62588	CP	mg/kg	< 50	< 50	<1	30%	Pass

Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
TRH >C10-C16	W22-Ma62588	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C16-C34	W22-Ma62588	CP	mg/kg	< 100	< 100	<1	30%	Pass
TRH >C34-C40	W22-Ma62588	CP	mg/kg	< 100	< 100	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD		
TRH C6-C9	W22-Ma62594	CP	mg/kg	< 20	< 20	<1	30%	Pass
Duplicate								
BTEX				Result 1	Result 2	RPD		
Benzene	W22-Ma62594	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Toluene	W22-Ma62594	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Ethylbenzene	W22-Ma62594	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
m&p-Xylenes	W22-Ma62594	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
o-Xylene	W22-Ma62594	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Xylenes - Total*	W22-Ma62594	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	W22-Ma62594	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
TRH C6-C10	W22-Ma62594	CP	mg/kg	< 20	< 20	<1	30%	Pass
Duplicate								
Metals M8				Result 1	Result 2	RPD		
Arsenic	W22-Ma62594	CP	mg/kg	3.0	2.9	4.0	30%	Pass
Cadmium	W22-Ma62594	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	W22-Ma62594	CP	mg/kg	14	14	2.0	30%	Pass
Copper	W22-Ma62594	CP	mg/kg	6.9	6.9	<1	30%	Pass
Lead	W22-Ma62594	CP	mg/kg	14	14	1.0	30%	Pass
Mercury	W22-Ma62594	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Nickel	W22-Ma62594	CP	mg/kg	< 5	< 5	<1	30%	Pass
Zinc	W22-Ma62594	CP	mg/kg	16	17	4.0	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD		
TRH C6-C9	W22-Ma62595	CP	mg/kg	< 20	< 20	<1	30%	Pass
Duplicate								
BTEX				Result 1	Result 2	RPD		
Benzene	W22-Ma62595	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Toluene	W22-Ma62595	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Ethylbenzene	W22-Ma62595	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
m&p-Xylenes	W22-Ma62595	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
o-Xylene	W22-Ma62595	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Xylenes - Total*	W22-Ma62595	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	W22-Ma62595	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
TRH C6-C10	W22-Ma62595	CP	mg/kg	< 20	< 20	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	W22-Ma62595	CP	%	21	17	19	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
G01	The LORs have been raised due to matrix interference
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
Gabriele Cordero	Senior Analyst (NSW)
Sayed Abu	Senior Analyst (NSW)
Charl Du Preez	Senior Analyst (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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NATA Accredited
Accreditation Number 1261
Site Number 18217

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 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: Callum Laker
Report 875523-AID
Project Name SHOALHAVEN HOSPITAL
Project ID 8202118201
Received Date Mar 29, 2022
Date Reported Apr 08, 2022

Methodology:

Asbestos Fibre
 Identification

Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques.

NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.

Unknown Mineral
 Fibres

Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity.

NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an independent technique.

Subsampling Soil
 Samples

The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) is employed.

NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.

Bonded asbestos-
 containing material
 (ACM)

The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination. The resultant material is then further examined in accordance with AS 4964 - 2004.

NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.

Limit of Reporting

The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w).

The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk).

NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos". This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.

Project Name SHOALHAVEN HOSPITAL
Project ID 8202118201
Date Sampled Mar 21, 2022 to Mar 23, 2022
Report 875523-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
HA05_0.1	22-Ma62544	Mar 21, 2022	Approximate Sample 201g Sample consisted of: Brown coarse-grained soil, brick, cement, wood chips, organic debris and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
HA06_0.1	22-Ma62545	Mar 21, 2022	Approximate Sample 253g Sample consisted of: Brown coarse-grained soil, wood chips, organic debris and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
HA08_0.1	22-Ma62547	Mar 21, 2022	Approximate Sample 234g Sample consisted of: Brown coarse-grained soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
HA09_0.1	22-Ma62548	Mar 21, 2022	Approximate Sample 200g Sample consisted of: Brown coarse-grained soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP11_0.1	22-Ma62549	Mar 22, 2022	Approximate Sample 391g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP12_0.1	22-Ma62551	Mar 22, 2022	Approximate Sample 350g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP13_0.1	22-Ma62553	Mar 22, 2022	Approximate Sample 356g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP14_0.1	22-Ma62555	Mar 22, 2022	Approximate Sample 482g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
TP14_0.1_PACM	22-Ma62556	Mar 22, 2022	Approximate Sample 8g / 40x20x5mm Sample consisted of: Grey fibre cement material	Chrysotile and amosite asbestos detected.
TP14_0.5	22-Ma62557	Mar 22, 2022	Approximate Sample 525g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP15_0.1	22-Ma62558	Mar 22, 2022	Approximate Sample 333g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP15_0.5	22-Ma62559	Mar 22, 2022	Approximate Sample 415g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP15_1	22-Ma62560	Mar 22, 2022	Approximate Sample 401g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP16_0.1	22-Ma62561	Mar 22, 2022	Approximate Sample 335g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP17_0.1	22-Ma62564	Mar 22, 2022	Approximate Sample 396g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP18_0.1	22-Ma62566	Mar 22, 2022	Approximate Sample 368g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP19_0.1	22-Ma62569	Mar 22, 2022	Approximate Sample 512g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP20_0.1	22-Ma62572	Mar 22, 2022	Approximate Sample 409g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP20_0.1_PACM	22-Ma62573	Mar 22, 2022	Approximate Sample 94g / 130x40x5mm Sample consisted of: Grey fibre cement material	Chrysotile and amosite asbestos detected.
TP20_0.4	22-Ma62574	Mar 22, 2022	Approximate Sample 41g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP20_0.4_PACM	22-Ma62575	Mar 22, 2022	Approximate Sample 2245g / 230x160x25mm Sample consisted of: Grey compressed fibre cement material	Chrysotile and amosite asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
TP21_0.1	22-Ma62577	Mar 22, 2022	Approximate Sample 414g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP22_0.1	22-Ma62579	Mar 22, 2022	Approximate Sample 406g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP23_0.1	22-Ma62581	Mar 22, 2022	Approximate Sample 375g Sample consisted of: Brown coarse-grained sandy soil, glass, brick and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP23_0.3	22-Ma62582	Mar 22, 2022	Approximate Sample 407g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP23_0.3_PACM	22-Ma62583	Mar 22, 2022	Approximate Sample 25g / 55x30x5mm Sample consisted of: Grey fibre cement material	Chrysotile asbestos detected.
TP23_0.7	22-Ma62584	Mar 22, 2022	Approximate Sample 418g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP24_0.1	22-Ma62585	Mar 23, 2022	Approximate Sample 345g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP25_0.1	22-Ma62586	Mar 23, 2022	Approximate Sample 410g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP26_0.1	22-Ma62587	Mar 23, 2022	Approximate Sample 347g Sample consisted of: Brown coarse-grained soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP27_0.1	22-Ma62588	Mar 23, 2022	Approximate Sample 401g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP28_0.1	22-Ma62589	Mar 23, 2022	Approximate Sample 404g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP29_0.1	22-Ma62590	Mar 23, 2022	Approximate Sample 328g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP30_0.1	22-Ma62591	Mar 23, 2022	Approximate Sample 393g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
TP31_0.1	22-Ma62592	Mar 23, 2022	Approximate Sample 509g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

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
Asbestos - LTM-ASB-8020	Sydney	Mar 30, 2022	Indefinite
Asbestos - LTM-ASB-8020	Sydney	Mar 30, 2022	Indefinite

Company Name: Cardno Pty Ltd (WOLL)
Address: Groung Floor, 16 Burelli Street
Wollongong
NSW 2500

Project Name: SHOALHAVEN HOSPITAL
Project ID: 8202118201

Order No.: 8202118201
Report #: 875523
Phone: 02 4231 9672
Fax:

Received: Mar 29, 2022 11:40 AM
Due: Apr 5, 2022
Priority: 5 Day
Contact Name: Callum Laker

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Suite B14: OCP/OPP	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254													
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794													
Mayfield Laboratory - NATA # 1261 Site # 25079													
Perth Laboratory - NATA # 2377 Site # 2370													
External Laboratory													
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID								
1	BH01N1 0.1	Mar 21, 2022		Soil	W22-Ma62532				X	X	X		
2	BH01N1 0.5	Mar 21, 2022		Soil	W22-Ma62533				X	X	X		
3	BH01E1 0.1	Mar 21, 2022		Soil	W22-Ma62534				X	X	X		
4	BH01E1 0.5	Mar 21, 2022		Soil	W22-Ma62535				X	X	X		
5	BH01W1 0.1	Mar 21, 2022		Soil	W22-Ma62536				X	X	X		
6	BH01W1 0.5	Mar 21, 2022		Soil	W22-Ma62537				X	X	X		
7	BH01S1 0.1	Mar 21, 2022		Soil	W22-Ma62538				X	X	X		
8	BH01S1 0.5	Mar 21, 2022		Soil	W22-Ma62539				X	X	X		
9	BH07 0.1	Mar 21, 2022		Soil	W22-Ma62540				X	X	X		

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Melbourne Laboratory - NATA # 1261 Site # 1254													
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794													
Mayfield Laboratory - NATA # 1261 Site # 25079													
Perth Laboratory - NATA # 2377 Site # 2370													
External Laboratory													
10	BH07_0.5	Mar 21, 2022		Soil	W22-Ma62541				X	X	X		
11	BH08_0.1	Mar 21, 2022		Soil	W22-Ma62542				X	X	X		
12	BH08_0.5	Mar 21, 2022		Soil	W22-Ma62543				X	X	X		
13	HA05_0.1	Mar 21, 2022		Soil	W22-Ma62544	X			X	X	X		
14	HA06_0.1	Mar 21, 2022		Soil	W22-Ma62545	X			X	X	X		
15	HA07_0.1	Mar 21, 2022		Soil	W22-Ma62546				X	X	X		
16	HA08_0.1	Mar 21, 2022		Soil	W22-Ma62547	X			X	X	X		
17	HA09_0.1	Mar 21, 2022		Soil	W22-Ma62548	X			X	X	X		
18	TP11_0.1	Mar 22, 2022		Soil	W22-Ma62549	X			X	X	X		
19	TP11_1.5	Mar 22, 2022		Soil	W22-Ma62550				X	X	X		
20	TP12_0.1	Mar 22, 2022		Soil	W22-Ma62551	X			X	X	X		

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Sample Detail						Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Suite B14: OCP/OPP	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254													
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794													
Mayfield Laboratory - NATA # 1261 Site # 25079													
Perth Laboratory - NATA # 2377 Site # 2370													
External Laboratory													
21	TP12_0.5	Mar 22, 2022		Soil	W22-Ma62552				X	X	X		
22	TP13_0.1	Mar 22, 2022		Soil	W22-Ma62553	X			X	X	X		
23	TP13_0.5	Mar 22, 2022		Soil	W22-Ma62554					X	X		
24	TP14_0.1	Mar 22, 2022		Soil	W22-Ma62555	X			X	X	X		
25	TP14_0.1_PA CM	Mar 22, 2022		Building Materials	W22-Ma62556		X						
26	TP14_0.5	Mar 22, 2022		Soil	W22-Ma62557	X				X	X		
27	TP15_0.1	Mar 22, 2022		Soil	W22-Ma62558	X			X	X	X		
28	TP15_0.5	Mar 22, 2022		Soil	W22-Ma62559	X			X	X	X		
29	TP15_1	Mar 22, 2022		Soil	W22-Ma62560	X			X	X	X		
30	TP16_0.1	Mar 22, 2022		Soil	W22-Ma62561	X			X	X	X		

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Sample Detail						Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Suite B14: OCP/OPP	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254													
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794													
Mayfield Laboratory - NATA # 1261 Site # 25079													
Perth Laboratory - NATA # 2377 Site # 2370													
External Laboratory													
31	TP16_0.5	Mar 22, 2022		Soil	W22-Ma62562				X	X	X		
32	TP16_1	Mar 22, 2022		Soil	W22-Ma62563				X	X	X		
33	TP17_0.1	Mar 22, 2022		Soil	W22-Ma62564	X			X	X	X		
34	TP17_0.5	Mar 22, 2022		Soil	W22-Ma62565					X	X		
35	TP18_0.1	Mar 22, 2022		Soil	W22-Ma62566	X			X	X	X		
36	TP18_0.5	Mar 22, 2022		Soil	W22-Ma62567					X	X		
37	TP18_1	Mar 22, 2022		Soil	W22-Ma62568					X	X		
38	TP19_0.1	Mar 22, 2022		Soil	W22-Ma62569	X			X	X	X		
39	TP19_0.5	Mar 22, 2022		Soil	W22-Ma62570				X	X	X		
40	TP19_0.9	Mar 22, 2022		Soil	W22-Ma62571					X	X		
41	TP20_0.1	Mar 22, 2022		Soil	W22-Ma62572	X			X	X	X		

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Sample Detail						Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Suite B14: OCP/OPP	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254													
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794													
Mayfield Laboratory - NATA # 1261 Site # 25079													
Perth Laboratory - NATA # 2377 Site # 2370													
External Laboratory													
42	TP20_0.1_PA CM	Mar 22, 2022		Building Materials	W22-Ma62573		X						
43	TP20_0.4	Mar 22, 2022		Soil	W22-Ma62574	X			X	X	X		
44	TP20_0.4_PA CM	Mar 22, 2022		Building Materials	W22-Ma62575		X						
45	TP20_0.7	Mar 22, 2022		Soil	W22-Ma62576					X	X		
46	TP21_0.1	Mar 22, 2022		Soil	W22-Ma62577	X			X	X	X		
47	TP21_0.5	Mar 22, 2022		Soil	W22-Ma62578					X	X		
48	TP22_0.1	Mar 22, 2022		Soil	W22-Ma62579	X			X	X	X		
49	TP22_0.5	Mar 22, 2022		Soil	W22-Ma62580					X	X		
50	TP23_0.1	Mar 22, 2022		Soil	W22-Ma62581	X			X	X	X		

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Project ID:	8202118201	Fax:		Contact Name:	Callum Laker

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Suite B14: OCP/OPP	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254													
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794													
Mayfield Laboratory - NATA # 1261 Site # 25079													
Perth Laboratory - NATA # 2377 Site # 2370													
External Laboratory													
51	TP23_0.3	Mar 22, 2022		Soil	W22-Ma62582	X			X	X	X		
52	TP23_0.3_PA CM	Mar 22, 2022		Building Materials	W22-Ma62583		X						
53	TP23_0.7	Mar 22, 2022		Soil	W22-Ma62584	X				X	X		
54	TP24_0.1	Mar 23, 2022		Soil	W22-Ma62585	X			X	X	X		
55	TP25_0.1	Mar 23, 2022		Soil	W22-Ma62586	X			X	X	X		
56	TP26_0.1	Mar 23, 2022		Soil	W22-Ma62587	X			X	X	X		
57	TP27_0.1	Mar 23, 2022		Soil	W22-Ma62588	X			X	X	X		
58	TP28_0.1	Mar 23, 2022		Soil	W22-Ma62589	X			X	X	X		
59	TP29_0.1	Mar 23, 2022		Soil	W22-Ma62590	X			X	X	X		
60	TP30_0.1	Mar 23, 2022		Soil	W22-Ma62591	X			X	X	X		

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Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Suite B14: OCP/OPP	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254													
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794													
Mayfield Laboratory - NATA # 1261 Site # 25079													
Perth Laboratory - NATA # 2377 Site # 2370													
External Laboratory													
61	TP31_0.1	Mar 23, 2022		Soil	W22-Ma62592	X			X	X	X		
62	QA201	Mar 23, 2022		Soil	W22-Ma62593				X	X	X		
63	QA202	Mar 23, 2022		Soil	W22-Ma62594				X	X	X		
64	QA203	Mar 23, 2022		Soil	W22-Ma62595				X	X	X		
65	QA204	Mar 23, 2022		Soil	W22-Ma62596				X	X	X		
66	QA205	Mar 23, 2022		Soil	W22-Ma62597				X	X	X		
67	TRIP SPIKE	Mar 23, 2022		Soil	W22-Ma62598								X
68	TRIP BLANK	Mar 23, 2022		Soil	W22-Ma62599							X	
69	BH01N1_1	Mar 21, 2022		Soil	W22-Ma62601			X					
70	BH01N2_0.1	Mar 21, 2022		Soil	W22-Ma62602			X					
71	BH01N2_0.5	Mar 21, 2022		Soil	W22-Ma62603			X					

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Sample Detail						Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Suite B14: OCP/OPP	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254													
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794													
Mayfield Laboratory - NATA # 1261 Site # 25079													
Perth Laboratory - NATA # 2377 Site # 2370													
External Laboratory													
72	BH01N2_1	Mar 21, 2022		Soil	W22-Ma62604			X					
73	BH01E1_1	Mar 21, 2022		Soil	W22-Ma62605			X					
74	BH01E2_0.1	Mar 21, 2022		Soil	W22-Ma62606			X					
75	BH01E2_0.5	Mar 21, 2022		Soil	W22-Ma62607			X					
76	BH01E2_1	Mar 21, 2022		Soil	W22-Ma62608			X					
77	BH01W1_1	Mar 21, 2022		Soil	W22-Ma62609			X					
78	BH01W2_0.1	Mar 21, 2022		Soil	W22-Ma62610			X					
79	BH01W2_0.5	Mar 21, 2022		Soil	W22-Ma62611			X					
80	BH01W2_1	Mar 21, 2022		Soil	W22-Ma62612			X					
81	BH01S1_1	Mar 21, 2022		Soil	W22-Ma62613			X					
82	BH01S2_0.1	Mar 21, 2022		Soil	W22-Ma62614			X					

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Sample Detail						Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Suite B14: OCP/OPP	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254													
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794													
Mayfield Laboratory - NATA # 1261 Site # 25079													
Perth Laboratory - NATA # 2377 Site # 2370													
External Laboratory													
83	BH01S2_0.5	Mar 21, 2022		Soil	W22-Ma62615			X					
84	BH01S2_1	Mar 21, 2022		Soil	W22-Ma62616			X					
85	BH07_1	Mar 21, 2022		Soil	W22-Ma62617			X					
86	BH08_1	Mar 21, 2022		Soil	W22-Ma62618			X					
87	HA05_0.5	Mar 21, 2022		Soil	W22-Ma62619			X					
88	HA05_0.8	Mar 21, 2022		Soil	W22-Ma62620			X					
89	HA07_0.5	Mar 21, 2022		Soil	W22-Ma62621			X					
90	HA08_0.4	Mar 21, 2022		Soil	W22-Ma62622			X					
91	HA09_0.3	Mar 21, 2022		Soil	W22-Ma62623			X					
92	TP11_0.5	Mar 22, 2022		Soil	W22-Ma62624			X					
93	TP11_1	Mar 22, 2022		Soil	W22-Ma62625			X					

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Sample Detail						Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Suite B14: OCP/OPP	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254													
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794													
Mayfield Laboratory - NATA # 1261 Site # 25079													
Perth Laboratory - NATA # 2377 Site # 2370													
External Laboratory													
94	TP11_2	Mar 22, 2022		Soil	W22-Ma62626			X					
95	TP11_2.5	Mar 22, 2022		Soil	W22-Ma62627			X					
96	TP12_1	Mar 22, 2022		Soil	W22-Ma62628			X					
97	TP14_1	Mar 22, 2022		Soil	W22-Ma62629			X					
98	TP15_1.5	Mar 22, 2022		Soil	W22-Ma62630			X					
99	TP20_1	Mar 22, 2022		Soil	W22-Ma62631			X					
100	TP21_1	Mar 22, 2022		Soil	W22-Ma62632			X					
101	TP22_1	Mar 22, 2022		Soil	W22-Ma62633			X					
102	TP23_1	Mar 22, 2022		Soil	W22-Ma62634			X					
103	TP24_0.5	Mar 23, 2022		Soil	W22-Ma62635			X					
104	TP24_1	Mar 23, 2022		Soil	W22-Ma62636			X					

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Sample Detail						Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Suite B14: OCP/OPP	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254													
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794													
Mayfield Laboratory - NATA # 1261 Site # 25079													
Perth Laboratory - NATA # 2377 Site # 2370													
External Laboratory													
105	TP25_0.5	Mar 23, 2022		Soil	W22-Ma62637			X					
106	TP25_1	Mar 23, 2022		Soil	W22-Ma62638			X					
107	TP26_0.5	Mar 23, 2022		Soil	W22-Ma62639			X					
108	TP27_0.5	Mar 23, 2022		Soil	W22-Ma62640			X					
109	TP28_0.5	Mar 23, 2022		Soil	W22-Ma62641			X					
110	TP28_1	Mar 23, 2022		Soil	W22-Ma62642			X					
111	TP29_0.5	Mar 23, 2022		Soil	W22-Ma62643			X					
112	TP30_0.5	Mar 23, 2022		Soil	W22-Ma62644			X					
113	TP30_1	Mar 23, 2022		Soil	W22-Ma62645			X					
114	TP31_0.5	Mar 23, 2022		Soil	W22-Ma62646			X					
115	TP31_1	Mar 23, 2022		Soil	W22-Ma62647			X					

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Sample Detail	Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Suite B14: OCP/OPP	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254								
Sydney Laboratory - NATA # 1261 Site # 18217	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794								
Mayfield Laboratory - NATA # 1261 Site # 25079								
Perth Laboratory - NATA # 2377 Site # 2370								
External Laboratory								
Test Counts	31	4	47	52	62	62	1	1

Internal Quality Control Review and Glossary General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with the colour **blue** indicates data provided by customer that may have an impact on the results.
5. Information identified on this report with the colour **orange** indicates sections of the report not covered by the laboratory's scope of NATA accreditation.
6. This report replaces any interim results previously issued.

Holding Times

Please refer to the most recent version of the 'Sample Preservation and Container Guide' for holding times (QS3001).

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.

Units

% w/w:	Percentage weight-for-weight basis, e.g. of asbestos in asbestos-containing finds in soil samples (% w/w)
F/ffd	Airborne fibre filter loading as Fibres (N) per Fields counted (n)
F/mL	Airborne fibre reported concentration as Fibres per millilitre of air drawn over the sampler membrane (C)
g, kg	Mass, e.g. of whole sample (M) or asbestos-containing find within the sample (m)
g/kg	Concentration in grams per kilogram
L, mL	Volume, e.g. of air as measured in AFM (V = r x t)
L/min	Airborne fibre sampling Flowrate as litres per minute of air drawn over the sampler membrane (r)
min	Time (t), e.g. of air sample collection period

Calculations

Airborne Fibre Concentration:
$$C = \left(\frac{A}{a}\right) \times \left(\frac{N}{n}\right) \times \left(\frac{1}{V}\right) \times \left(\frac{1}{r}\right) = K \times \left(\frac{N}{n}\right) \times \left(\frac{1}{V}\right)$$

Asbestos Content (as asbestos):
$$\% w/w = \frac{(m \times P_A)}{M}$$

Weighted Average (of asbestos):
$$\%_{WA} = \frac{\sum (m \times P_A) \times x}{x}$$

Terms

%asbestos	Estimated percentage of asbestos in a given matrix. May be derived from knowledge or experience of the material, informed by HSG264 <i>Appendix 2</i> , else assumed to be 15% in accordance with WA DOH <i>Appendix 2 (PA)</i> .
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded (non-friable) condition. For the purposes of the NEPM and WA DOH, ACM corresponds to material larger than 7 mm x 7 mm.
AF	Asbestos Fines. Asbestos contamination within a soil sample, as defined by WA DOH. Includes loose fibre bundles and small pieces of friable and non-friable material such as asbestos cement fragments mixed with soil. Considered under the NEPM as equivalent to "non-bonded / friable".
AFM	Airborne Fibre Monitoring, e.g. by the MFM.
Amosite	Amosite Asbestos Detected. Amosite may also refer to Fibrous Grunerite or Brown Asbestos. Identified in accordance with AS 4964-2004.
AS	Australian Standard.
Asbestos Content (as asbestos)	Total % w/w asbestos content in asbestos-containing finds in a soil sample (% w/w).
Chrysotile	Chrysotile Asbestos Detected. Chrysotile may also refer to Fibrous Serpentine or White Asbestos. Identified in accordance with AS 4964-2004.
COC	Chain of Custody.
Crocidolite	Crocidolite Asbestos Detected. Crocidolite may also refer to Fibrous Riebeckite or Blue Asbestos. Identified in accordance with AS 4964-2004.
Dry	Sample is dried by heating prior to analysis.
DS	Dispersion Staining. Technique required for Unequivocal Identification of asbestos fibres by PLM.
FA	Fibrous Asbestos. Asbestos containing material that is wholly or in part friable, including materials with higher asbestos content with a propensity to become friable with handling, and any material that was previously non-friable and in a severely degraded condition. For the purposes of the NEPM and WA DOH, FA generally corresponds to material larger than 7 mm x 7 mm, although FA may be more difficult to visibly distinguish and may be assessed as AF.
Fibre Count	Total of all fibres (whether asbestos or not) meeting the counting criteria set out in the NOHSC:3003
Fibre ID	Fibre Identification. Unequivocal identification of asbestos fibres according to AS 4964-2004. Includes Chrysotile, Amosite (Grunerite) or Crocidolite asbestos.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory's remit to assess degree of friability.
HSG248	UK HSE HSG248, <i>Asbestos: The Analysts Guide</i> , 2nd Edition (2021).
HSG264	UK HSE HSG264, <i>Asbestos: The Survey Guide</i> (2012).
ISO (also ISO/IEC)	International Organization for Standardization / International Electrotechnical Commission.
K Factor	Microscope constant (K) as derived from the effective filter area of the given AFM membrane used for collecting the sample (A) and the projected eyepiece graticule area of the specific microscope used for the analysis (a).
LOR	Limit of Reporting.
MFM (also NOHSC:3003)	Membrane Filter Method. As described by the Australian Government National Occupational Health and Safety Commission, <i>Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres</i> , 2nd Edition [NOHSC:3003(2005)].
NEPM (also ASC NEPM)	National Environment Protection (Assessment of Site Contamination) Measure, (2013, as amended).
Organic	Organic Fibres Detected. Organic may refer to Natural or Man-Made Polymeric Fibres. Identified in accordance with AS 4964-2004.
PCM	Phase Contrast Microscopy. As used for Fibre Counting according to the MFM.
PLM	Polarised Light Microscopy. As used for Fibre Identification and Trace Analysis according to AS 4964-2004.
SMF	Synthetic Mineral Fibre Detected. SMF may also refer to Man Made Vitreous Fibres. Identified in accordance with AS 4964-2004.
SRA	Sample Receipt Advice.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres (particularly asbestos) in a given sample matrix.
UK HSE HSG	United Kingdom, Health and Safety Executive, Health and Safety Guidance, publication.
UMF	Unidentified Mineral Fibre Detected. Fibrous minerals that are detected but have not been unequivocally identified by PLM with DS according the AS 4964-2004. May include (but not limited to) Actinolite, Anthophyllite or Tremolite asbestos.
WA DOH	Reference document for the NEPM. Government of Western Australia, <i>Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia</i> (updated 2021), including Appendix Four: <i>Laboratory analysis</i>
Weighted Average	Combined average % w/w asbestos content of all asbestos-containing finds in the given aliquot or total soil sample (%_{WA}).

Comments

22-Ma62574: The sample received was not collected in an approved asbestos bag and was therefore sub-sampled from the 250mL glass jar. Valid sub-sampling procedures were applied so as to ensure that the sub-sample to be analysed accurately represented the sample received.

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

Asbestos Counter/Identifier:

Chamath JHM Annakkage Senior Analyst-Asbestos (NSW)

Authorised by:

Sayeed Abu Senior Analyst-Asbestos (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](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne 6 Monterey Road Dandenong South VIC 3175 Phone : +61 3 8564 5000 NATA # 1261 Site # 1254	Sydney Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 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	Newcastle 4/52 Industrial Drive Mayfield East NSW 2304 PO Box 60 Wickham 2293 Phone : +61 2 4968 8448 NATA # 1261 Site # 25079	Perth 46-48 Banksia Road Welshpool WA 6106 Phone : +61 8 6253 4444 NATA # 2377 Site # 2370	Auckland 35 O'Rorke Road Penrose, Auckland 1061 Phone : +64 9 526 45 51 IANZ # 1327	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 Phone : 0800 856 450 IANZ # 1290
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Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Eurofins Environment Testing NZ Limited

NZBN: 9429046024954

Sample Receipt Advice

Company name:	Cardno Pty Ltd (WOLL)
Contact name:	Callum Laker
Project name:	SHOALHAVEN HOSPITAL
Project ID:	8202118201
Turnaround time:	5 Day
Date/Time received	Mar 29, 2022 11:40 AM
Eurofins reference	875523

Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✓ 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.
- ✓ Split sample sent to requested external lab.
- ✗ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

Samples QC201, QC202, QC203, QC204 and QC205 sent to Envirolab for analysis as requested.

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 Callum Laker - callum.laker@cardno.com.au.

Note: A copy of these results will also be delivered to the general Cardno Pty Ltd (WOLL) email address.



From: Cardno - Sydney
Address: Level 9, The Forum
203 Pacific Hwy
St Leonards 2065
Phone: (02) 9496 7700
Attention: **Callum Laker/ Chris Cook**
Email: callum.laker@cardno.com.au christopher.cook@cardno.com.au
Mobile: **0417 493 692**

Chain of Custody

To: Eurofins | mgt
Address: Unit F3, Building F
16 Mars Road
LANE COVE WEST NSW 2066
Phone: (02) 9900 8400
Email: EnviroSampleNSW@eurofins.com.au

Date: 28/03/2022
TAT: Standard
Purchase Order: 8202118201
Eurofins | mgt Quote ID: 180626CAR
Project number: 8202118201
Project name: Shoalhaven Hospital
Data output format: PDF, Esdat

Attempt to chill evident: ☒ Y / ☐ N

Sample Temperature on Arrival:

6.1°C

Notes: Please include Contam.NSW@Cardno.com.au on all deliverables.

Notes:		Please include Contam.NSW@Cardno.com.au on all deliverables.																								
Eurofins Sample Number	Cardno Sample Number	Sample Date	Matrix	Container Plastic Tube – PT Bag – B Petri Dish – PD Plastic Bottle – PB Plastic Jar - PJ Glass Jar – GJ Glass Bottle – GB Glass Vial - GV	Analytes																	Applicable Suites	Sample Comments			
					Single Analytes																					
					TRH	TRH w/ Silica Gel	BTEXN	PAHS	OCF	OPP	PCB	1 Metal	Metals (exc. Hg)	Metals (inc. Hg)	Metals (inc Hg & Cr6)	Total Phenols	VOCs	Hold	R21 Suite - pH, CEC, Clay, TOC, NFE	Asbestos in Soil (NEPM)	EC				Asbestos in Building Mat.	Select Analyte or Delete to Clear
	BH01N1_0.1	21/03/2022	Soil	1 x J / B	1		1	1	1	1													B7 B14	STD 8 METALS	Relinquished By: Callum Laker	
	BH01N1_0.5	21/03/2022	Soil	1 x J / B	1		1	1	1	1													B7 B14	STD 8 METALS		
	BH01N1_1	21/03/2022	Soil	1 x J / B											1											Company: Date: 28/03/2022
	BH01N2_0.1	21/03/2022	Soil	1 x J / B											1										Received By: Lily Gains <i>Lily Gains</i> Company: Eurofins Time: 11.40 am Date: 29/3/22	
	BH01N2_0.5	21/03/2022	Soil	1 x J / B											1											
	BH01N2_1	21/03/2022	Soil	1 x J / B											1											Company: Time: Date:
	BH01E1_0.1	21/03/2022	Soil	1 x J / B	1		1	1	1	1													B7 B14	STD 8 METALS	Received By:	
	BH01E1_0.5	21/03/2022	Soil	1 x J / B	1		1	1	1	1													B7 B14	STD 8 METALS		
	BH01E1_1	21/03/2022	Soil	1 x J / B											1											Company: Time: Date:
	BH01E2_0.1	21/03/2022	Soil	1 x J / B											1										Received By:	
	BH01E2_0.5	21/03/2022	Soil	1 x J / B											1											
	BH01E2_1	21/03/2022	Soil	1 x J / B											1											Received By:
	BH01W1_0.1	21/03/2022	Soil	1 x J / B	1		1	1	1	1													B7 B14	STD 8 METALS	Company: Time: Date:	
	BH01W1_0.5	21/03/2022	Soil	1 x J / B	1		1	1	1	1													B7 B14	STD 8 METALS		
	BH01W1_1	21/03/2022	Soil	1 x J / B											1											Company: Time: Date:
Total					6		6	6	6	6				6				9								

Lily Gains

Report: 875523



From: Cardno - Sydney
Address: Level 9, The Forum
203 Pacific Hwy
St Leonards 2065
Phone: (02) 9496 7700
Attention: **Callum Laker/ Chris Cook**
Email: callum.laker@cardno.com.au; christopher.cook@cardno.com.au
Mobile: **0417 493 692**

Chain of Custody

To: Eurofins | mgt
Address: Unit F3, Building F
16 Mars Road
LANE COVE WEST NSW 2066
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Date: 28/03/2022
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Eurofins | mgt Quote ID: 180626CAR
Project number: 8202118201
Project name: Shoalhaven Hospital
Data output format: PDF, Esdat

Attempt to chill evident: Y / N

Sample Temperature on Arrival: _____

Notes: Please include Contam.NSW@Cardno.com.au on all deliverables.

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Eurofins Sample Number	Cardno Sample Number	Sample Date	Matrix	Container Plastic Tube – PT Bag – B Petri Dish – PD Plastic Bottle – PB Plastic Jar – PJ Glass Jar – GJ Glass Bottle – GB Glass Vial – GV	Analytes																		Applicable Suites	Sample Comments
					Single Analytes																			
					TRH	TRH w/ Silica Gel	BTEXN	PAHS	OCF	OPP	PCB	1 Metal	Metals (exc. Hg)	Metals (inc. Hg)	Metals (inc Hg & Cr6)	Total Phenols	VOCs	Hold	#21 Suite - pH, CEC, Clay, TOC, %FE	Asbestos in Soil (NEPM)	EC	Asbestos in Building Mat.		
	BH01W2_0.1	21/03/2022	Soil	1 x J / B											1									
	BH01W2_0.5	21/03/2022	Soil	1 x J / B											1									
	BH01W2_1	21/03/2022	Soil	1 x J / B											1									
	BH01S1_0.1	21/03/2022	Soil	1 x J / B	1		1	1	1	1				1								B7 B14	STD 8 METALS	
	BH01S1_0.5	21/03/2022	Soil	1 x J / B	1		1	1	1	1				1								B7 B14	STD 8 METALS	
	BH01S1_1	21/03/2022	Soil	1 x J / B											1									
	BH01S2_0.1	21/03/2022	Soil	1 x J / B											1									
	BH01S2_0.5	21/03/2022	Soil	1 x J / B											1									
	BH01S2_1	21/03/2022	Soil	1 x J / B											1									
	BH07_0.1	21/03/2022	Soil	1 x J / B	1		1	1	1	1				1								B7 B14	STD 8 METALS	
	BH07_0.5	21/03/2022	Soil	1 x J / B	1		1	1	1	1				1								B7 B14	STD 8 METALS	
	BH07_1	21/03/2022	Soil	1 x J / B											1									
	BH08_0.1	21/03/2022	Soil	1 x J / B	1		1	1	1	1				1								B7 B14	STD 8 METALS	
	BH08_0.5	21/03/2022	Soil	1 x J / B	1		1	1	1	1				1								B7 B14	STD 8 METALS	
	BH08_1	21/03/2022	Soil	1 x J / B											1									
Total					6		6	6	6	6				6										

hitycui

Report: 875523



From: Cardno - Sydney
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Eurofins Sample Number	Cardno Sample Number	Sample Date	Matrix	Container Plastic Tube – PT Bag – B Petri Dish – PD Plastic Bottle – PB Plastic Jar – PJ Glass Jar – GJ Glass Bottle – GB Glass Vial - GV	Analytes																	Applicable Suites	Sample Comments		
					Single Analytes																				
					TRH	TRH w/ Silica Gel	BTEXN	PAHS	OC	OPP	PCB	1 Metal	Metals (exc. Hg)	Metals (inc. Hg)	Metals (inc Hg & Cr6)	Total Phenols	VOCs	Hold	#21 Suite - pH, EC, Clay, TOC, NRE	Asbestos in Soil (NEPM)	EC				Asbestos in Building Mat.
	HA05_0.1	21/03/2022	Soil	1 x J / B	1		1	1	1	1							1						B7 B14	STD 8 METALS	
	HA05_0.5	21/03/2022	Soil	1 x J / B											1									STD 8 METALS	
	HA05_0.8	21/03/2022	Soil	1 x J / B											1										
	HA06_0.1	21/03/2022	Soil	1 x J / B	1		1	1	1	1							1						B7 B14	STD 8 METALS	
	HA07_0.1	21/03/2022	Soil	1 x J / B	1		1	1	1	1							1						B7 B14	STD 8 METALS	
	HA07_0.5	21/03/2022	Soil	1 x J / B											1										
	HA08_0.1	21/03/2022	Soil	1 x J / B	1		1	1	1	1							1						B7 B14	STD 8 METALS	
	HA08_0.4	21/03/2022	Soil	1 x J / B											1										
	HA09_0.1	21/03/2022	Soil	1 x J / B	1		1	1	1	1							1						B7 B14	STD 8 METALS	
	HA09_0.3	21/03/2022	Soil	1 x J / B											1										
	TP11_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1						B7 B14	STD 8 METALS	
	TP11_0.5	22/03/2022	Soil	1 x J / B											1										
	TP11_1	22/03/2022	Soil	1 x J / B											1										
	TP11_1.5	22/03/2022	Soil	1 x J / B	1		1	1	1	1													B7 B14	STD 8 METALS	
	TP11_2	22/03/2022	Soil	1 x J / B											1										
Total					7		7	7	7	7					7			8		5					

Anty Chris

Report: 875523



From: Cardno - Sydney
Address: Level 9, The Forum
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St Leonards 2065
Phone: (02) 9496 7700
Attention: **Callum Laker/ Chris Cook**
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Mobile: **0417 493 692**

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Purchase Order: 8202118201
Eurofins | mgt Quote ID: 180626CAR
Project number: 8202118201
Project name: Shoalhaven Hospital
Data output format: PDF, Esdat

Attempt to chill evident: Y / N

Sample Temperature on Arrival: _____

Notes: Please include Contam.NSW@Cardno.com.au on all deliverables.

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Eurofins Sample Number	Cardno Sample Number	Sample Date	Matrix	Container Plastic Tube – PT Bag – B Petri Dish – PD Plastic Bottle – PB Plastic Jar – PJ Glass Jar – GJ Glass Bottle – GB Glass Vial – GV	Analytes																		Applicable Suites	Sample Comments					
					Single Analytes																								
					TRH	TRH w/ Silica Gel	BTEXN	PAHS	OC	OPP	PCB	1 Metal	Metals (exc. Hg)	Metals (inc. Hg)	Metals (inc Hg & Cr6)	Total Phenols	VOCs	Hold	R21 Suite - pH, CEC, Clay, TOC, %FE	Asbestos in Soil (NEPM)	EC	Asbestos in Building Mat.				Select Analyte or Delete to Clear	Select Analyte or Delete to Clear	Select Analyte or Delete to Clear	
	TP11_2.5	22/03/2022	Soil	1 x J / B											1														
	TP12_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1										B7 B14	STD 8 METALS	
	TP12_0.5	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1										B7 B14	STD 8 METALS	
	TP12_1	22/03/2022	Soil	1 x J / B											1														
	TP13_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1										B7 B14	STD 8 METALS	
	TP13_0.5	22/03/2022	Soil	1 x J / B	1		1	1							1												B7	STD 8 METALS	
	TP14_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1										B7 B14	STD 8 METALS	
	TP14_0.1_PACM	22/03/2022	Building Material	1 x B															1										
	TP14_0.5	22/03/2022	Soil	1 x J / B	1		1	1									1										B7	STD 8 METALS	
	TP14_1	22/03/2022	Soil	1 x J / B											1														
	TP15_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1										B7 B14	STD 8 METALS	
	TP15_0.5	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1										B7 B14	STD 8 METALS	
	TP15_1	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1										B7 B14	STD 8 METALS	
	TP15_1.5	22/03/2022	Soil	1 x J / B											1														
	TP16_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1										B7 B14	STD 8 METALS	
Total					10		10	10	8	8				10			5		8			1							

Signature

Report: 875523



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203 Pacific Hwy
St Leonards 2065
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Mobile: **0417 493 692**

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Email: EnviroSampleNSW@eurofins.com.au

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Project number: 8202118201
Project name: Shoalhaven Hospital
Data output format: PDF, Esdat

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Sample Temperature on Arrival: _____

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Eurofins Sample Number	Cardno Sample Number	Sample Date	Matrix	Container Plastic Tube – PT Bag – B Petri Dish – PD Plastic Bottle – PB Plastic Jar – PJ Glass Jar – GJ Glass Bottle – GB Glass Vial - GV	Analytes																					
					Single Analytes																					
					TRH	TRH w/ Silica Gel	BTEXN	PAHS	OCF	OPP	PCB	1 Metal	Metals (exc. Hg)	Metals (inc. Hg)	Metals (inc Hg & Cr6)	Total Phenols	VOCs	Hold	R21 Suite - pH, CEC, Clay, TOC, %EE	Asbestos in Soil (NEPM)	EC	Asbestos in Building Mat.	Select Analyte or Delete to Clear	Select Analyte or Delete to Clear	Select Analyte or Delete to Clear	Applicable Suites
	TP16_0.5	22/03/2022	Soil	1 x J / B	1		1	1	1	1					1								B7 B14	STD 8 METALS		
	TP16_1	22/03/2022	Soil	1 x J / B	1		1	1	1	1				1									B7 B14	STD 8 METALS		
	TP17_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1				1			1						B7 B14	STD 8 METALS		
	TP17_0.5	22/03/2022	Soil	1 x J / B	1		1	1						1									B7	STD 8 METALS		
	TP18_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1				1			1						B7 B14	STD 8 METALS		
	TP18_0.5	22/03/2022	Soil	1 x J / B	1		1	1						1									B7	STD 8 METALS		
	TP18_1	22/03/2022	Soil	1 x J / B	1		1	1						1			1						B7	STD 8 METALS		
	TP19_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1				1			1						B7 B14	STD 8 METALS		
	TP19_0.5	22/03/2022	Soil	1 x J / B	1		1	1	1	1				1									B7 B14	STD 8 METALS		
	TP19_0.9	22/03/2022	Soil	1 x J / B	1		1	1						1									B7	STD 8 METALS		
	TP20_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1				1			1						B7 B14	STD 8 METALS		
	TP20_0.1_PACM	22/03/2022	Building Material	1 X B															1							
	TP20_0.4	22/03/2022	Soil	1 x J / B	1		1	1	1	1				1			1						B7 B14	STD 8 METALS		
	TP20_0.4_PACM	22/03/2022	Building Material	1 X B															1							
	TP20_0.7	22/03/2022	Soil	1 x J / B	1		1	1						1									B7	STD 8 METALS		
Total					13		13	13	8	8				13			3		5			2				

Report: 875523



From: Cardno - Sydney
Address: Level 9, The Forum
203 Pacific Hwy
St Leonards 2065
Phone: (02) 9496 7700
Attention: **Callum Laker/ Chris Cook**
Email: callum.laker@cardno.com.au christopher.cook@cardno.com.au
Mobile: **0417 493 692**

Chain of Custody

To: Eurofins | mgt
Address: Unit F3, Building F
16 Mars Road
LANE COVE WEST NSW 2066
Phone: (02) 9900 8400
Email: EnviroSampleNSW@eurofins.com.au

Date: 28/03/2022
TAT: Standard
Purchase Order: 8202118201
Eurofins | mgt Quote ID: 180626CAR
Project number: 8202118201
Project name: Shoalhaven Hospital
Data output format: PDF, Esdat

Attempt to chill evident: Y / N

Sample Temperature on Arrival: _____

Notes: Please include Contam.NSW@Cardno.com.au on all deliverables.

Notes:		Please include Contam.NSW@Cardno.com.au on all deliverables.																											
Eurofins Sample Number	Cardno Sample Number	Sample Date	Matrix	Container Plastic Tube – PT Bag – B Petri Dish – PD Plastic Bottle – PB Plastic Jar – PJ Glass Jar – GJ Glass Bottle – GB Glass Vial – GV	Analytes																	Applicable Suites	Sample Comments						
					Single Analytes																								
					TRH	TRH w/ Silica Gel	BTEXN	PAHS	OCF	OPP	PCB	1 Metal	Metals (exc. Hg)	Metals (inc. Hg)	Metals (inc Hg & Cr6)	Total Phenols	VOCs	Hold	B21 Suite - pH, CEC, Clay, TOC, %FE	Asbestos in Soil (NEPM)	EC				Asbestos in Building Mat.	Select Analyte or Delete to Clear	Select Analyte or Delete to Clear	Select Analyte or Delete to Clear	
	TP20_1	22/03/2022	Soil	1 x J / B											1														
	TP21_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1										B7 B14	STD 8 METALS	
	TP21_0.5	22/03/2022	Soil	1 x J / B	1		1	1																		B7	STD 8 METALS		
	TP21_1	22/03/2022	Soil	1 x J / B											1														
	TP22_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1										B7 B14	STD 8 METALS	
	TP22_0.5	22/03/2022	Soil	1 x J / B	1		1	1									1										B7	STD 8 METALS	
	TP22_1	22/03/2022	Soil	1 x J / B											1														
	TP23_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1								1									B7 B14	STD 8 METALS	
	TP23_0.3	22/03/2022	Soil	1 x J / B	1		1	1	1	1								1									B7 B14	STD 8 METALS	
	TP23_0.3_PACM	22/03/2022	Building Material	1 X B															1										
	TP23_0.7	22/03/2022	Soil	1 x J / B	1		1	1										1									B7	STD 8 METALS	
	TP23_1	22/03/2022	Soil	1 x J / B											1														
	TP24_0.1	23/03/2022	Soil	1 x J / B	1		1	1	1	1								1									B7 B14	STD 8 METALS	
	TP24_0.5	23/03/2022	Soil	1 x J / B											1														
	TP24_1	23/03/2022	Soil	1 x J / B											1														
Total					8		8	8	5	5					8			6		6		1							

M. Laker

Report: 875523



From: Cardno - Sydney
Address: Level 9, The Forum
203 Pacific Hwy
St Leonards 2065
Phone: (02) 9496 7700
Attention: **Callum Laker/ Chris Cook**
Email: callum.laker@cardno.com.au christopher.cook@cardno.com.au
Mobile: **0417 493 692**

Chain of Custody

To: Eurofins | mgt
Address: Unit F3, Building F
16 Mars Road
LANE COVE WEST NSW 2066
Phone: (02) 9900 8400
Email: EnviroSampleNSW@eurofins.com.au

Date: 28/03/2022
TAT: Standard
Purchase Order: 8202118201
Eurofins | mgt Quote ID: 180626CAR
Project number: 8202118201
Project name: Shoalhaven Hospital
Data output format: PDF, Esdat

Attempt to chill evident: Y / N

Sample Temperature on Arrival: _____

Notes: Please include Contam.NSW@Cardno.com.au on all deliverables.

Eurofins Sample Number	Cardno Sample Number	Sample Date	Matrix	Container Plastic Tube – PT Bag – B Petri Dish – PD Plastic Bottle – PB Plastic Jar – PJ Glass Jar – GJ Glass Bottle – GB Glass Vial – GV	Analytes																			Applicable Suites	Sample Comments	
					Single Analytes																					
					TRH	TRH w/ Silica Gel	BTEXN	PAHS	OC	OPP	PCB	1 Metal	Metals (exc. Hg)	Metals (inc. Hg)	Metals (inc Hg & Cr6)	Total Phenols	VOCs	Hold	R21 Suite - pH, CEC, Clay, TOC, RFE	Asbestos in Soil (NEPM)	EC	Asbestos in Building Mat.	Select Analyte or Delete to Clear			
	TP25_0.1	23/03/2022	Soil	1 x J / B	1		1	1	1	1					1									B7 B14	STD 8 METALS	
	TP25_0.5	23/03/2022	Soil	1 x J / B																						
	TP25_1	23/03/2022	Soil	1 x J / B																						
	TP26_0.1	23/03/2022	Soil	1 x J / B	1		1	1	1	1					1									B7 B14	STD 8 METALS	
	TP26_0.5	23/03/2022	Soil	1 x J / B																						
	TP27_0.1	23/03/2022	Soil	1 x J / B	1		1	1	1	1					1									B7 B14	STD 8 METALS	
	TP27_0.5	23/03/2022	Soil	1 x J / B																						
	TP28_0.1	23/03/2022	Soil	1 x J / B	1		1	1	1	1					1									B7 B14	STD 8 METALS	
	TP28_0.5	23/03/2022	Soil	1 x J / B																						
	TP28_1	23/03/2022	Soil	1 x J / B																						
	TP29_0.1	23/03/2022	Soil	1 x J / B	1		1	1	1	1					1									B7 B14	STD 8 METALS	
	TP29_0.5	23/03/2022	Soil	1 x J / B																						
	TP30_0.1	23/03/2022	Soil	1 x J / B	1		1	1	1	1					1									B7 B14	STD 8 METALS	
	TP30_0.5	23/03/2022	Soil	1 x J / B																						
	TP30_1	23/03/2022	Soil	1 x J / B																						
Total					6		6	6	6	6				6			9	6								

Report: 875523

CERTIFICATE OF ANALYSIS 292434

Client Details

Client	Cardno (NSW/ACT) Pty Ltd
Attention	Callum Laker
Address	PO Box 19, St Leonards, NSW, 1590

Sample Details

Your Reference	<u>8202118201, Shoalhaven Hospital</u>
Number of Samples	5 Soil
Date samples received	01/04/2022
Date completed instructions received	01/04/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	08/04/2022
Date of Issue	07/04/2022
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By

Dragana Tomas, Senior Chemist
 Hannah Nguyen, Metals Supervisor
 Thomas Beenie, Lab Technician

Authorised By



Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		292434-1	292434-2	292434-3	292434-4	292434-5
Your Reference	UNITS	QC201	QC202	QC203	QC204	QC205
Date Sampled		21/03/2022	22/03/2022	22/03/2022	23/03/2022	23/03/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/04/2022	04/04/2022	04/04/2022	04/04/2022	04/04/2022
Date analysed	-	04/04/2022	04/04/2022	04/04/2022	04/04/2022	04/04/2022
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	84	84	79	87	89

svTRH (C10-C40) in Soil						
Our Reference		292434-1	292434-2	292434-3	292434-4	292434-5
Your Reference	UNITS	QC201	QC202	QC203	QC204	QC205
Date Sampled		21/03/2022	22/03/2022	22/03/2022	23/03/2022	23/03/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/04/2022	04/04/2022	04/04/2022	04/04/2022	04/04/2022
Date analysed	-	05/04/2022	05/04/2022	05/04/2022	05/04/2022	05/04/2022
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	110	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	110	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	170	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	170	<50	<50	<50	<50
Surrogate o-Terphenyl	%	104	100	100	108	101

PAHs in Soil						
Our Reference	UNITS	292434-1	292434-2	292434-3	292434-4	292434-5
Your Reference		QC201	QC202	QC203	QC204	QC205
Date Sampled		21/03/2022	22/03/2022	22/03/2022	23/03/2022	23/03/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/04/2022	04/04/2022	04/04/2022	04/04/2022	04/04/2022
Date analysed	-	04/04/2022	04/04/2022	04/04/2022	04/04/2022	04/04/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	0.1	0.3
Pyrene	mg/kg	<0.1	<0.1	<0.1	0.1	0.3
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	0.1	0.3
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	0.4
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	0.07	0.2
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	0.4	1.9
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	96	90	94	102	88

Organochlorine Pesticides in soil						
Our Reference		292434-1	292434-2	292434-3	292434-4	292434-5
Your Reference	UNITS	QC201	QC202	QC203	QC204	QC205
Date Sampled		21/03/2022	22/03/2022	22/03/2022	23/03/2022	23/03/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/04/2022	04/04/2022	04/04/2022	04/04/2022	04/04/2022
Date analysed	-	04/04/2022	04/04/2022	04/04/2022	04/04/2022	04/04/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	87	84	87	93	82

Organophosphorus Pesticides in Soil						
Our Reference		292434-1	292434-2	292434-3	292434-4	292434-5
Your Reference	UNITS	QC201	QC202	QC203	QC204	QC205
Date Sampled		21/03/2022	22/03/2022	22/03/2022	23/03/2022	23/03/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/04/2022	04/04/2022	04/04/2022	04/04/2022	04/04/2022
Date analysed	-	04/04/2022	04/04/2022	04/04/2022	04/04/2022	04/04/2022
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	87	84	87	93	82

Acid Extractable metals in soil						
Our Reference		292434-1	292434-2	292434-3	292434-4	292434-5
Your Reference	UNITS	QC201	QC202	QC203	QC204	QC205
Date Sampled		21/03/2022	22/03/2022	22/03/2022	23/03/2022	23/03/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/04/2022	04/04/2022	04/04/2022	04/04/2022	04/04/2022
Date analysed	-	06/04/2022	06/04/2022	06/04/2022	06/04/2022	06/04/2022
Arsenic	mg/kg	5	6	<4	<4	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	8	14	10	13	17
Copper	mg/kg	12	7	2	2	9
Nickel	mg/kg	6	2	1	2	3
Lead	mg/kg	10	15	14	13	38
Zinc	mg/kg	40	10	8	8	29
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1

Moisture						
Our Reference		292434-1	292434-2	292434-3	292434-4	292434-5
Your Reference	UNITS	QC201	QC202	QC203	QC204	QC205
Date Sampled		21/03/2022	22/03/2022	22/03/2022	23/03/2022	23/03/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/04/2022	04/04/2022	04/04/2022	04/04/2022	04/04/2022
Date analysed	-	05/04/2022	05/04/2022	05/04/2022	05/04/2022	05/04/2022
Moisture	%	21	12	21	20	14

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-022	Determination of VOCs sampled onto coconut shell charcoal sorbent tubes, that can be desorbed using carbon disulphide, and analysed by GC-MS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-MS/GC-MSMS. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	[NT]
Date extracted	-			04/04/2022	[NT]	[NT]	[NT]	[NT]	04/04/2022	[NT]
Date analysed	-			04/04/2022	[NT]	[NT]	[NT]	[NT]	04/04/2022	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	98	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	98	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	79	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	96	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	105	[NT]
o-Xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Naphthalene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	90	[NT]	[NT]	[NT]	[NT]	86	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	[NT]
Date extracted	-			04/04/2022	[NT]	[NT]	[NT]	[NT]	04/04/2022	[NT]
Date analysed	-			04/04/2022	[NT]	[NT]	[NT]	[NT]	04/04/2022	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	93	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	89	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	96	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	93	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	89	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	96	[NT]
Surrogate o-Terphenyl	%		Org-020	99	[NT]	[NT]	[NT]	[NT]	115	[NT]

QUALITY CONTROL: PAHs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	[NT]
Date extracted	-			04/04/2022	[NT]	[NT]	[NT]	[NT]	04/04/2022	[NT]
Date analysed	-			04/04/2022	[NT]	[NT]	[NT]	[NT]	04/04/2022	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	88	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	83	[NT]
Fluorene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	95	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	92	[NT]
Pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	95	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	100	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	97	[NT]	[NT]	[NT]	[NT]	95	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	[NT]
Date extracted	-			04/04/2022	[NT]	[NT]	[NT]	[NT]	04/04/2022	[NT]
Date analysed	-			04/04/2022	[NT]	[NT]	[NT]	[NT]	04/04/2022	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	80	[NT]
HCB	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	85	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	87	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	89	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	92	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	92	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Endrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	88	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	91	[NT]	[NT]	[NT]	[NT]	90	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	[NT]
Date extracted	-			04/04/2022	[NT]	[NT]	[NT]	[NT]	04/04/2022	[NT]
Date analysed	-			04/04/2022	[NT]	[NT]	[NT]	[NT]	04/04/2022	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	91	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	87	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	113	[NT]
Malathion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	128	[NT]
Chlorpyrifos	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Parathion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	91	[NT]	[NT]	[NT]	[NT]	90	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	[NT]
Date prepared	-			04/04/2022	[NT]	[NT]	[NT]	[NT]	04/04/2022	[NT]
Date analysed	-			06/04/2022	[NT]	[NT]	[NT]	[NT]	06/04/2022	[NT]
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	[NT]	[NT]	95	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	[NT]	[NT]	98	[NT]
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	93	[NT]
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	90	[NT]
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	[NT]	[NT]	104	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.



From: Cardno - Sydney
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203 Pacific Hwy
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Attention: Callum Laker/ Chris Cook
Email: callum.laker@cardno.com.au; christopher.cook@cardno.com.au
Mobile: 0417 493 692

Chain of Custody

To: Eurofins | mgt
Address: Unit F3, Building F
16 Mars Road
LANE COVE WEST NSW 2066
Phone: (02) 9900 8400
Email: EnviroSampleNSW@eurofins.com.au

Date: 28/03/2022
TAT: Standard
Purchase Order: 8202118201
Eurofins | mgt Quote ID: 180626CAR
Project number: 8202118201
Project name: Shoalhaven Hospital
Data output format: PDF, Esdat

Attempt to chill evident: ☒ Y / N

Sample Temperature on Arrival:

6.1°C

Notes:		Please include Contam.N5W@Cardno.com.au on all deliverables.																										
Eurofins Sample Number	Cardno Sample Number	Sample Date	Matrix	Container Plastic Tube – PT Bag – B Petri Dish – PD Plastic Bottle – PB Plastic Jar – PJ Glass Jar – GJ Glass Bottle – GB Glass Vial – GV	Analytes																		Applicable Suites	Sample Comments				
					Single Analytes																							
					TRH	TRH w/ Silica Gel	BTEXN	PAHS	OCF	OPP	PCB	1 Metal	Metals (exc. Hg)	Metals (inc. Hg)	Metals (inc Hg & Cr6)	Total Phenols	VOCs	Hold	PET Suite – pH, CEC, Clay, TOC, NFE	Asbestos in Soil (NENM)							EC	EC – Asbestos and Bulk Soil (EC & Asbestos)
	BH01N1_0.1	21/03/2022	Soil	1 x J / B	1		1	1	1	1						1										B7 B14	STD 8 METALS	Relinquished By: Callum Laker
	BH01N1_0.5	21/03/2022	Soil	1 x J / B	1		1	1	1	1						1										B7 B14	STD 8 METALS	
	BH01N1_1	21/03/2022	Soil	1 x J / B																								
	BH01N2_0.1	21/03/2022	Soil	1 x J / B																								
	BH01N2_0.5	21/03/2022	Soil	1 x J / B																								
	BH01N2_1	21/03/2022	Soil	1 x J / B																								Received By: Lily Gains
	BH01E1_0.1	21/03/2022	Soil	1 x J / B	1		1	1	1	1						1										B7 B14	STD 8 METALS	Company: Eurofins Time: 11.40 am Date: 29/3/22
	BH01E1_0.5	21/03/2022	Soil	1 x J / B	1		1	1	1	1						1										B7 B14	STD 8 METALS	
	BH01E1_1	21/03/2022	Soil	1 x J / B																								Relinquished By:
	BH01E2_0.1	21/03/2022	Soil	1 x J / B																								Company: Time: Date:
	BH01E2_0.5	21/03/2022	Soil	1 x J / B																								
	BH01E2_1	21/03/2022	Soil	1 x J / B																								Received By:
	BH01W1_0.1	21/03/2022	Soil	1 x J / B	1		1	1	1	1						1										B7 B14	STD 8 METALS	
	BH01W1_0.5	21/03/2022	Soil	1 x J / B	1		1	1	1	1						1										B7 B14	STD 8 METALS	Company: Time: Date:
	BH01W1_1	21/03/2022	Soil	1 x J / B																								
Total					6		6	6	6	6						6				9								

Lily Gains

Report: 875523

292434



From: Cardno - Sydney
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Attention: **Callum Laker/ Chris Cook**
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Mobile: **0417 493 692**

Chain of Custody

To: Eurofins | mgt
Address: Unit F3, Building F
16 Mars Road
LANE COVE WEST NSW 2066
Phone: (02) 9900 8400
Email: EnviroSampleNSW@eurofins.com.au

Date: 28/03/2022
TAT: Standard
Purchase Order: 8202118201
Eurofins | mgt Quote ID: 180626CAR
Project number: 8202118201
Project name: Shoalhaven Hospital
Data output format: PDF, Esdat

Attempt to chill evident: Y / N

Sample Temperature on Arrival: _____

Notes: Please include Contam.NSW@Cardno.com.au on all deliverables.																
Eurofins Sample Number	Cardno Sample Number	Sample Date	Matrix	Container Plastic Tube – PT Bag – B Petri Dish – PD Plastic Bottle – PB Plastic Jar – PJ Glass Jar – GJ Glass Bottle – GB Glass Vial – GV	Analytes											
					Single Analytes											
					TRH	TRH w/ Silica Gel	BTEXN	PAHS	OCF	OPP	PCB	1 Metal	Metals (exc. Hg)	Metals (inc. Hg)	Metals (inc Hg & Cr6)	Total Phenols
	BH01W2_0.1	21/03/2022	Soil	1 x J / B												
	BH01W2_0.5	21/03/2022	Soil	1 x J / B												
	BH01W2_1	21/03/2022	Soil	1 x J / B												
	BH01S1_0.1	21/03/2022	Soil	1 x J / B	1	1	1	1	1				1			
	BH01S1_0.5	21/03/2022	Soil	1 x J / B	1	1	1	1	1				1			
	BH01S1_1	21/03/2022	Soil	1 x J / B												
	BH01S2_0.1	21/03/2022	Soil	1 x J / B												
	BH01S2_0.5	21/03/2022	Soil	1 x J / B												
	BH01S2_1	21/03/2022	Soil	1 x J / B												
	BH07_0.1	21/03/2022	Soil	1 x J / B	1	1	1	1	1				1			
	BH07_0.5	21/03/2022	Soil	1 x J / B	1	1	1	1	1				1			
	BH07_1	21/03/2022	Soil	1 x J / B												
	BH08_0.1	21/03/2022	Soil	1 x J / B	1	1	1	1	1				1			
	BH08_0.5	21/03/2022	Soil	1 x J / B	1	1	1	1	1				1			
	BH08_1	21/03/2022	Soil	1 x J / B												
Total					6	6	6	6	6				6			

Handwritten signature

Report: 875523 202434



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St Leonards 2065
Phone: (02) 9496 7700
Attention: **Callum Laker/ Chris Cook**
Email: callum.laker@cardno.com.au; christopher.cook@cardno.com.au
Mobile: **0417 493 692**

Chain of Custody

To: Eurofins | mgt
Address: Unit F3, Building F
16 Mars Road
LANE COVE WEST NSW 2066
Phone: (02) 9900 8400
Email: EnviroSampleNSW@eurofins.com.au

Date: 28/03/2022
TAT: Standard
Purchase Order: 8202118201
Eurofins | mgt Quote ID: 180626CAR
Project number: 8202118201
Project name: Shoalhaven Hospital
Data output format: PDF, Esdat

Attempt to chill evident: Y / N

Sample Temperature on Arrival: _____

Notes: Please include Contam.NSW@Cardno.com.au on all deliverables.

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Eurofins Sample Number	Cardno Sample Number	Sample Date	Matrix	Container Plastic Tube – PT Bag – B Petri Dish – PD Plastic Bottle – PB Plastic Jar – PJ Glass Jar – GJ Glass Bottle – GB Glass Vial – GV	Analytes																		Applicable Suites	Sample Comments
					Single Analytes																			
					TRH	TRH w/ Silica Gel	BTEXN	PAHS	OC	OP	PCB	1 Metal	Metals (exc. Hg)	Metals (Inc. Hg)	Metals (Inc. Hg & Cr6)	Total Phenols	VOCs	Hold	RT Suite - pH, CEC, Clay, TOC, WFE	Asbestos in Soil (NEPM)	EC	Asbestos in Building Mat.		
	HA05_0.1	21/03/2022	Soil	1 x J / B	1		1	1	1	1						1							87 B14	STD 8 METALS
	HA05_0.5	21/03/2022	Soil	1 x J / B											1									STD 8 METALS
	HA05_0.8	21/03/2022	Soil	1 x J / B											1									
	HA06_0.1	21/03/2022	Soil	1 x J / B	1		1	1	1	1							1						87 B14	STD 8 METALS
	HA07_0.1	21/03/2022	Soil	1 x J / B	1		1	1	1	1													87 B14	STD 8 METALS
	HA07_0.5	21/03/2022	Soil	1 x J / B											1									
	HA08_0.1	21/03/2022	Soil	1 x J / B	1		1	1	1	1							1						87 B14	STD 8 METALS
	HA08_0.4	21/03/2022	Soil	1 x J / B																				
	HA09_0.1	21/03/2022	Soil	1 x J / B	1		1	1	1	1							1						87 B14	STD 8 METALS
	HA09_0.3	21/03/2022	Soil	1 x J / B											1									
	TP11_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1						87 B14	STD 8 METALS
	TP11_0.5	22/03/2022	Soil	1 x J / B																				
	TP11_1	22/03/2022	Soil	1 x J / B											1									
	TP11_1.5	22/03/2022	Soil	1 x J / B	1		1	1	1	1					1								87 B14	STD 8 METALS
	TP11_2	22/03/2022	Soil	1 x J / B																				
Total					7		7	7	7	7				7				8		5				

Arty Chris

Report: 875523

292434



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					Single Analytes																								
					TRH	TRH w/ Silica Gel	BTXN	PAHS	OCF	OPP	PCB	1 Metal	Metals (exc. Hg)	Metals (inc. Hg)	Metals (inc Hg & Cr6)	Total Phenols	VOCs	Hold	A11 Suite - pH, EEC, Day, TOC, WFE	Asbestos in Soil (NEPM)	EC	Asbestos in Building Mat.				Select Analyte or Delete to Clear	Select Analyte or Delete to Clear	Select Analyte or Delete to Clear	
	TP11_2.5	22/03/2022	Soil	1 x J / B											1														
	TP12_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1									B7 B14	STD 8 METALS		
	TP12_0.5	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1									B7 B14	STD 8 METALS		
	TP12_1	22/03/2022	Soil	1 x J / B																									
	TP13_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1									B7 B14	STD 8 METALS		
	TP13_0.5	22/03/2022	Soil	1 x J / B	1		1	1									1									B7	STD 8 METALS		
	TP14_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1									B7 B14	STD 8 METALS		
	TP14_0.1_PACM	22/03/2022	Building Material	1 x B															1										
	TP14_0.5	22/03/2022	Soil	1 x J / B	1		1	1									1									B7	STD 8 METALS		
	TP14_1	22/03/2022	Soil	1 x J / B																									
	TP15_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1			1						B7 B14	STD 8 METALS		
	TP15_0.5	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1									B7 B14	STD 8 METALS		
	TP15_1	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1									B7 B14	STD 8 METALS		
	TP15_1.5	22/03/2022	Soil	1 x J / B																									
	TP16_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1			1						B7 B14	STD 8 METALS		
Total					10		10	10	8	8				10			5		8			1							

Anthony

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Eurofins Sample Number	Cardno Sample Number	Sample Date	Matrix	Container Plastic Tube – PT Bag – B Petri Dish – PD Plastic Bottle – PB Plastic Jar – PJ Glass Jar – GJ Glass Bottle – GB Glass Vial – GV	Analytes																			Applicable Suites	Sample Comments	
					Single Analytes																					
					TRH	TRH w/ Silica Gel	BTEXN	PAHS	OCF	OPP	PCB	1 Metal	Metals (exc. Hg)	Metals (inc. Hg)	Metals (inc. Hg & Cr6)	Total Phenols	VOCs	Hold	R41 Suite - PH, CFC, CHY, TOC, HFE	Asbestos in Soil (NEPM)	EC	PH - Asbestos only Suite - 11 PH, EC, G, Asbestos, BOD	Asbestos in Building Mat.			
	TP16_0.5	22/03/2022	Soil	1 x J / B	1		1	1	1	1													B7 B14	STD 8 METALS		
	TP16_1	22/03/2022	Soil	1 x J / B	1		1	1	1	1					1								B7 B14	STD 8 METALS		
	TP17_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1						B7 B14	STD 8 METALS		
	TP17_0.5	22/03/2022	Soil	1 x J / B	1		1	1															B7	STD 8 METALS		
	TP18_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1						B7 B14	STD 8 METALS		
	TP18_0.5	22/03/2022	Soil	1 x J / B	1		1	1							1								B7	STD 8 METALS		
	TP18_1	22/03/2022	Soil	1 x J / B	1		1	1															B7	STD 8 METALS		
	TP19_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1						B7 B14	STD 8 METALS		
	TP19_0.5	22/03/2022	Soil	1 x J / B	1		1	1	1	1													B7 B14	STD 8 METALS		
	TP19_0.9	22/03/2022	Soil	1 x J / B	1		1	1							1								B7	STD 8 METALS		
	TP20_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1						B7 B14	STD 8 METALS		
	TP20_0.1_PACM	22/03/2022	Building Material	1 X B															1							
	TP20_0.4	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1						B7 B14	STD 8 METALS		
	TP20_0.4_PACM	22/03/2022	Building Material	1 X B															1							
	TP20_0.7	22/03/2022	Soil	1 x J / B	1		1	1															B7	STD 8 METALS		
Total					13		13	13	8	8					13				3	5		2				

Signature

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2924384



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					Single Analytes																								
					TRH	TRH w/ Silica Gel	BTEXN	PAHS	OCF	OPP	PCB	1 Metal	Metals (exc. Hg)	Metals (inc. Hg)	Metals (inc. Hg & Cr6)	Total Phenols	VOCs	Hold	221 Solids - pH, CEC, Clay, TOC, NRE	Asbestos In Soil (NEPM)	EC	228 - Asbestos (only Asbestos 12 pH, EC, CL, Asbestos, 228)			Asbestos In Building Mat.	Select Analyte or Delete to Clear	Select Analyte or Delete to Clear	Select Analyte or Delete to Clear	
	TP20_1	22/03/2022	Soil	1 x J / B											1														
	TP21_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1										B7 B14	STD 8 METALS	
	TP21_0.5	22/03/2022	Soil	1 x J / B	1		1	1									1										B7	STD 8 METALS	
	TP21_1	22/03/2022	Soil	1 x J / B											1														
	TP22_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1										B7 B14	STD 8 METALS	
	TP22_0.5	22/03/2022	Soil	1 x J / B	1		1	1									1										B7	STD 8 METALS	
	TP22_1	22/03/2022	Soil	1 x J / B											1														
	TP23_0.1	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1										B7 B14	STD 8 METALS	
	TP23_0.3	22/03/2022	Soil	1 x J / B	1		1	1	1	1							1										B7 B14	STD 8 METALS	
	TP23_0.3_PACM	22/03/2022	Building Material	1 X B																1									
	TP23_0.7	22/03/2022	Soil	1 x J / B	1		1	1									1										B7	STD 8 METALS	
	TP23_1	22/03/2022	Soil	1 x J / B											1														
	TP24_0.1	23/03/2022	Soil	1 x J / B	1		1	1	1	1							1										B7 B14	STD 8 METALS	
	TP24_0.5	23/03/2022	Soil	1 x J / B											1														
	TP24_1	23/03/2022	Soil	1 x J / B											1														
Total					8		8	8	5	5					8			6		6		1							

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					Single Analytes																						
					TRH	TRH w/ Silica Gel	BTEXN	PAHS	OCF	OPP	PCB	1 Metal	Metals (exc. Hg)	Metals (inc. Hg)	Metals (inc Hg & Cr6)	Total Phenols	VOCs	Hold	201 Suite – pH, Cl, Ca, Mg, TOC, S&P	Asbestos in Soil (NEPM)	EC	202 Suite – pH, Cl, Ca, Mg, TOC, S&P	Asbestos in Building Mat.				Select Analyte or Delete to Clear
	TP25_0.1	23/03/2022	Soil	1 x J / B	1		1	1	1	1				1			1								87 B14	STD 8 METALS	
	TP25_0.5	23/03/2022	Soil	1 x J / B											1												
	TP25_1	23/03/2022	Soil	1 x J / B											1												
	TP26_0.1	23/03/2022	Soil	1 x J / B	1		1	1	1	1				1			1								87 B14	STD 8 METALS	
	TP26_0.5	23/03/2022	Soil	1 x J / B											1												
	TP27_0.1	23/03/2022	Soil	1 x J / B	1		1	1	1	1				1			1								87 B14	STD 8 METALS	
	TP27_0.5	23/03/2022	Soil	1 x J / B											1												
	TP28_0.1	23/03/2022	Soil	1 x J / B	1		1	1	1	1				1			1								87 B14	STD 8 METALS	
	TP28_0.5	23/03/2022	Soil	1 x J / B											1												
	TP28_1	23/03/2022	Soil	1 x J / B											1												
	TP29_0.1	23/03/2022	Soil	1 x J / B	1		1	1	1	1				1			1								87 B14	STD 8 METALS	
	TP29_0.5	23/03/2022	Soil	1 x J / B											1												
	TP30_0.1	23/03/2022	Soil	1 x J / B	1		1	1	1	1				1			1								87 B14	STD 8 METALS	
	TP30_0.5	23/03/2022	Soil	1 x J / B											1												
	TP30_1	23/03/2022	Soil	1 x J / B											1												
Total					6		6	6	6	6				6			9		6								

Signature

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292434

About Cardno

Cardno is a professional infrastructure and environmental services company, with expertise in the development and improvement of physical and social infrastructure for communities around the world. Cardno's team includes leading professionals who plan, design, manage and deliver sustainable projects and community programs.

Contact

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now

