PRELIMINARY RISK SCREEN ASSESSMENT REPORT

76-156 CANTERBURY ROAD EAST AND 705-775 & 785-805 PRINCES HIGHWAY LARA, VICTORIA

LARA FARMS PTY LTD

21 JUNE 2023

AAA Environmental

Report Title:
Preliminary Risk Screen Assessment Report
76-156 Canterbury Road East and
705-775 & 785-805 Princes Highway, Lara, Victoria
Lara Farms Pty Ltd
21 June 2023

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Document Authorisation

Authorised by:

Environmental Auditor
(appointed pursuant to the Environment Protection Act 2017)

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Executive Summary

Mr Nunn is an appointed Environmental Auditor under Division 1 of Part 8.3 of the Environment Protection Act 2017 and was requested by a representative of the site owner, to conduct a Preliminary Risk Screen Assessment (PRSA) of the property described as 76-156 Canterbury Road East and 705-775 & 785-805 Princes Highway, Lara, Victoria, comprising an area of approximately 114.3 hectares.

The PRSA was completed under Division 2 of Part 8.3 of the Environment Protection Act 2017.

The PRSA is required to comply with the expected Planning Permit requirements to be issued by the City of Greater Geelong for the proposed residential and likely commercial / industrial uses of the site.

The Rev1 version of this PRSA report was issued following review of the initial PRSA report by EPA. EPA requested that the proposed Audit area include the entire northern allotment (76-156 Canterbury Road East), rather than just the potentially contaminated eastern paddock of that allotment, which had initially been used to determine the proposed Audit area.

Soil Contamination Status

The historical information was provided for the site in an Environmental Report prepared by Environmental Site Assessments Pty Ltd (ESA).

The historical information conclusions were supported by the findings of a verification soil sampling program which initially comprised the assessment of shallow soils at 43 locations across the site (biased to the northern residential area), and then subsequent to the Auditor's engagement, a further soil sampling program at 19 locations across the central and southern areas of the site.

The historical data and soil verification data at the site indicated a low potential for soil contamination to be present at the site, other than for an area of the site comprising the eastern paddock of the northern allotment which may have been used for poultry farming. Although no contamination was evident in the eastern paddock of the northern allotment as part of the soil verification program, the Auditor considered that there was potential for the burial of wastes associated with possible historic poultry use and burial of waste associated with the demolition of sheds and other buildings and infrastructure associated with that use.

Due to the requirement to undertake a more detailed assessment of soils within the eastern paddock of the northern allotment that may have been in use for poultry farming, the PRSA has concluded that an Environmental Audit is required for the northern allotment of the site, with the Environmental Audit focused on the eastern paddock area, which was the subject of the suspected poultry farming operations.

Groundwater Contamination Status

The application of fertilisers and pesticides under livestock grazing use is considered to present a low risk of groundwater contamination. This conclusion as supported by the absence of any pesticides in shallow soils based on the findings of the soil verification program. The clayey nature of the site soils would also be expected to retard migration of any introduced contaminants and so the risk of groundwater contamination occurring at the site is considered to be low to negligible.

Potential contamination impacts to groundwater from the burial of wastes associated with historic poultry farming uses is also considered to be low given the age of these wastes (if present) and the expected inert nature of any buried demolition wastes (if present). As the northern allotment of the site (which includes the potential historic poultry farming use) has been determined to require an Environmental Audit, the need for any groundwater assessment of this area of the site would be determined based on the progressive findings of the Environmental Audit process.

Likelihood of Contamination Based on PSI Assessment

Based on the results of the PSI and the findings of the limited soil verification works, the Auditor has concluded that soil contamination is not expected to occur across the area of the site that has been used solely for grazing purposes. The risk of groundwater contamination from site sources occurring across this area of the site is also considered to be low to negligible.

The operation of a section of the site, comprising the eastern paddock of the northern allotment, for possible poultry farming purposes may have resulted in the burial of waste associated with those operations and as a result of the subsequent demolition of sheds and other structures that were historically present in this area of the site. Potential contamination impacts to the groundwater from the burial of wastes associated with historic poultry farming uses is considered to be low given the age of these wastes (if present) and the expected inert nature of any buried demolition wastes (if present).

PRSA Outcome

Based on the above conclusions, separate PRSA statements have been included in the attachments to this report for the two defined areas of the site. A figure showing these two areas is included in Figure 6 of the PRSA Report.

The Auditor has concluded that the PRSA outcome for the land parcel defined as 76-156 Canterbury Road East, Lara, Victoria (the northern allotment, including the eastern paddock which may have been used for poultry farming) is:

Likely that contaminated land is present, and an environmental audit is required.

The Auditor has concluded that the PRSA outcome for the land parcel defined as 705-775 & 785-805 Princes Highway, Lara, Victoria (the remainder of the site outside the northern allotment) is:

Unlikely that contaminated land is present, and no environmental audit is required.

The area of the site applicable to each PRSA statement is included in the Certificates of Title and associated plans attached to each of those PRSA statements.

Summary of PRSA Information

Category	Details
Auditor	John Nunn
Auditor Account Number	EXT001145
Name of Person Requesting PRSA	Matt Deledio
Relationship of Person Requesting PRSA to site	Development Manager
Name of site owner	Lara Farms Pty Ltd
Date of Auditor Engagement	14 December 2022
Completion date of the PRSA	21 June 2023
Reason for PRSA	Planning Permit Requirement
Elements of the environment assessed	Land, Water and Ambient Sound
Planning permit number or requirement detail if applicable	NA
EPA Region	South West
Municipality	City of Greater Geelong
Dominant Lot on Plan	Lot 2 LP98249 Volume 09002 Folio 660
Additional Lot on Plan(s)	Lot 1 TP156147 Volume 09002 Folio 922 Crown Allotment 3C Section 15B Township of Lara Parish of Moranghurk Volume 9925 Folio 167
Site Premises name	
Building/Complex sub-unit No.	
Street/Lot – Lower No.	76
Street/Lot – Upper no.	156
Street Name	Canterbury
Street Type	Road
Street Suffix	East
Street/Lot – Lower No.	705
Street/Lot – Upper no.	775
Street Name	Princes
Street Type	Highway
Street/Lot – Lower No.	785
Street/Lot – Upper no.	805
Street Name	Princes
Street Type	Highway
Suburb	Lara
Postcode	3212
Site Area	114.3 ha (approx.)
Plan of site/premises showing the site boundary attached	Figure 1 of the PRSA
Members and Categories of Support Team Utilised	None

Category	Details
Further works or requirements	None
Nature and extent of continuing risk of harm	None
Outcomes of the PRSA report	76-156 Canterbury Road East, Lara, Victoria (the northern allotment, including the eastern paddock which may have been used for poultry farming) is: **Likely that contaminated land is present, and an environmental audit is required.** 705-775 & 785-805 Princes Highway, Lara, Victoria (the remainder of the site outside the northern allotment) is: **Unlikely that contaminated land is present, and no environmental audit is required.** The area of the site applicable to each PRSA statement is included in the Certificates of Title and associated plans attached to each of those PRSA statements.

Physical Site Information

Category	Details
Historical land use	Farming / Grazing / Potential historic poultry farm in eastern paddock of northern allotment
Current land use	Vacant
Proposed land use	Residential subdivision in the north zone. Likely commercial / industrial use in the south zone.
Current land use zoning	Farming Zone (FZ)
Proposed land use zoning	To be determined
Surrounding land use - north	Canterbury Road East, then farming land, followed by Hovells Creek and associated reserve areas, and then low density residential
Surrounding land use - south	Farming land, then Rennie Street and the Princes Freeway, followed by a residential subdivision
Surrounding land use - east	Central and Southern Area - Rennie Street, followed by the Princes Freeway, then MacGregor Court, then low density residential and commercial uses. Northern Area - Rennie Street, followed by the Princes Freeway, then Hovells Creek Reserve and then Hovells Creek.
Surrounding land use - west	Geelong – Melbourne Railway Line and then farming land and commercial uses
Has EPA been notified about the site under Section 40 of the Environment Protection Act?	No
Nearest surface water receptor-name	Hovells Creek
Nearest surface water receptor - direction	North
Site aquifer formation	Newer Volcanics
Groundwater segment	Segment C

Common Abbreviations

Term	Definition
ACM	Asbestos Containing Materials
AF	Soil vapour to indoor air attenuation factor
AHD	Australian Height Datum
ALS	ALS Environmental
ANZECC	Australian and New Zealand Environment and Conservation Council
AS	Australian Standards
NEPM	National Environment Protection (Assessment of Site Contamination) Measure (2013)
CEC	Cation Exchange Capacity
COC	Chain of Custody
CSM	Conceptual Site Model
CT	Certificate of Title
cis-1,2-DCE	cis-1,2-Dichloroethene
DO	Dissolved Oxygen
DQI	Data Quality Indicators
DQO	Data Quality Objectives
DSI	Detailed Site Investigation
EAO	Environmental Audit Overlay
EC	Electrical Conductivity
Eco-SSLs	US EPA Ecological Soil Screening Levels
EIL	Ecological Investigation Level
EPA	Environment Protection Authority Victoria
ESL	Ecological Screening Level
GQRUZ	Groundwater Quality Restricted Use Zone
ha	Hectares
HI	Hazard Index
HIL	Health Investigation Level
HSL	Health Screening Level
ILCR	Incremental lifetime cancer risk
km	Kilometres
LOR	Limit of Reporting
m	Metres
m bgl	Metres Below Ground Level
mg/kg	Milligrams per Kilogram
mg/L	Milligrams per Litre
MGT	Eurofins MGT
ml	Millilitres
NAPL	Non-Aqueous Phase Liquid
NATA	National Association of Testing Authorities
NC	Not Calculated
ND	Not Detected
NEPC	National Environmental Protection Council
NHMRC	National Health and Medical Research Council
OCPs	Organochlorine Pesticides
OPPs	Organophosphorus pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PCE	Perchloroethene / tetrachloroethene
pH	A measure of acidity, hydrogen ion activity
PID	Photoionisation Detector
ppb	Parts Per Billion
ppm	Parts Per Million
PSI	Preliminary Site Investigation

Term	Definition
QA/QC	Quality Assurance / Quality Control
RHSV	Royal Historical Society of Victoria
RPD	Relative Percent Difference
RSLs	US EPA Regional Screening Levels
SAQP	Sampling, Analysis and Quality Plan
SD	Standard Deviation
SEPPs	State Environment Protection Policies
SIW	Solid Inert Waste
SQGs	Canadian Soil Quality Guidelines
TCE	Trichloroethene
TDS	Total Dissolved Solids
TOC	Total Organic Carbon
TPH	Total Petroleum Hydrocarbons
TRH	Total Recoverable Hydrocarbons
US EPA	United States Environmental Protection Agency
UST / AST	Underground / Aboveground Storage Tank
VC	Vinyl Chloride
VOCs	Volatile Organic Compounds
VVG	Visualising Victoria's Groundwater Database
95% UCL	95% Upper Confidence Level of the Mean

1 Introduction

1.1 Background Information

Mr Nunn is an appointed Environmental Auditor under Division 1 of Part 8.3 of the Environment Protection Act 2017 and was requested by a representative of the site owner to conduct a Preliminary Risk Screen Assessment (PRSA) of the property described as 76-156 Canterbury Road East and 705-775 & 785-805 Princes Highway, Lara, Victoria (the site).

A site location and layout plan is provided as Figure 1 attached to this report.

The subject site of this PRSA comprises an area of approximately 114.3 hectares and is described by the Certificates of Title outlined in Table 1. Copies of the current Certificates of Title are provided in Appendix A of this report.

The site is proposed to be subdivided into residential allotments in the northern zone of the site and a likely commercial / industrial zone in the south of the site. The development plan had not been finalised at the time of writing this PRSA. The PRSA is required to meet the expected Planning Permit conditions required by the City of Greater Geelong. The area is currently zoned Farming Zone (FZ), which will need to be amended for the proposed land uses.

This PRSA was prepared in accordance with the prevailing guidance issued by the Environment Protection Authority Victoria (EPA) for the conduct of a PRSA. This report details the outcome of the PRSA completed for the subject site.

The PRSA was completed under Division 2 of Part 8.3 of the Environment Protection Act 2017.

The Rev1 version of this PRSA report was issued following review of the initial PRSA report by EPA. EPA requested that the proposed Audit area include the entire northern allotment (76-156 Canterbury Road East), rather than just the potentially contaminated eastern paddock of that allotment, which had initially been used to determine the proposed Audit area.

1.2 PRSA Scope

The scope of the PRSA included an assessment of the environmental elements of *Land*, *Groundwater* and *Ambient Sound*. The site is bounded on its north west side by the Geelong – Melbourne Railway Line and to the south east by the Princes Freeway and so the consideration of the environmental element of *Ambient Sound* was considered to be relevant in this setting. The environmental element of *Surface water* was excluded from the assessment on the basis that no natural surface water bodies occur within the site. The assessment of potential site related groundwater impacts on the nearby surface water of Hovells Creek was considered as part of the groundwater risk assessment. The element of *Ambient Air* is not considered to be relevant in this setting and has not been considered as part of the PRSA.

Relevant details associated with the PRSA are presented in Table 1.

Table 1 – Summary of PRSA Information

Category	Details
Name of Auditor	Mr Nunn
Site address	76-156 Canterbury Road East and 705-775 & 785-805 Princes Highway, Lara, Victoria

Category	Details
Certificate of Title/Property description	Lot 2 LP98249 Volume 09002 Folio 660 (southern allotment) Lot 1 TP156147 Volume 09002 Folio 922 (central allotment) Crown Allotment 3C Section 15B Township of Lara Parish of Moranghurk Volume 9925 Folio 167 (northern allotment)
Site Owner	Lara Farms Pty Ltd
Proposed use of the Site	The PRSA has considered the proposed use of the site as follows: • Subdivision into individual residential allotments in the northern zone of the site; and • Commercial / industrial uses in the southern zone of the site. A proposed plan of subdivision is not currently available.
Reason for PRSA	The PRSA is required to meet the expected Planning Permit Conditions
Elements of environment assessed	Land, water (groundwater only), ambient sound
Current site zoning	Farming Zone (FZ)
Standards considered	Environment Reference Standard, May 2021. Other guidance and reference documents are included in Section 1.6 of this report.
Assumptions made by the Environmental Auditor	The environmental element of *Ambient Sound* has been considered in the PRSA due to the residential area of the site having boundaries exposed to the Geelong- Melbourne Railway Line to the north west and the Princes Freeway to the south east. The detail of the management of the required noise attenuation zones has not been included in the PRSA, on the assumption that Council will require this element to be appropriately protected as part of the Planning Permit process
Limitations on the Environmental Auditor's assessment	The Auditor has considered the proposed land development which is a combination of residential and commercial / industrial use. The entire site has been assessed against residential use criteria to provide a conservative assessment of the condition of the site. Should substantial changes be made to the proposed development that alter the validity of this PRSA, then another assessment would need to be completed.
Exclusions from the assessment and rationale	*Surface water* has been excluded from the assessment because no natural surface water bodies are present on the site. The element of *Ambient Air* is not considered to apply in this residential / commercial / industrial development setting.
Completion date of PRSA	21 June 2023

1.3 PRSA Objectives

In accordance with Section 204(2) of the Environment Protection Act 2017, the objectives of the PRSA are outlined as follows:

- assess the likelihood of the presence of contaminated land;
- determine if an environmental audit is required; and
- recommend a scope for the environmental audit if an environmental audit is required.

1.4 PRSA Methodology

The Auditor was involved in the following activities in order to fulfil the scope of the PRSA completed for the site:

- The Auditor completed a site inspection on 22 April 2023 to observe the site conditions;
- Review and verification of the *Environmental Assessment Report*, *Further Soil Investigation Report* and *Landfill Gas and Odour Validation Program Report* prepared by Environmental Site Assessments Pty Ltd;
- Developed an initial conceptual site model to identify contamination sources, potential receptors and potential pathways;
- Provided an assessment of whether the site is likely to be contaminated land;
- Considered the requirement for further assessment of the site;
- Determined whether an environmental audit is required to assess the risk of harm posed by identified contamination; and
- Prepared a PRSA statement and PRSA report in accordance with Section 205, Part 8.3 of the Environment Protection Act 2017 and prevailing EPA guidance.

1.5 Assessment Consultant Reports

The assessment consultant for this project was Environmental Site Assessments Pty Ltd. The following reports were reviewed by the Auditor as part of the PRSA:

- Environmental Site Assessments Pty Ltd (28 May 2019). Environmental Assessment – 76-156 Canterbury Road East, 705-775 Princes Hwy & 785-805 Princes Hwy, Lara (ESA/447/2019). This report is herein referred to as the Environmental Assessment Report.
- Environmental Site Assessments Pty Ltd (12 January 2023). Further Soil Investigation - 76-156 Canterbury Road East, 705-775 & 785-805 Princes Hwy, Lara (ESA/2023/005). This report is herein referred to as the Further Soil Investigation Report.
- Environmental Site Assessments Pty Ltd (7 March 2023). Landfill Gas and Odour Validation Program - 76-156 Canterbury Road East, 705-775 & 785-805 Princes Hwy, Lara (ESA/2023/013). This report is herein referred to as the LFG and Odour Report.

The Environmental Site Assessments Pty Ltd reports are included as Appendix B, C and D of this PRSA Report.

1.6 Guidance Documents

The following published guidelines and standards were considered during the PRSA of the site:

Guidelines issued by the Authority under Section 203 of the Environment Protection Act 2017

- EPA Victoria (2022). Guideline for Conducting Preliminary Risk Screen Assessments. EPA Publication 2021. February 2022.
- EPA Victoria (2022). Environmental Auditor Guidelines for Appointment and Conduct. EPA Publication 865.13. March 2022.
- EPA Victoria (2022). Groundwater Sampling Guidelines. EPA Publication 669.1. February 2022.

- EPA Victoria (2021). Guidance for the Cleanup and Management of Contaminated Groundwater. EPA Publication 2001. July 2021.
- EPA Victoria (2021). Environmental Auditor Guidelines – Provision of Statements and Reports for Environmental Audits and Preliminary Risk Screen Assessments. EPA Publication 2022. August 2021.

Subordinate Legislation

- Victorian Government Gazette (2021). Environment Reference Standard. S245 Wednesday 26 May 2021.
- Victoria Government (2021). Environment Protection Regulations 2021.

National Environment Protection Measures

- National Environment Protection Council (NEPC) (2021). National Environment Protection (Ambient Air Quality) Measure 1998, as amended May 2021.
- National Environment Protection Council (NEPC) (2013). National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended 2013.

Policies

- EPA Victoria (2021). Contaminated Land Policy. Publication 1915. February 2021.

EPA Victoria Publications

- EPA Victoria (2022). Hydrogeological Assessment (Groundwater Quality) Guidelines. EPA Publication 668.1. October 2022.
- EPA Victoria (2021). Proposed Methodology for Deriving Background Level Concentration when Assessing Potentially Contaminated Land. EPA Publication 1936. January 2021.
- EPA Victoria (2021). Contaminated Land: Understanding Section 35 of the *Environment Protection Act 2017.* EPA Publication 1940. February 2021.
- EPA Victoria (2021). Assessing and Controlling Contaminated Land Risks: A Guide to Meeting the Duty to Manage for those in Management or Control of Land. EPA Publication 1977. June 2021.
- EPA Victoria (2021). Guide to the Environment Reference Standard. EPA Publication 1992. June 2021.
- EPA Victoria (2021). Using SEPPs and WMPs in the New Environment Protection Framework. EPA Publication 1994. June 2021.
- EPA Victoria (2021). *Proposed Guideline.* Notifiable Contamination Guideline – Duty to Notify of Contaminated Land. EPA Publication 2008.1. July 2021.
- EPA Victoria (2018). Landfill gas fugitive emissions monitoring guideline. EPA Publication 1984. February 2018.
- EPA Victoria (2017). Assessing planning proposals within the buffer of a landfill. EPA Publication 1942. October 2017.
- EPA Victoria (2015). Siting, design, operation and rehabilitation of landfills. EPA Publication 788.3. August 2015.

Other Published Guidelines and Standards

- Australian & New Zealand Guidelines for Fresh and Marine Water Quality website (https://www.waterquality.gov.au/anz-guidelines).
- Australian Government. National Health and Medical Research Council (2008). Guidelines for Managing Risks in Recreational Waters.
- Australian & New Zealand Environment & Conservation Council and Agriculture & Resource Management Council of Australia and New Zealand (2000). Australian and New Zealand Guidelines for Fresh and Marine Water Quality. National Water Quality Management Strategy.
- CRC Care National Remediation Framework Website. (https://www.crccare.com/knowledge-sharing/national-remediation-framework).
- Canadian Council of Ministers of the Environment (2007). Canadian Environmental Quality Guidelines (www.ccme.ca/en/resources/canadian_environmental_quality_guidelines/index.html).
- Department of Environment, Land, Water and Planning (July 2021). Potentially Contaminated Land – Planning Practice Note 30.
- Dutch National Institute of Public Health and the Environment, RIVM (2013). Soil Remediation Circular, Version of 1 July 2013.
- Standards Australia (2005). Australian Standard, Guide to the sampling and investigation of potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds. AS4482.1 – 2005.
- Standards Australia (1999). Australian Standard, Guide to the sampling and investigation of potentially contaminated soil, Part 2: Volatile Substances. AS4482.2 – 1999.
- Victorian Government Department of Sustainability and Environment (2010). Victorian Best Practice Guidelines for Assessing and Managing Coastal Acid Sulfate Soils. October 2010.

2 Site Characterisation

2.1 Current Site Status

The site subject to this PRSA comprises an irregular shaped parcel of land with an area of approximately 114.3 hectares. The site was formerly in use as part of a farm used for stock grazing purposes.

At the time of inspection by the Auditor, the site comprised vacant land.

The Auditor is therefore familiar with the condition of the site and has also verified the condition of the site as reported by Environmental Site Assessments Pty Ltd.

The site layout is shown in Figure 1 attached to this Report.

2.2 Proposed Use

The northern zone of the subject site is proposed to be subdivided into residential allotments. A subdivision plan was not available at the time of this PRSA. The southern zone of the site, which comprises a buffer zone to the Geelong Ring Road Employment Precinct, is expected to be developed for a non-sensitive use, most likely a commercial / industrial development.

2.3 Zoning

The current zoning of the site is Farming Zone (FZ). The zoning for the proposed development is expected to change from the current zoning.

2.4 Site Features and Potential Sources of Contamination

2.4.1 Above ground Storage Tanks

Site inspections completed by the Auditor and the assessment consultant indicated that no above ground storage tanks (ASTs) or evidence of former ASTs were identified at the PRSA site.

2.4.2 Underground Storage Tanks

Site inspections completed by the Auditor and the assessment consultant indicated that no underground storage tanks (USTs) or evidence of former USTs were identified at the PRSA site.

2.4.3 Other Potential Sources

No other potential sources of contamination were identified.

The site inspection completed by the Auditor on 22 April 2023 confirmed that the site features and potential sources of contamination were consistent with those identified by Environmental Site Assessments Pty Ltd as outlined in the Environmental Assessment Report. The site comprised vacant farm land at the time of the Auditor's inspection.

2.5 Surrounding Land Use

The following summarises the land uses in the immediate vicinity of the site:

- North – Canterbury Road East, then farming land, followed by Hovells Creek and associated reserve areas, and then low density residential.

- South – Rennie Street, followed by the Princes Freeway and then a residential subdivision.
- East:
    - Central and Southern Area – Rennie Street, followed by the Princes Freeway, then MacGregor Court, then low density residential and commercial uses.
    - Northern Area – Rennie Street, followed by the Princes Freeway, then Hovells Creek Reserve and then Hovells Creek.
- West – Geelong – Melbourne Railway Line and then farming land and commercial uses.

The Auditor confirmed the surrounding site uses during the inspection of the site on 22 April 2023.

2.6 Environmental Setting Review

2.6.1 Topography

The regional topography of the area slopes gently downward from an elevation of approximately 20 m AHD in the south west corner of the site to an elevation of approximately 10 m AHD in the north eastern portion of the site.

2.6.2 Regional Geology and Onsite Soils

According to the 1:50,000 Geelong map (LotSearch), the regional geology in the vicinity of the site is characterised by Tertiary aged basalts of the Newer Volcanics group. The basalts in the northern portion of the site are overlain by Quaternary aged fluvial deposits of the Darley Gravel, which comprises gravel, sand and silt.

The Auditor has reviewed the above information and has confirmed that it is consistent with geological map and the observed site conditions.

Site soil verification works indicated that natural orange brown clayey silt soils were encountered at the surface across the site. No significant anthropogenic materials were identified in the soils.

No stained or odorous soils were encountered at the site.

2.6.3 Acid Sulphate Soils

The Auditor completed a search of the Atlas of Australian Acid Sulphate Soils website[1] maintained by the CSIRO, which indicated that there was an extremely low to low probability of acid sulphate soils occurring at the site. This was confirmed by the LotSearch data.

2.6.4 Regional Hydrology

The nearest surface water body is Hovells Creek, which is located approximately 200 m north of the site at its closest point. The creek occurs to the north and east of the site. Hovells Creek flows in a north to south direction and discharges to Limeburners Bay to the south east of the site. The regional topography slopes downward towards the north east in the direction of the creek.

The Auditor has considered the potential impact to the nearest surface water body as part of the PRSA assessment.

[1] https://www.asris.csiro.au/themes/AcidSulfateSoils.html

2.6.5 Regional and Local Hydrogeology

The Auditor reviewed the Visualising Victoria's Groundwater Database (VVG website) which indicates that the shallow aquifer at the site is expected to be encountered at depths between <5 m and 5 to 10 m below ground level (bgl) across the site within the Newer Volcanics basalt aquifer.

Based on the VVG website, Total Dissolved Solids (TDS) concentrations were expected to range between 3,500 mg/L and 7,000 mg/L in the vicinity of the site.

Groundwater flow direction was expected to be in a north easterly to easterly direction, which is consistent with the observed regional topography and the location and flow direction of Hovells Creek.

No intrusive Hydrogeological Investigation was conducted by Environmental Site Assessments Pty Ltd.

The Auditor has reviewed the available information and has concluded that it is consistent with regional expectations.

2.6.6 Surface Water Receptor

The nearest surface water body is Hovells Creek, which is located approximately 200 m to the north of the site at its nearest point. The creek occurs to the north and east of the site, and flows in a north to south direction, ultimately discharging to Limeburners Bay to the south east of the site.

2.6.7 Groundwater Database Search

A search for registered groundwater users in the vicinity of the site was completed by LotSearch and included in the Environmental Assessment Report. The results of the search indicated there are 123 registered bores within a 2 km radius of the site. The bores were registered for the following uses:

- Irrigation;
- Industrial;
- Miscellaneous;
- Groundwater Investigation;
- Observation;
- Non-Groundwater;
- Domestic; and
- Stock.

According to the LotSearch data, the nearest well registered for stock and domestic purposes (WRK978781) was located 210 m to the north of the site. The bore is expected to be located up hydraulic gradient of the site based on the expected regional groundwater flow direction. This bore was installed to a depth of 16 m and was drilled using air hammer, so it is likely that this well is installed within the basalt. Multiple wells are also located to the south east of the site and registered for sensitive uses. These wells appear to intersect the Moorabool Viaduct Sand, which occurs beneath the Newer Volcanics basalt. Multiple wells are also located at the former Corio Landfill, located approximately 500 m to the southeast of the southern portion of the site. The former Corio Landfill is located down hydraulic gradient of the site, adjacent to Hovells Creek.

3 Auditor Review of PSI

The majority of the PSI information was reported by Environmental Site Assessments Pty Ltd in the initial Environmental Assessment Report. The Auditor has also completed some reviews and this additional information forms part of the overall PSI for the site. The following was included in the PSI:

- Site inspection;
- Review of land planning zones;
- Review of historical Titles;
- Review of the Sands & McDougall Directories from 1960, 1965 and 1970.
- Review of the EnergySafe Victoria cathodic protection records;
- Search of EPA Registers;
- Review of issued Certificates and Statements of Environmental Audit completed in the vicinity of the site; and
- Aerial photograph and Google Earth review (between 1947 and 2022).

The Auditor has reviewed and considered the Environmental Assessment Report prepared by Environmental Site Assessments Pty Ltd in assessing the historical information relating to the site.

3.1 Site Inspection

A site inspection was conducted by Environmental Site Assessments Pty Ltd on 23 May 2019 as part of the initial PSI and soil investigations completed at the site. The following pertinent observations were made:

- The site was previously used for livestock farming.
- The site was bare ground at the time of the inspection.
- No structures, transformers, ASTs or USTs, chemical storage, septic tanks, wastes or spills, potential Asbestos Containing Materials (ACM), fill materials, stockpiles, cut and fill activities, erosion, or surface waters were present at the site.

The Auditor conducted a site inspection on 22 April 2023. At the time of the Auditor's site inspection, the site appearance was consistent with that described by Environmental Site Assessments Pty Ltd. No other significant features were noted.

3.2 Local Government Records

LotSearch obtained the Planning Property information for the site and surrounds in order to review the zoning of the site and adjacent properties.

The review indicated that the site is located within a Farming Zone (FZ), with some nearby land parcels to the north, south, and west also located within a Farming Zone (UGZ). Land to the south west is zoned Industrial 2 Zone (IN2Z) and to the north west as Rural Living Zone (RLZ) and General Residential Zone (GRZ1). Beyond the road reserves to the east of the site, a Rural Living Zone occurs in the south and a Public Park and Recreation Reserve (Hovells Creek Reserve) occurs in the north. The site to the immediate south is zoned as a Farming Zone.

The Auditor has verified that this information was correct at the time of writing this Report.

3.3 Historical Titles

Historical Titles were in included in the LotSearch site information and these have been summarised in the Environmental Assessment Report prepared by Environmental Site Assessments Pty Ltd. The site subject to this PRSA comprises three allotments, referred to as northern, central and southern. The allotment containing the farmhouse and associated sheds located adjacent to Rennie Street is excluded from the land parcel under consideration in this PRSA.

3.3.1 76-156 Canterbury Road East

The following table provides a summary of the historical title information for the northern land parcel.

Land	Volume/ Folio	Parent Volume/Folio	Registered Proprietor(s)	Date	Status
Crown Allotment 3C, Section 15B, Township of Lara, Parish of Moranghurk	9925/167	9824/024	Lara Farms Pty Ltd	24/04/2023	Current
As above	9925/167	9824/024	Donald Nash, David James Nash, Trevor Clarence Nash, John Albert Nash	09/08/2007	Historical
			James Sampson Nash & Donald Nash	25/01/1990	Historical
			Ethel McClelland	09/01/1990	Historical
			Helen Margery Bryce and Frances Elizabeth Willmott	23/06/198	Historical
As above	9824/024	6663/401	Ivan James Lewis	06/05/1988	Historical
As above	6663/401	6363/416	Ivan James Lewis	23/02/1972	Historical
			Abraham Alexander McClelland (Grazier)	19/11/1943	Historical
As above	6363/416	4466/136	Abraham Alexander McClelland (Grazier)	17/11/1939	Historical
As above	4466/136	828/520	Abraham Alexander McClelland & Robert Samuel McClelland (Farmers)	06/05/1921	Historical

Crown Allotment 3B, Section 15B, Parish of Moranghurk, County of Grant	828/520	None	Abraham Alexander McClelland & Robert Samuel McClelland (Farmers)	06/05/1921	Historical
			Archer George Birrell	06/05/1921	Historical
			Sarah Branch	27/11/1894	Historical
			Ellen Smith	24/07/1875	Historical

The following table provides a summary of the historical title information for the central land parcel.

3.3.2 785-805 Princes Highway

Land	Volume/ Folio	Parent Volume/Folio	Registered Proprietor(s)	Date	Status
Lot 1 on Title Plan TP156147J	12385/750	09000/922	Lara Farms Pty Ltd	24/04/2023	Current
As above	09329/313	08743/077		09/08/2007	Historical
				09/03/1979	Historical
Lot 2 on Plan of Subdivision No. 81458	08743/077	4327/349		14/10/1968	Historical
Crown Allotment 4, Section 14A, Parish of Moranghurk, County of Grant	4327/349	2296/169AA		08/02/1954	Historical
				02/06/1920	Historical
As above	2296/169AA	731/63	(Farmer)	21/08/1911	Historical
			(Farmer)	03/05/1904	
			k	09/09/1890	
As above	731/63	None		31/07/1874	Historical

The following table provides a summary of the historical title information for the southern land parcel.

3.3.3 705-775 Princes Highway

Land	Volume/ Folio	Parent Volume/Folio	Registered Proprietor(s)	Date	Status
Lot 2 on Plan of Subdivision 098249 (TP485710V)	09002/660	08986/529	Lara Farms Pty Ltd	24/04/2023	Current
As above	09002/660	08986/529		24/05/2019	Historical
Lot 2 on Plan of Subdivision No. 81458, Parish of Moranghurk, County of Grant	08743/078	4327/349		14/10/1968	Historical

The historical Titles review indicates that the site has been used by farmers and a grazier where the occupation of the owner has been identified. The historical use of the site is considered to be consistent with the current and recent use of the site.

3.4 Sands & McDougall Directories Records

A summary of the entries in the various Sands & McDougall Directories and other historical information was reviewed by the Auditor. No businesses listed in the Sands & McDougall Directories were operated within the subject site. The following provides a brief summary of the businesses registered in the vicinity of the site:

- The 1960 and 1965 Sands & McDougall directories list Lara and Lara Lake, being the urban areas, but does not include street details. An alphabetical listing is only provided.
- The 1970 Sands & McDougall directory did not include country listings other than for the major towns of Ballarat, Bendigo and Geelong. The Geelong listing did not include Lara.

The Auditor notes that the findings of the Sands & McDougall Directories review did not provide any additional information relevant to the PRSA of the site.

3.5 Historical Maps

The LotSearch information included in the Environmental Assessment Report prepared by Environmental Site Assessments Pty Ltd included historical maps from 1914, 1928, 1955 and 1975.

The 1914 map shows the railway line and Princes Highway were present. No other points of interest were noted.

The 1928 map shows a small tip located adjacent to Hovells Creek, east of the site. Geelong Grammar School is located to the south east of the site adjacent to Limeburners Bay.

The 1955 and 1975 maps show no further points of interest.

3.6 EnergySafe Victoria Cathodic Protection Records

Environmental Site Assessments Pty Ltd requested a cathodic protection systems records search for the site by EnergySafe Victoria in order to assess the historical presence of USTs.

The search indicated that no cathodic protection systems had been registered for the site.

3.7 Dangerous Goods Database Records

A Dangerous Goods records search for the site by WorkSafe Victoria was not obtained in this case. No Dangerous Goods are expected to have been present at the site based on the historical site use. Therefore, the Auditor does not consider that the absence of this information is relevant to the outcome of the PRSA.

3.8 EPA Priority Sites Register

The EPA Priority Sites Register is updated on a regular basis by EPA and provides a list of sites which have been issued with the following:

- Clean Up Notice;
- Pollution Abatement Notice;
- Environment Action Notice:
- Site Management Order;
- Improvement Notice; or
- Prohibition Notice.

A Priority Site indicates that the site or a nearby property may present a potential risk to human health or the environment and therefore requires clean up and / or management.

The Auditor conducted a search of the EPA Priority Sites Register on 26 April 2023 which indicated that the site is not listed in the Register. No sites in Lara are listed in the register.

The former Corio Landfill is listed in the EPA Priority Sites Register. The former landfill occurs approximately 500 m to the south east of the site. The former landfill is located down hydraulic gradient of the subject site and so any groundwater contamination associated with the landfill is unlikely to impact on the subject site.

Therefore, the Auditor concluded that Priority Sites were unlikely to pose a source of offsite contamination in the vicinity of the site, that could impact on the environmental condition of the site.

3.9 EPA Landfill Register

The Auditor completed a search of the EPA Landfill Register which indicated that the former Corio Landfill is present within 2 km radius of the site. The landfill is noted above in Section 3.7.

While the Auditor assessed that groundwater contamination from the former landfill was unlikely to impact on the subject site, The Auditor concluded that there was some potential for a landfill gas risk associated with the former landfill given its proximity to the site, albeit that this risk was probably low.

3.10 EPA Register of Permissions

The Auditor undertook a search of the EPA register of facilities licensed under the Environment Protection Act 2017 to identify any potentially significant offsite contamination sources[2].

Downer EDI works Pty Ltd and SNF (Australia) Pty Ltd at 270 - 298 Broderick Rd had Development Licences issued. Symal Waste Resource Recovery at 45 Beach Road, Lara was issued waste recovery permit. Veolia Environmental Services of 140 Broderick Rd, Corio was issued a priority waste management permit. McNish Pty Ltd at 2/2-6 Bates Road, Lara was issued a waste tyre storage permit. Parks Victoria at Branch Rd, Lara was issued a waste and resource recovery permit. Simon Michael Murphy at 19 Cedar Road, Lara was issued an e-waste and waste and resource recovery permit. Australian Decommissioning Services Pty Ltd at 300-400 Broderick Road, Lara was issued a waste designation.

SNF is a manufacturer of water-soluble polymers for treating and recycling water and wastewater and the SNF site is located to the west of the site. The Auditor considered that the SNF site could generate odours that might impact the subject site and so requested that Environmental Site Assessments Pty Ltd undertake a screening odour assessment of that site. No other licensed facilities were considered to pose a potential risk to the proposed uses of the subject site.

3.11 EPA Register of Environmental Audits

The Auditor undertook a search of completed Audit sites within a 2 km radius of the subject site and identified that four Audits had been completed. A summary of each of the Audit findings is included in the following table.

Table 2 – Summary of Completed Environmental Audit Sites

Address/CARMs	Distance and Direction from Subject Site	Former Land Uses	Identified Sources of Contamination	Groundwater Depth and Flow Direction
77 Station Lake Road, Lara (September 2001) 41764-1	1,280 m north	Telstra exchange	Asbestos containing materials (ACM) fragments at surface	Not assessed
10 Bates Rd, Lara (September 1997) 32737-1	1,680 m north	Pyrotechnic and marine flare factory	Pyrotechnic and marine flare manufacturing – dyes and pigments, barium nitrate, phosphorus, TRH, MAH, PAH, pesticides	Not assessed
14-18 Forest Rd North, Lara – Audit Area A (August 2011) 65657-1	1,730 m north west	Vacant land	Adjacent landfill. Disposed wastes included textiles, asbestos sheeting, wire, red bricks, organic material, concrete, tarry/oily residue, metal drums,	One well installed in Area A. Groundwater depth approximately 11 m bgl. Groundwater flow across Areas A and B assessed to be east to south east.

[2] https://www.epa.vic.gov.au/about-epa/public-registers

Address/CARMs	Distance and Direction from Subject Site	Former Land Uses	Identified Sources of Contamination	Groundwater Depth and Flow Direction
			steel, pipes, copper piping, cables, steel tyres, metal engine parts, PVC piping, carpet, tin, glass, furnace bricks, ash and paper. Potential LFG risk but no exceeding concentrations identified. No soil contamination identified. Groundwater lead and zinc above ecosystem protection criteria.	
14-18 Forest Rd North, Lara – Audit Area B (August 2011) 65657-2	1,800 m north west	Former limestone quarry / landfill	As noted above. Asbestos waste. Tarry oily residues containing TRH, benzo(a)pyrene and PAH. Groundwater contamination including lead, zinc, nitrate and free cyanide.	Three wells installed in Area B. Groundwater depth approximately 11 m bgl. Groundwater flow across areas A and B assessed to be east to south east.

Only the 77 Station Lake Road site was located on the same side of Hovells Creek as the subject site, so this is the only site that could pose any potential risk to the subject site. Given the limited contamination occurring at this site and the distance from the subject site, the Auditor has concluded that there is no evidence of Audit Sites within the vicinity of the subject site that could pose a potential risk to the use of the subject site.

3.12 EPA Groundwater Quality Restricted Use Zones

The Auditor undertook a review of the Victoria Unearthed website[3] to identify any potentially significant offsite contamination sources.

No Groundwater Quality Restricted Use Zones (GQRUZs) were identified within a 2 km radius of the site, therefore the potential risk associated with offsite sources of groundwater contamination was considered to be low.

3.13 Aerial Photograph Review

The LotSearch information included in the Environmental Assessment Report prepared by Environmental Site Assessments Pty Ltd included copies of historical aerial photographs which cover the site for the period 1947 to 2009. Copies of the images are included in Appendix 1 of the

[3] https://www.environment.vic.gov.au/sustainability/victoria-unearthed

Environmental Site Assessments Pty Ltd Environmental Assessment Report. The Auditor reviewed the aerial photographs provided and has identified the key findings of the aerial photographs as follows:

- The 1947 aerial photograph indicates that a house and a series of sheds are located in a portion of the site near the central north boundary, with road access to Canterbury Road East. These structures are located within a triangle of land comprising the eastern portion of the northern allotment. This triangle of land appears to have different vegetation to the adjacent paddocks. The triangle of land representing the active area of the northern allotment at this time is hereafter referred to as the eastern paddock. The remaining area of the northern allotment to the west of the triangle of land is hereafter referred to as the western paddock.

  The remaining site area (comprising the central and southern allotments) is divided into a series of paddocks. A residence appears to be present along the central east boundary with access to Rennie Street within the subject site.

  The surrounding area was also used as farming land. A residence occurs to the east of the site across Rennie Street. The Princes Highway has a single lane in each direction.

- The 1963 aerial photograph indicates that the number of sheds located in the triangular land parcel comprising the eastern paddock of the northern allotment have been demolished. The remaining site area is divided into a series of paddocks. The residence located near the central east boundary appears to be still present at the edge of the photograph.

  The surrounding area remains unchanged. The Princes Highway has been duplicated.

- The 1970 aerial photograph indicates that the number of sheds located in the triangular land parcel comprising the eastern paddock of the northern allotment has been greatly reduced and it is possible that only a residence and some associated sheds remain. The remaining site area is divided into a series of paddocks. The residence located near the central east boundary has been removed.

  The surrounding area remains unchanged.

- The 1978 aerial photograph indicates that the buildings previously located in the eastern paddock of the northern allotment have been removed. The triangular land parcel remains distinct from the adjacent paddocks, with fence lines along the west and south boundaries of the eastern paddock land parcel. The remaining site area is divided into a series of paddocks.

  The surrounding area remains unchanged.

- The 1984 aerial photograph indicates that the site is largely unchanged from the previous photograph. The triangular land parcel remains distinct from the adjacent paddocks. The remaining site area is divided into a series of paddocks.

- The 1990 aerial photograph indicates that the site remains largely unchanged from the previous aerial photograph.

  Some development has occurred to the south east of the site across the Princes Freeway, with large sheds appear at a number of allotments. The area to the east of the Princes Freeway, adjacent to MacGregor Court has been subdivided.

- The 2002 aerial photograph indicates that the site remains largely unchanged from the previous aerial photograph.

  A residential development has occurred to the north west of the site across the railway line. Some larger sheds have been constructed to the south west of the site across the railway line. A possible market garden area is present to the north of the site across Canterbury Road East. The area to the east of the Princes Freeway, adjacent to MacGregor Court has been further developed, with multiple sheds present in the south.

- The 2009 aerial photograph indicates that the site remains largely unchanged from the previous aerial photograph.

  Some larger rural residential allotments have been constructed across the railway line to the south of the low density residential development. Otherwise, the surrounding area remains largely unchanged.

- The 2022 Google Earth image indicates that site remains largely unchanged from the previous aerial photograph.

  Further low density residential development has occurred to the north west of the site, beyond the development located closer to the railway line. Otherwise, the surrounding area remains largely unchanged.

3.14 Previous Contamination Assessments

The Auditor is not aware of any previous environmental soil investigations completed at the subject site.

3.15 Areas and Chemicals of Interest

Based on the findings of the site history review, the following activities, areas and chemicals of interest may present an environmental contamination risk at the subject site.

3.15.1 Potential Onsite Sources

Potential onsite sources of contamination were limited to the following:

- Fertilisers – nutrients, metals;
- Pesticides / Herbicides – metals (primarily arsenic and mercury), Organochlorine pesticides (OCP) and Organophosphorus pesticides (OPP);
- Demolition wastes (localised) – inert wastes, ACM; and
- Poultry Farming (localised) – nutrients, buried wastes including chicken carcasses.

3.15.2 Potential Offsite Sources

- Market gardens – contaminants include metals, nutrients, OCPs, other pesticides / herbicides; and
- Landfill Gas - contaminants include methane, carbon dioxide, carbon monoxide, sulphur dioxide.

3.16 Auditor's Conclusion

The Auditor completed a review of the information provided by Environmental Site Assessments Pty

Ltd as part of the Environmental Assessment Report prepared for the site. The information provided by Environmental Site Assessments Pty Ltd generally complied with the requirements outlined in Schedule B(2) of the *National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended 2013*, published by the National Environment Protection Council (NEPC) (2013). This document is herein referred to as the ASC NEPM.

The Auditor considers that information provided by Environmental Site Assessments Pty Ltd and supplemented by additional findings conducted by the Auditor, provide a thorough review of the available site history information, which confirms that the subject site has a long history of use for farming, predominantly grazing purposes. There is some potential, based on review of historical aerial photographs, that the eastern paddock of the northern allotment was used for poultry farming which may have included egg production.

The Auditor considers that all the key contaminants and potentially contaminated media which may occur at the site as a result of both onsite and offsite sources of contamination have been identified.

4 Auditor Review of Site Verification Works

As part of the Environmental Assessment Report prepared for the site by Environmental Site Assessments Pty Ltd in 2019, a detailed soil investigation (comprising 40 locations) was conducted across the northern zone of the site, which was referred to as Zone 1 at the time. This area was intended to be redeveloped for residential purposes and so Environmental Site Assessments Pty Ltd conducted a shallow soil sampling program at a suitable density based on the expected risks from site operations. The sampling density was considerably less than that indicated in AS4482.1 for site characterisation purposes. Some additional limited shallow soil sampling works (three locations) were conducted across the remainder of the site.

As these soil assessment works were conducted well before the engagement of the Auditor to undertake the PRSA in December 2022 and prior to the introduction of the Environment Protection Act 2017, the results of these prior assessment works have been incorporated into the soil verification works for the PRSA.

Following commissioning of the PRSA, the Auditor requested some additional but limited grid soil sampling to be completed by Environmental Site Assessments Pty Ltd across former Zones 2 and 3, which encompasses the central and southern zones of the site, in order to verify the contamination status of soils across the broader site.

The Auditor has reviewed the adequacy of the initial soil assessment and subsequent verification works completed by Environmental Site Assessments Pty Ltd.

A summary of the pertinent information pertaining to the Environmental Site Assessments Pty Ltd 2019 soil investigation is presented in Table 3 below.

Table 3 – Review of Environmental Site Assessments Pty Ltd 2019 Site Assessment Works – Soil Investigation

Item	Work Completed	Auditor's Comments
Soil sampling and sampling plan methodology	The initial soil assessment works comprised the completion of the following investigations for the site: • 43 shallow bores were drilled using a mechanical auger to a maximum depth of approximately 0.15 m. • Near surface samples were collected at each location at a depth of 0-0.15 m. • Soil bores were logged and comprised orange brown clayey silt at all locations. • No odours or visual evidence of contamination was observed. • Soil samples were screened with a photoionisation detector (PID). All PID results were reported as 0 ppm. • Decontamination of all exposed equipment between sampling locations. • The soil sampling was completed by Environmental Site Assessments Pty Ltd on 23 May 2019.	The investigation completed was appropriate for the assessment of the proposed residential development of the northern zone of the site (former Zone 1) and a cursory assessment of Zones 2 and 3 at the time of the investigations in 2019. Samples were collected from the near surface environment in natural soils, consistent with the assessment objective with the expected source of contamination occurring at the surface of the site. The field observations indicated a low potential for site contamination to be present. No odours or visual evidence of contamination was observed. All PID results were reported as 0 ppm indicating a low risk of contamination of the soils with volatile compounds.

Item	Work Completed	Auditor's Comments
Analytical Methods	The laboratory methods are summarised on the laboratory certificates of analysis presented in the Appendices of the report.	The methods adopted are generally consistent with those presented in the ASC NEPM.
Laboratories used	ALS Environmental Pty Ltd was used as the primary laboratory for soil samples. Eurofins Environment Testing Australia Pty Ltd (Eurofins) was used as the secondary laboratory for soil samples.	Both laboratories are NATA accredited for the analyses completed, which provides confidence that the laboratories comply with the specified methods.
Laboratory testing	A total of 43 primary soil samples were submitted for laboratory analysis, one from each assessment location. Samples were typically analysed for 15 metals (arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, lead, mercury, manganese, nickel, selenium, vanadium and zinc), OCP and OPP. Ten samples were analysed for a broad NEPM screen including 15 metals (As, Ba, Be, B, Cd, Cr, Co, Cu, Hg, Mn, Ni, Pb, Se V, Zn), TRH (C6-C36 or 40) / BTEXN, PAH/Phenols (16 PAHs & 12 Phenols), OCP, OPP, Triazine, Atrazine and Bifenthrin, Polychlorinated biphenyls (PCB), Cyanide, Hexavalent Chromium.	The broad range of chemical substances selected for each sample provide a good understanding of the potential contamination status of soils at the assessed locations. Nutrients were not assessed, however, nutrient application under a grazing use is likely to be limited and so this is not considered to be critical to the overall assessment of the site soils.
Quality Assurance / Quality Control	A detailed review of the quality assurance / quality control (QA/QC) program adopted for the investigation is provided in Appendix E of this PRSA report.	The QC program adopted for the site investigation comprised the collection of two blind duplicate, two split duplicate, two trip blank, one field blank and one rinsate blank samples. Only minor RPD exceedances we noted, and these are not considered to be significant in the context of the site assessment. No cross contamination risk was identified in the black samples with all results below the LOR. The QA/QC program adopted for the soil investigation was considered sufficient in this case to provide a level of verification of the analytical results of the assessment.
Guidelines used and their relevance	NEPM EIL / NEPM ESL NEPM HIL A / NEPM HSL A&B	Given that the site is proposed to be used for residential purposes, the adopted criteria were considered to be appropriate for assessing risks to ecological and human receptors.

The 2019 soil sampling locations are provided in Figure 2 of this report.

The Auditor has reviewed the adequacy of the soil verification works completed by Environmental Site Assessments Pty Ltd as part of the 2023 PRSA investigations. A summary of the pertinent information pertaining to the Environmental Site Assessments Pty Ltd 2023 soil investigation is presented in Table 4 below.

Table 4 – Review of Environmental Site Assessments Pty Ltd 2023 Site Verification Works – Soil Investigation

Item	Work Completed	Auditor's Comments
Soil sampling and sampling plan methodology	The soil verification works comprised the completion of the following investigations for the site: • 19 shallow boreholes were constructed using hand auger to a maximum depth of approximately 0.15 m. • Soil samples were collected from each location at a depth of 0-0.15 m. • Soil bores were logged. • No odours or visual evidence of contamination was observed. • Soil samples were screened with a photoionisation detector (PID). • Decontamination of all exposed equipment between sampling locations. • The soil sampling was completed by Environmental Site Assessments Pty Ltd on 6 January 2023.	The investigation completed was appropriate for the limited soil verification work and to support the PRSA conclusions. The field observations were consistent with earlier works conducted across by Environmental Site Assessments Pty Ltd. No odours or visual evidence of contamination was observed. All PID results were reported as 0 ppm indicating a low risk of contamination of the soils with volatile compounds.
Analytical Methods	The laboratory methods are summarised on the laboratory certificates of analysis presented in the Appendices of the report.	The methods adopted are generally consistent with those presented in the ASC NEPM.
Laboratories used	Eurofins Environment Testing Australia Pty Ltd (Eurofins) was used as the primary laboratory for soil samples. ALS Environmental Pty Ltd was used as the secondary laboratory for soil samples.	Both laboratories are NATA accredited for the analyses completed, which provides confidence that the laboratories comply with the specified methods.
Laboratory testing	A total of 19 primary soil samples were submitted for laboratory analysis, one from each assessment location. Most samples were typically analysed for metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc) and OCP, Nine samples were also analysed for pH, four samples were analysed for the broad NEPM screen (in place of the metals and OCP) and four samples were analysed for a Herbicides suite.	The range of chemical substances selected for each sample provide a good understanding of the potential contamination status of soils at the assessed locations. Nutrients were not assessed, however, nutrient application under a grazing use is likely to be limited and so this is not considered to be critical to the overall assessment of the site soils.
Quality Assurance / Quality Control	A detailed review of the quality assurance / quality control (QA/QC) program adopted for the investigation is provided in Appendix E of this PRSA report.	The QC program adopted for the site investigation comprised the collection of one blind duplicate, one split duplicate, and one rinsate blank samples. Only minor RPD exceedances were noted, and these are not considered to be significant in the context of the site assessment. No cross contamination risk was identified in the black samples. The QA/QC program adopted for the soil investigation was considered sufficient in this case to provide a level of verification of the analytical results of the assessment.

Item	Work Completed	Auditor's Comments
Guidelines used and their relevance	NEPM EIL / NEPM ESL (urban residential) NEPM HIL A / NEPM HSL A&B	Given that the site is proposed to be used for low to medium density residential purposes, the adopted criteria were considered to be appropriate for assessing risks to ecological and human receptors.

The 2023 soil sampling locations are provided in Figure 3 of this report.

4.1 Auditor Opinion on the Adequacy and Quality of the Environmental Site Assessments Pty Ltd Soil Assessment and Verification Works

The Auditor considered that the intrusive investigations completed by Environmental Site Assessments Pty Ltd were generally compliant with ASC NEPM requirements for soil assessments.

The documented field and laboratory techniques are considered appropriate and consistent with ASC NEPM requirements and accepted industry practice. The Auditor considers that the assessment and verification tasks have been completed in accordance with the guidelines issued or approved by the EPA.

The Auditor considers that the soil assessment and verification works completed by Environmental Site Assessments Pty Ltd have provided a suitable verification of the contamination status of near surface soils at the site for the purpose of the PRSA. A more detailed assessment is required in the eastern paddock of the northern allotment that was potentially used historically for poultry farming Consequently, an Environmental Audit will be required for the northern allotment of the site, with the Environmental Audit focused on the eastern paddock area, which was the subject of the suspected poultry farming operations.

5 Soil Verification Works

The *Environment Reference Standard* (ERS) is a legislative instrument under section 93(1) of the *Environment Protection Act 2017* and specifies the environmental values for land environments in Victoria and the relevant indicators and objectives to be used to evaluate any risk of harm or detriment. Therefore, the indicators and objectives identified in the ERS have been used as appropriate criteria to assess whether the environmental values of land are impacted and therefore to determine whether the land at the site is likely to be contaminated.

5.1 Environmental Values - Land

In Victoria, the applicable environmental values for the land element are determined by land use categories outlined in Part 4, Clause 11 of the ERS and summarised in the table below.

Table 5 – Environmental Values of Land

Environmental Values	Parks & Reserves	Agricultural	Sensitive use (High density)	Sensitive use - other (lower density)	Recreation / Open space	Commercial	Industrial
Land dependent ecosystems and species							
- Natural ecosystems	✓						
- Modified ecosystems	✓	✓		✓	✓		
- Highly modified ecosystems		✓	✓	✓	✓	✓	✓
Human health	✓	✓	✓	✓	✓	✓	✓
Buildings and structures	✓	✓	✓	✓	✓	✓	✓
Aesthetics	✓		✓	✓	✓	✓	
Production of food, flora and fibre	✓	✓		✓			

It is understood that the site is proposed to be redeveloped for residential purposes in the north of the site and commercial / industrial uses in the south. I have assessed the entire site against the residential criteria for a sensitive use site and so if the site is suitable for residential use, then it will be suitable for all other applicable site uses such as high density residential use, childcare centres, schools, parks, commercial and industrial uses.

The following environmental values of the land at the site are required to be protected for low density residential use:

- Land dependent ecosystems and species – modified and highly modified ecosystems;
- Human Health;
- Buildings and Structures;
- Aesthetics; and
- Production of food, flora and fibre.

All the above environmental values have been assessed as part of PRSA completed for the site.

5.2 Soil Guidelines

The ERS refers to various sections of the ASC NEPM for the appropriate indicators and objectives for the environmental values identified. Therefore, these indicators and objectives have been adopted as appropriate criteria for the assessment of risk to the environmental values of land as discussed below.

5.2.1 Ecological Screening Guidelines

Certain contaminants, for example heavy metals, are phytotoxic and human health-based levels may not afford protection to some species of plants if grown on the site. In order to consider the potential for phytotoxicity, contaminant concentrations have been initially compared to the Ecological Investigation Levels (EILs) presented in *Schedule B1 Guideline on Investigation Levels for Soil and Groundwater* included in the ASC NEPM.

Schedule B1 of the ASC NEPM provides EILs for selected metals and organic substances that are applicable for assessing risk to terrestrial ecosystems. In particular, EILs have been derived for arsenic, copper, chromium (III), nickel, lead, zinc, DDT and naphthalene for three generic land use settings as follows:

- Areas of ecological significance (99% level of species protection);
- Urban residential areas and public open space (80% level of species protection); and
- Commercial and industrial land uses (60% level of species protection).

The EILs are used as screening values, below which indicate that ecological impacts are unlikely to occur. Should guideline values be exceeded, then further investigation and evaluation may be necessary.

Similarly, Ecological Screening Levels (ESLs) provided in Schedule B1 of the ASC NEPM have been adopted for petroleum hydrocarbons that are applicable for assessing potential risks to terrestrial ecosystems. It is noted that the ESLs broadly apply to coarse and fine grained soils and various land uses. They are applicable to the upper 2 m of soil at the subject site.

Where EIL / ESL values have not been defined in the ASC NEPM, or where site-specific EILs for certain inorganic parameters have not been derived as part of the assessment process, other criteria have been adopted from the following sources:

- Canadian Council of Ministers for the Environment (CCME), *Canadian Soil Quality Guidelines (SQGs) for the Protection of Environmental and Human Health;* and
- United States Environmental Protection Authority (US EPA) *Ecological Soil Screening Levels* (Eco-SSLs).

The use of the SQGs for initial screening of soil quality data is considered appropriate where EILs / ESLs are unavailable, as these values have been derived using a comparable methodology to the ASC NEPM approach, utilising a risk based species sensitivity distribution methodology based on land use as follows:

- Agricultural (75% level of species protection);
- Residential / Parkland (75% level of species protection);
- Commercial (50% level of species protection); and

- Industrial (50% level of species protection).

5.2.2 Human Health Guidelines

The ASC NEPM Health Investigation levels (HILs) have been developed for a broad range of inorganic and organic substances. The HILs are applicable for assessing human health risk via all relevant pathways of exposure. The HILs are generic to all soil types and apply generally to a maximum depth of 3 m below the surface for residential use.

Health Screening Levels (HSLs) have been developed for selected petroleum compounds and fractions and are applicable to assessing human health risk via the inhalation and direct contact pathways. The HSLs are dependent upon specific soil physicochemical properties, land use scenarios, and the characteristics of building structures. They apply to different soil types, and depths below ground surface.

The health investigation and screening levels are provided for a range of land uses including:

- HIL / HSL A: Residential with garden / accessible soil (home grown produce <10% fruit and vegetable intake, (no poultry), also includes children's day care centres, preschools and primary schools;
- HIL / HSL B: Residential with minimal opportunities for soil access includes dwellings with fully and permanently paved yard space such as high-rise buildings and flats;
- HIL / HSL C: Public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and footpaths. It does not include undeveloped public open space (such as urban bush land and reserves) which should be subject to a site-specific assessment where appropriate; and
- HIL / HSL D: Commercial / industrial such as shops, offices, factories and industrial sites.

The HIL / HSL A values have been adopted for this site. Given the proposed residential setting in part of the site, the Auditor considers that keeping of poultry may occur and so the exposure risks associated with poultry have been considered as part of the ecological and human health exposure scenario. The Auditor notes that the keeping of small numbers of poultry is allowed without permit in the City of Greater Geelong.

5.2.3 Buildings and Structures

For some substances such as phenols and sulphates, their impact on structures (effects on PVC piping and cement) may override the health and environmental considerations. As outlined in the ASC NEPM (1999), a structural guideline of 2,000 mg/kg is set for sulphate in soil.

Australian Standard AS 2159 (2009) *Piling – Design and Installation* provides exposure classification values for concrete and steel piles in soil (non-aggressive to very severely aggressive). These guidelines are considered to be appropriate in assessing the potential for detrimental impacts of site soils to buildings and structures.

In addition, the presence of other aggressive chemical compounds (e.g. acids) may be potentially detrimental to buildings or structures.

5.2.4 Aesthetics

The ERS states that the indicator for the environmental value aesthetics is "*Any chemical substance or waste that may be offensive to the senses.*" and the objective is *"Land that is not offensive to the senses of human beings.*"

Therefore, these indicators have been adopted for evaluating the risk to aesthetics of land.

5.2.5 Auditor's Adopted Soil Criteria

The soil screening values adopted for the PRSA are summarised in Table 4.

Table 6 – Auditor Soil Screening Criteria (mg/kg)

Chemical substance	EIL / ESL	HIL / HSL A Standard residential with garden / accessible soil
Inorganics / Metals		
Arsenic	100	100
Beryllium	4(1)	60
Boron	2(1)	4,500
Cadmium	10(1)	20
Trivalent Chromium	64(1)	12,500(5)
Hexavalent Chromium	0.4(1)	100
Cobalt	40(1)	100
Copper	63(1)	6,000
Lead	300(1)	300
Manganese	220(3)	3,800
Mercury (inorganic)	6.6(1)	40
Mercury (methyl)	-	10
Nickel	200(1)	400
Selenium	1(1)	200
Tin	5(1)	4,700(5)
Vanadium	130(1)	390(5)
Zinc	250(1)	7,400
Organics		
Total OCP	0.06(7)	-
Aldrin + Dieldrin	-	6
Dieldrin	-	0.034
Chlordane	-	50
DDT+DDD+DDE	-	240
DDT	-	1.9(6)
Endosulfan	-	270
Endrin	-	10
Heptachlor	-	6
HCB	-	10
Methoxychlor	-	300
Mirex	-	10
Toxaphene	-	20
Benzo(a)pyrene or as Benzo(a)pyrene TEQ (Toxicity Equivalent Quotient)	0.7(1)	3

Chemical substance	EIL / ESL	HIL / HSL A Standard residential with garden / accessible soil
Naphthalene	170	3(7)
Total PAHs	18(3)	300
Polychlorinated Biphenyls (PCB)	1.3(1)	1
Phenol	3.8(1)	3,000
F1 C_6-C_{10}	180(4)	45(7)
F2 >C_{10}-C_{16}	120(4)	110(7)
F3 >C_{16}-C_{34}	300(4)	2,500(8)
F4 >C_{34}-C_{40}	2,800(4)	10,000(8)
Benzene	50(4)	0.5(7)
Toluene	85(4)	160(7)
Ethylbenzene	70(4)	55(7)
Xylene	105(4)	40(7)
Others		
Cyanide (free)	-	250
pH	6-8(1)	6-8(1)
Fluoride	400(1)	310(5)

Notes:
(1) CCME, Canadian Soil Quality Guidelines (SQG) for the Protection of Environmental and Human Health - Agricultural
(2) Site Specific EIL
(3) US EPA Ecological Soil Screening Levels (Eco-SSLs): PAH – soil invertebrate criterion
(4) ASC NEPM 2013 Generic ESL for Urban Residential and Public Open Space for coarse soils
(5) US EPA (2022) Regional Screening Levels, residential soil, noncarcinogenic, adult, HI=0.1
(6) US EPA (2022) Regional Screening Levels, residential soil, carcinogenic, adult, risk=1:1,000,000
(7) WA DPIRD Chickens, eggs and organochlorines | Agriculture and Food – Total OCP value

5.2.6 Soil Guideline Summary

The soil guidelines and the order in which they have been adopted for screening purposes were as follows:

Ecological

- Government of Western Australia – Department of Primary Industries and Regional Development criterion of 0.06 mg/kg for OCPs being protective of poultry and eggs for human consumption;
- ASC NEPM EILs and ESLs;
- CCME, Canadian Soil Quality Guidelines (SQGs) for the Protection of Environmental and Human Health; and
- US EPA Ecological Soil Screening Levels (Eco-SSLs).

Human Health

- ASC NEPM HILs and HSLs for standard residential (Setting A);
- ASC NEPM Management Limits for TRH; and
- United States Environmental Protection Agency (US EPA) Regional Screening Levels (November 2022).

5.3 Contamination Status of Onsite Soils

5.3.1 Field Observations

The site comprised vacant land. The near surface soil profile at the site comprised of:

- Natural orange brown clayey silt soils to the investigation depth of 0.15 m.

The borelog information is included in the Environmental Assessment Report and the Further Soil Investigation Report prepared by Environmental Site Assessments Pty Ltd (refer to Appendix B and C of this PRSA Report).

There was no visual or olfactory evidence of contamination within the eastern paddock of the northern allotment, with observed conditions similar to the remainder of the site.

5.3.2 Soil Analytical Results

The initial soil assessment works conducted in 2019 included the assessment of 40 locations with the northern zone of the site and three locations across the remaining area. The further soil verification works conducted in January 2023 for the PRSA included 19 locations distributed across the site, with only two locations located in the northern area that was assessed previously. Shallow soil samples at each location were submitted for laboratory analysis.

The results of the analyses have indicated that reported contaminant concentrations in soils were all below the Auditor's adopted ecological and human health screening levels, with the exception of:

- pH at two locations (SP45 and SP47) with values of 5.3 and 5.9 respectively. Environmental Site Assessments Pty Ltd undertook an assessment of the 95% Upper Confidence Limit of the mean (95% UCL) of the pH results obtained across the site and this resulted in a value of 7.44, which is within the acceptable range of values (6-8 pH units). It was concluded that the variations observed in soil pH are naturally occurring.
- Manganese concentrations at 24 locations ranging from 223 mg/kg (SP29) to 754 mg/kg (SP43) exceeded the adopted ecological screening criterion of 220 mg/kg. All results were below the HIL A screening criterion (3,800 mg/kg). The elevated manganese concentrations are considered to be naturally occurring and associated with the weathered basalt geology. The elevated results are therefore not considered to be the result of pollution and have not been considered further.
- A Zinc concentration at SP21 (467 mg/kg). A 95% UCL assessment of the zinc concentration undertaken by the Auditor for data obtained across both rounds resulted in a value of 64.9 mg/kg, which is well below the adopted ecological screening criterion (250 mg/kg).

All OCP concentrations were reported as below the laboratory limit of reporting (LOR), all metal concentrations were low (with the minor exception noted above), and all organic analytical results were reported below the LOR across both rounds of sampling. The Auditor therefore concludes that there are no exceedances of the adopted screening criteria for ecological and human health under a sensitive use setting and the keeping of poultry would not be precluded.

The tabulated soil data is included in the Tables section of the PRSA Report.

5.3.3 Asbestos Containing Materials

No potential Asbestos Containing Material (ACM) was identified during the site investigations.

5.4 Assessment of Environmental Values – Land

To evaluate whether environmental values of land are likely to be impacted by potential soil contamination associated with the subject site, the Auditor has completed an assessment of the relevant existing and potential environmental values of land at the site.

This assessment has been summarised in Table 7 below.

Table 7 – Existing and Potential Environmental Values of Land

Environmental Value	Existing Use	Proposed Use
Land dependent ecosystems and species – modified and highly modified ecosystems	The site is likely to contain ecosystems which have been modified by the historical use of the site for general farming purposes and market gardens. The land parcel is currently vacant and healthy grass and vegetation was observed at the site. Therefore, *Land dependent ecosystems and species – modified and highly modified ecosystems* is an existing environmental value and is currently maintained at the site.	*Land dependent ecosystems and species – modified and highly modified ecosystems* is a potential environmental value given that the site is proposed to be subdivided in part for residential purposes. The results of the PRSA indicate that soil contamination is not expected to occur at the site. Therefore, the Auditor concludes that the environmental value *Land dependent ecosystems and species – modified and highly modified ecosystems* is protected at the site.
Human Health	The site is currently unoccupied, therefore *Human Health* is not an existing environmental value.	*Human health* is a protected environmental value given that the northern portion of the site is proposed to be subdivided for residential purposes and the remainder is to be developed for commercial / industrial use. The results of the PRSA indicate that soil contamination is not expected to occur at the site, and this was confirmed by the soil assessment / verification works, therefore the Auditor concludes that the environmental value *Human Health* is protected at the site, based on the available data.
Buildings and Structures	The site comprises vacant land. Therefore the use of *Buildings and structures* is not an existing environmental value.	*Building and structures* is a protected environmental value given that the northern portion of the site is proposed to be subdivided for residential purposes. A commercial / industrial use may occur in the remaining area of the site. The results of the PRSA indicate that soil contaminants impacting the environmental value *Buildings and structures* were not expected to be encountered at the site, and this was confirmed by a soil assessment. Therefore, the Auditor concludes that the environmental value *Buildings and structures* is protected at the site, based on the available data.
Aesthetics	The site currently comprises vacant land associated with previous farming purposes. *Aesthetics* is not a protected environmental value for agricultural use.	*Aesthetics* is a protected environmental value given the proposed subdivision of the northern portion of the site for residential purposes and the remainder may be in use for commercial / industrial purposes.

Environmental Value	Existing Use	Proposed Use
		The results of the PRSA indicate that no significant anthropogenic materials were observed at the site during the completed investigations, and therefore the Auditor concludes that the environmental value *Aesthetics* is protected at the site, based on the available data.
Production of Food, flora and fibre	The site has been used to produce food through the grazing of livestock, and so *Production of food, flora and fibre* is considered an existing environmental value.	*Production of food, flora and fibre* is a protected environmental value given that the northern portion of the site is proposed to be subdivided for residential purposes. The results of the PRSA indicate that soil contamination is not expected to occur at the site, and this was confirmed by the limited soil assessments. Therefore, the Auditor concludes that the environmental value *Production of food, flora and fibre* is protected at the site.

5.5 Soil Assessment Conclusions

A review of the available site history information collected for the site and the results of the soil assessment and verification works completed at the site by Environmental Site Assessments Pty Ltd indicated that soil contamination was unlikely to occur across most of the site, but this conclusion excludes a portion of the site comprising the eastern paddock of the northern allotment that may have historically been in use for poultry farming.

Therefore, the protected environmental values relevant to low density residential use are considered to be protected across most of the site, excluding the eastern paddock of the northern allotment that may have been historically in use for poultry farming. No further assessment of soil contamination is therefore warranted for the area of the site outside the eastern paddock of the northern allotment, and this larger site area is therefore considered by the Auditor to be suitable for all sensitive and less sensitive land uses. There are no restrictions on the use of this larger portion of the site for any required land uses included in the proposed development plan.

A more detailed site assessment will be required for the eastern paddock of the northern allotment that may have been historically in use for poultry farming. As a result, the northern allotment will require an Environmental Audit, with the focus of the Environmental Audit on the eastern paddock area, which was the subject of the suspected poultry farming operations.

6 Groundwater Assessment

6.1 Groundwater

In Victoria, the applicable environmental values for the groundwater element are determined by the salinity of the groundwater measured as TDS, which defines the Segment of the groundwater.

The environmental values for each Segment are provided in Part 5, Division 2, Clause 15 of the ERS, which is reproduced below.

Table 8 – Environmental Values of Groundwater

Environmental Value	Segments (mg/L TDS)						
	A1 (0-600)	A2 (601-1,200)	B (1,201-3,100)	C (3,101-5,400)	D (5,401-7,100)	E (7,101-10,000)	F (> 10,001)
1. Water dependent ecosystems and species	✓	✓	✓	✓	✓	✓	✓
2. Potable water supply							
- desirable	✓						
- acceptable		✓					
3. Potable mineral water supply	✓	✓	✓	✓			
4. Agriculture and irrigation (irrigation)	✓	✓	✓				
5. Agriculture and irrigation (stock watering)	✓	✓	✓	✓	✓	✓	
6. Industrial and commercial use	✓	✓	✓	✓	✓		
7. Water-based recreation (primary contact recreation)	✓	✓	✓	✓	✓	✓	✓
8. Traditional Owner cultural values	✓	✓	✓	✓	✓	✓	✓
9. Buildings and structures	✓	✓	✓	✓	✓	✓	✓
10. Geothermal properties	✓	✓	✓	✓	✓	✓	✓

According to the VVG database, groundwater beneath the site is expected to have TDS concentrations between 3,500 and 7,000 mg/L. This would place the site groundwater in Segment C or D as outlined in the ERS. No intrusive hydrogeological assessment was conducted by Environmental Site Assessments Pty Ltd at the site.

The Auditor has adopted the range of TDS values included in the VVG database in assessing the likely salinity of groundwater and therefore, adopting the most conservative TDS value, provisionally classifies groundwater within Segment C as outlined in the ERS.

6.2 Potential for Site Sourced Groundwater Contamination to Occur

No significant soil contamination associated with historical site activities was identified through the Environmental Site Assessments Pty Ltd assessments. The assessment and verification soil sampling completed at the site by Environmental Site Assessments Pty Ltd indicated that soil contamination is unlikely to exist at the site.

The eastern paddock of the northern allotment that was potentially in use for historical poultry farming could have contributed to groundwater contamination through the accumulation and disposal of wastes associated with that use. Given the elapsed time since this potential poultry site use occurred, the Auditor considered that it is unlikely that groundwater impacts from any wastes are still present within this area of the site and therefore the Auditor has concluded that groundwater contamination is unlikely to be present in this area of the larger site.

The Auditor therefore concludes that the potential for site sourced groundwater contamination to occur at the PRSA site is low.

6.3 Potential for Off Site Sourced Groundwater Contamination to Occur

The findings of the site history assessment indicate a low potential for offsite sources of groundwater contamination to occur.

The Auditor therefore concludes that it is unlikely that any potential offsite sources of groundwater contamination occur that would restrict the use of the land.

6.4 Assessment of Potential Impacts on Groundwater Environmental Values

There is no evidence of an existing onsite or offsite source of groundwater contamination at the PRSA site. The Auditor therefore concludes that it is unlikely that there are any impacts on the environmental values of groundwater at the PRSA site.

6.5 Groundwater Assessment Conclusion

The Auditor has completed a desk top assessment with respect to the potential for groundwater contamination to occur at the site.

As a result of this assessment, the Auditor has concluded that the risk of impacts to the protected groundwater environmental values is low in this setting.

7 Landfill Gas and Odour Verifications

7.1 Setting

The closed former Corio Landfill is located approximately 350 m south east of the site at 1500-1850 Biddlecombe Avenue, Corio. The landfill was closed in 2011. During its operational phase the landfill accepted asbestos, contaminated soil (Cat C), tyres (shredded), solid inert waste, putrescible waste, tannery & wool scouring waste, commercial food waste and green waste.

The Auditor notes that the landfill is the subject of an ongoing Environmental Audit and also has a gas extraction system installed to reduce the likelihood of LFG migration off-site. Mr Peter J Ramsey of Ramsey and Associates Pty Ltd was the Auditor for the former Corio Landfill site.

Environmental Site Assessments Pty Ltd has noted that as part of the Landfill Audit, an assessment of LFG (both surface and sub-surface) was undertaken. Mr Ramsey concluded in his report dated October 2017 (CARMS ID: 59647-15) that, "*LFG monitoring results indicate only low carbon dioxide concentrations and no methane above the Action Levels. This is reasonably consistent since the beginning of LFG monitoring (November 2011). In view of this, it is considered likely that there is negligible impact due to LFG to the on-site and nearby off-site receptors*."

Based on this statement and the distance to site from the former landfill, the likelihood of lateral migration of LFG is likely to be low. However, the Auditor notes that the southern portion of the site occurs within the nominated landfill buffer distance (500 m) as prescribed in EPA Publication 1942, *Assessing planning proposals within the buffer of a landfill* (October 2017).

Although the Auditor notes the conclusions of Mr Peter J Ramsey, given the location of a portion of the site within the landfill buffer and given the potential risk associated with LFG migration on the proposed development of the site, the Auditor requested that Environmental Site Assessments Pty Ltd undertake a limited and targeted assessment of landfill gas (LFG) in the south east of the site to verify that the former operations at the Corio Landfill had not resulted in LFG impacts which might restrict the use of the site.

7.2 LFG Verification

The LFG assessment is detailed in the Environmental Site Assessments Pty Ltd LFG and Odour Report.

Two LFG monitoring wells were installed adjacent to the south east site boundary by Environmental Site Assessments Pty Ltd. The location of the LFG wells is included in Figure 4 of this Audit Report. The wells were spaced approximately 50 m apart.

The wells were installed in accordance with the guidance included in EPA Publication 788.3, *Siting, design, operation and rehabilitation of landfill* (August 2015). The LFG wells were installed to a depth of 6 m, predominantly screened in weathered basalt. The screen interval in each well was between 1 and 6 m. A gravel pack was placed around each well screen and a bentonite plug was installed in the bore annulus above the gravel pack to the site surface.

The wells were allowed to equilibrate for 12 days prior to the first LFG Validation Event, which was undertaken on 30 January 2023. The LFG sampling was undertaken in general accordance with EPA Publication 1684 *Landfill gas fugitive emissions monitoring guideline* (February 2018) using a GA5000 landfill gas analyser.

The gas flow rate and differential pressure measurements were undertaken prior to the monitoring and assessment of the LFG concentrations.

The following table summarises the peak gas concentrations and flow rates recorded.

Table 9 – LFG Results – Event 1 - 30 January 2023

LFG Well	Methane (%v/v)	Carbon Dioxide (%v/v)	Oxygen (%v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide ppm)	Flow Rate (L/hr)
LFG01	0.0	0.1	20.5	0.0	0.0	0.3
LFG02	0.3	0.9	19.1	0.0	0.0	0.0

At the Auditor's request, a second LFG Validation Event was undertaken on 27 February 2023. The Auditor considered this necessary to be suitably assured that the LFG wells had equilibrated and to confirm the initial results obtained. The same methodology was used by Environmental Site Assessments Pty Ltd for the second LFG Validation Event. The following table summarises the peak gas concentrations and flow rates recorded.

Table 10 – LFG Results – Event 2 – 27 February 2023

LFG Well	Methane (%v/v)	Carbon Dioxide (%v/v)	Oxygen (%v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide ppm)	Flow Rate (L/hr)
LFG01	0.0	2.1	19.1	0.0	0.0	0.0
LFG02	0.0	1.8	20.1	0.0	0.0	0.0

The second LFG Validation Event confirmed that no LFG gases were present at the site's south east boundary which are likely to impact on the proposed use of the site. This conclusion was consistent with the findings of Mr Peter Ramsay at the Corio Landfill site. No methane was detected in the second round, and it is possible that the minor first round result at LFG01 was related to the bacterial processes within the soil profile and not the result of LFG migration. This local soil biological activity would also be considered the likely source of the slightly elevated carbon dioxide concentrations reported in the LFG wells.

7.3 Odour Verification

Industrial properties occur to the south west of the site and the Auditor considered that there was potential for these facilities to generate odours that might impact the subject site. The Auditor requested that Environmental Site Assessments Pty Ltd undertake a preliminary odour assessment of the site, to verify that there were no significant odours that could impact on the amenity of the site use.

Environmental Site Assessments Pty Ltd undertook the odour assessment in general accordance with guidance included in the NSW EPA *Guide to conducting field odour surveys* (June 2022). The odour assessment included a subjective assessment of odour presence and nature at nine locations around the site boundary. A rapid screening survey approach was adopted. The odour assessments were conducted at the same time as the landfill gas assessment rounds.

The odour assessment locations are included in Figure 5.

No odours were detected at any location in both rounds of the odour survey.

7.4 Auditor's Conclusion

Based on the findings of the LFG assessment, and with consideration of Mr Peter Ramsay's assessment of the Corio Landfill site, the Auditor has concluded that it is improbable that LFG from the Corio Landfill poses any risk to the use of the southern area of the site for commercial / industrial purposes (or any other use), or for any other proposed use of the larger site including the proposed residential area.

The odour assessment, while limited in scope, did not identify any significant odour risks at the time of the two odour assessment rounds. The possible amenity risks associated with odours from current offsite activities is considered to be low. The Auditor has assumed that Council planning controls will be sufficient and appropriate to mitigate any odour risks to the proposed uses of the site into the future.

8 Conceptual Site Model

As outlined in the ASC NEPM, a Conceptual Site Model (CSM) should include the following components:

1. Known and potential sources of contamination;
2. Chemicals of concern / interest;
3. Potentially affected media (soil, sediment, groundwater, surface water, indoor and ambient air);
4. Human and ecological receptors; and
5. Potential and complete exposure pathways.

The Auditor developed the following CSM based on the information obtained from the PSI.

8.1 Setting

The subject site of this PRSA comprises an area of approximately 114.3 hectares. Low density residential properties occur in the vicinity of the site to the north, north east and north west of the subject site. Farming properties remain adjacent to some areas of the site, including to the central west of the site and to the north across Canterbury Road East before Hovells Creek.

Shallow soil investigations were conducted across the site to assess surface derived contamination risks and these investigations identified that orange brown clayey silt soils were present across the site. Deeper drilling works undertaken as part of the limited LFG assessment indicated that the clayey silt soils were underlain by clays and weathered basalt. No significant anthropogenic materials were identified in the site soils. No stained or odorous soils were encountered at the site.

The nearest surface water body is Hovells Creek, which is located approximately 200 m north of the site at its closest point. The creek occurs to the north and east of the site. Hovells Creek flows in a north to south direction and discharges to Limeburners Bay to the south east of the site. The regional topography slopes downward towards the north east in the direction of the creek.

A groundwater assessment was not undertaken as part of the PRSA. A review of the VVG website indicates that the shallow aquifer at the site is expected to be encountered at depths between <5 m and 5 to 10 m bgl across the site within the Newer Volcanics basalt aquifer. Based on the VVG website, TDS concentrations were expected to range between 3,500 mg/L and 7,000 mg/L in the vicinity of the site.

Groundwater flow direction was expected to be in a north easterly to easterly direction, which is consistent with the observed regional topography and the location and flow direction of Hovells Creek.

8.2 Proposed Land Use

The northern zone of the subject site is proposed to be subdivided into residential allotments. A subdivision plan was not available at the time of this PRSA. The southern zone of the site, which comprises a buffer zone to the Geelong Ring Road Employment Precinct, is expected to be developed for a non-sensitive use, most likely a commercial / industrial development.

8.3 Known and Potential Sources of Contamination

Based on the historical use of the site for livestock farming, the potential for site sourced soil contamination to have occurred was considered to be low.

Historical aerial photographs showed that a potential poultry farm (possibly egg production) was noted in the eastern paddock of the northern allotment of the site. A series of sheds were present in the 1947 aerial photograph, but these were progressively removed in the 1963 and 1970 aerial photographs. Given the age of these operations, the direct contamination risk to the site soils from nutrients is considered to be low, however the possible burial of demolition wastes, and other potential burial locations associated with poultry farming within this portion of the site cannot be discounted by the limited scope assessments conducted to date. No evidence of site contamination was identified during the site assessments but the Auditor notes that the depth of investigation and the number of investigation locations was limited.

Further assessment of this potential risk is required and so the Auditor considers that a limited scope Environmental Audit of the northern allotment is required, with the Environmental Audit focused on the eastern paddock area, which was the subject of the suspected poultry farming operations.

8.4 Contaminants of Concern

8.4.1 Potential Onsite Sources

Potential onsite sources of contamination were limited to the following:

- Fertilisers – nutrients, metals;
- Pesticides / Herbicides – metals (primarily arsenic and mercury), OCP and OPP; and
- Demolition wastes – inert wastes, ACM.
- Poultry Farming – nutrients, buried wastes including chicken carcasses.

8.4.2 Potential Offsite Sources

- Market gardens – contaminants include metals, nutrients, OCPs, other pesticides / herbicides.
- Landfill Gas - contaminants include methane, carbon dioxide, carbon monoxide, sulphur dioxide.

8.5 Mechanisms of Contamination

The primary mechanisms of contamination are:

1. Use of pesticides and fertilisers as part of the site livestock grazing operations; and
2. Burial of wastes associated with possible historic poultry use in the eastern paddock of the northern allotment of the site and burial of waste associated with the demolition of sheds and other buildings and infrastructure associated with that use. This risk of contamination is considered by the Auditor to be restricted to the limited area of the site used for this purpose.

Leaching of contaminants from shallow soils to deeper soil and groundwater is considered to be a low risk in this setting given the wider use of the site has been for livestock grazing purposes and so application rates of fertilisers and pesticides would be considered to be low under this setting.

Potential impacts to groundwater from site operations are considered to be low given the clayey nature of the underlying soils and the depth to groundwater, which is likely to be around or greater than 5 m below surface.

Given the age of the suspected poultry use of a portion of the site, nutrient risks to groundwater from these operations, if any, is likely to have dissipated over the long time span between the current time and this site use.

A limited LFG assessment has confirmed that the risk of LFG impacts on the site from the Corio Landfill site, located to the south east of the subject site, is low and acceptable. This finding is consistent with the conclusions of the Auditor of the Corio Landfill site (Mr Peter Ramsay).

8.6 Potentially Affected Media

On the basis of the mechanisms of contamination mentioned above, the Auditor considers that it is likely that shallow soils are the only potentially affected media resulting from historical site activities across the majority of the site and the risk of contamination is low.

The operation of a section of the site, comprising the eastern paddock of the northern allotment, for possible poultry farming purposes may have resulted in the burial of waste associated with those operations and as a result of the subsequent demolition of sheds and other structures that were historically present in this area of the site.

Based on the above considerations, the broader site risks associated with stock grazing are limited to shallow soils. The potential burial of wastes within the eastern paddock of the northern allotment may affect deeper soils, particularly if a capping layer was installed above the wastes.

Potential contamination impacts to the groundwater from the broader use of the site for livestock grazing are considered to be low to negligible. Potential contamination impacts to the groundwater from the burial of wastes associated with localised historic poultry farming uses is also considered to be low given the age of these wastes (if present) and the expected inert nature of any buried demolition wastes (if present).

8.7 Human and Ecological Receptors

The shallow soil assessment undertaken across the site did not identify any significant levels of contamination which would restrict the use of the site for residential purposes.

As a result, the Auditor has concluded that there are no potential impacts to possible human or ecological receptors that may occur at the site in future, other than within the former poultry farming area located in the eastern paddock of the northern allotment of the site which requires further assessment to support a limited scope Environmental Audit.

The Auditor has concluded that the risk of groundwater contamination being present as a result of site uses is low.

8.8 Potential and Complete Exposure Pathways

The larger site area used solely for stock grazing does not have any potential exposure pathways for the proposed uses of the site.

The potential exposure pathways present at this site are limited to the possible burial of operation wastes and demolition wastes associated with the suspected poultry farming use that may have

occurred in the eastern paddock of the northern allotment. The fence lines observed in the 1947 aerial photograph that define the extent of this possible poultry use are still present today, and so this area can reasonably be identified and provides a basis for a scoped Environmental Audit of the northern allotment of the site.

As it is unclear at this time if buried wastes are present within the eastern paddock of the northern allotment a further detailed assessment is required to determine the nature and extent of contamination (if any). The Auditor has therefore concluded that an Environmental Audit will be required for the northern allotment of the site, with the Environmental Audit focused on the eastern paddock area, which was the subject of the suspected poultry farming operations.

Separate PRSA statements have therefore been included in the attachments to this report for the areas defined as:

1. 76-156 Canterbury Road East, Lara, Victoria (the allotment comprising the potential poultry site use area); and
2. 705-775 & 785-805 Princes Highway, Lara, Victoria (the remainder of the site outside the northern allotment).

The area of the site applicable to each PRSA statement is included in the Certificates of Title attached to each of those PRSA statements.

8.9 Preferential Pathways for Vapour Migration

The Auditor considers that soil vapour contamination does not require any further consideration on the basis of the assessment findings. There are no apparent preferential pathways for vapour migration to occur at this site.

9 PRSA Conclusions

Mr Nunn, an appointed Environmental Auditor under Division 1 of Part 8.3 of the Environment Protection Act 2017, completed a Preliminary Risk Screen Assessment (PRSA) for the site described as 76-156 Canterbury Road East and 705-775 & 785-805 Princes Highway, Lara, Victoria.

The PRSA is required to meet the expected Planning Permit conditions required by the City of Greater Geelong for the proposed residential and potential commercial / industrial uses of the site.

The objectives of the PRSA were to determine whether the site is likely to be contaminated and to determine whether an Environmental Audit is required to provide a further assessment of contamination.

9.1 Soil Contamination Status

The historical information was provided for the site in an Environmental Report prepared by Environmental Site Assessments Pty Ltd.

The historical information conclusions were supported by the findings of a verification soil sampling program which initially comprised the assessment of shallow soils at 43 locations across the site (biased to the northern residential area), and then further to the Auditor's engagement, a further soil sampling program at 19 locations across the central and southern areas of the site.

The historical data and soil verification data at the site indicated a low potential for soil contamination to be present at the site, other than for an area of the site comprising the eastern paddock of the northern which may have been used for poultry farming. Although no contamination was evident in this portion of the site as part of the soil verification program, the Auditor considered that there was potential for the burial of wastes associated with possible historic poultry use and the burial of waste associated with the demolition of sheds and other buildings and infrastructure associated with that use.

Due to the requirement to undertake a more detailed assessment of soils within the eastern paddock of the northern allotment of the site that may have been in use for poultry farming, the PRSA has concluded that an Environmental Audit is required for the northern allotment of the site, with the Environmental Audit focused on the eastern paddock area, which was the subject of the suspected poultry farming operations.

9.2 Groundwater Contamination Status

The application of fertilisers and pesticides under livestock grazing use is considered to present a low risk of groundwater contamination. This conclusion as supported by the absence of any pesticides in shallow soils based on the findings of the soil verification program. The clayey nature of the site soils would also be expected to retard migration of any introduced contaminants and so the risk of groundwater contamination occurring at the site is considered to be low to negligible.

Potential contamination impacts to groundwater from the burial of wastes associated with historic poultry farming uses is also considered to be low given the age of these wastes (if present) and the expected inert nature of any buried demolition wastes (if present). As the northern allotment of the site has been determined to require an Environmental Audit, with the Environmental Audit focused on the eastern paddock area, the need for any groundwater assessment of this area of the site would be determined based on the progressive findings of the Environmental Audit process.

9.3 Likelihood of Contamination Based on PSI Assessment

Based on the results of the PSI and the findings of the limited soil verification works, the Auditor has concluded that soil contamination is not expected to occur across the area of the site that has been used solely for grazing purposes. The risk of groundwater contamination from site sources occurring across this area of the site is also considered to be low to negligible.

The operation of eastern paddock of the northern allotment for possible poultry farming purposes may have resulted in the burial of waste associated with those operations, and as a result of the subsequent demolition of sheds and other structures that were historically present in this area of the site. Potential contamination impacts to the groundwater from the burial of wastes associated with historic poultry farming uses is considered to be low given the age of these wastes (if present) and the expected inert nature of any buried demolition wastes (if present).

9.4 PRSA Outcome

Based on the above conclusions, separate PRSA statements have been included in the attachments to this report for the two defined areas of the site.

The Auditor has concluded that the PRSA outcome for the land parcel defined as 76-156 Canterbury Road East, Lara, Victoria (the northern allotment, including the eastern paddock which may have been used for poultry farming) is:

Likely that contaminated land is present, and an environmental audit is required.

The Auditor has concluded that the PRSA outcome for the land parcel defined as 705-775 & 785-805 Princes Highway, Lara, Victoria (the remainder of the site outside the northern allotment) is:

Unlikely that contaminated land is present, and no environmental audit is required.

The area of the site applicable to each PRSA statement is included in the Certificates of Title and associated plans attached to each of those PRSA statements.

10 References

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Figures

AAA Environmental

AAA Environmental Pty Ltd

8/153 La Trobe Street
Melbourne 3000

Drawn: DJN	Date: 3 May 2023		Job No.: **20245**	Project: **LARA FARMS PTY LTD PRSA**	
Checked: SC	Date: 3 May 2023		Title: **SITE LOCATION AND LAYOUT 76-156 Canterbury Road East and 705-775 & 785-805 Princes Hwy Lara**		Sheet 1 of 1
File Name: Figure 1.wor	Scale: NTS	A4			**FIGURE 1**

PRSA FIGURE 2

Environmental Site Assessments

Phone: 03 5221 8136
office@esagroup.com.au
PO Box 3106,
Waurn Ponds, VIC 3216
www.esagroup.com.au

Legend

- Sample Points
- Not Part Of Investigation

Aerial sourced from Nearmap

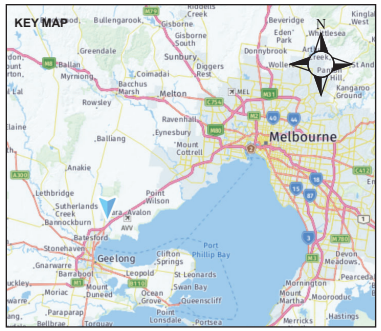
Designed:	S. Lillas	Revision:	1
Drawn:	S. Lillas	Date:	23/05/19
File:	Sample Locations.pdf		

N

0 Metres 200

Title:	Sample Locations
Project:	Environmental Assessment
Location:	76-156 Canterbury Road, 705-775 Princes Hwy & 785-805 Princes Hwy, Lara
Client:	Costa Property Group

PRSA FIGURE 3



LEGEND

- Sample Point (23 May 2019)
- Sample Point (6 January 2023)

CLIENT
LARA FARMS PTY LTD

PROJECT
FURTHER SOIL INVESTIGATION

TITLE
SAMPLE LOCATIONS

CONSULTANT

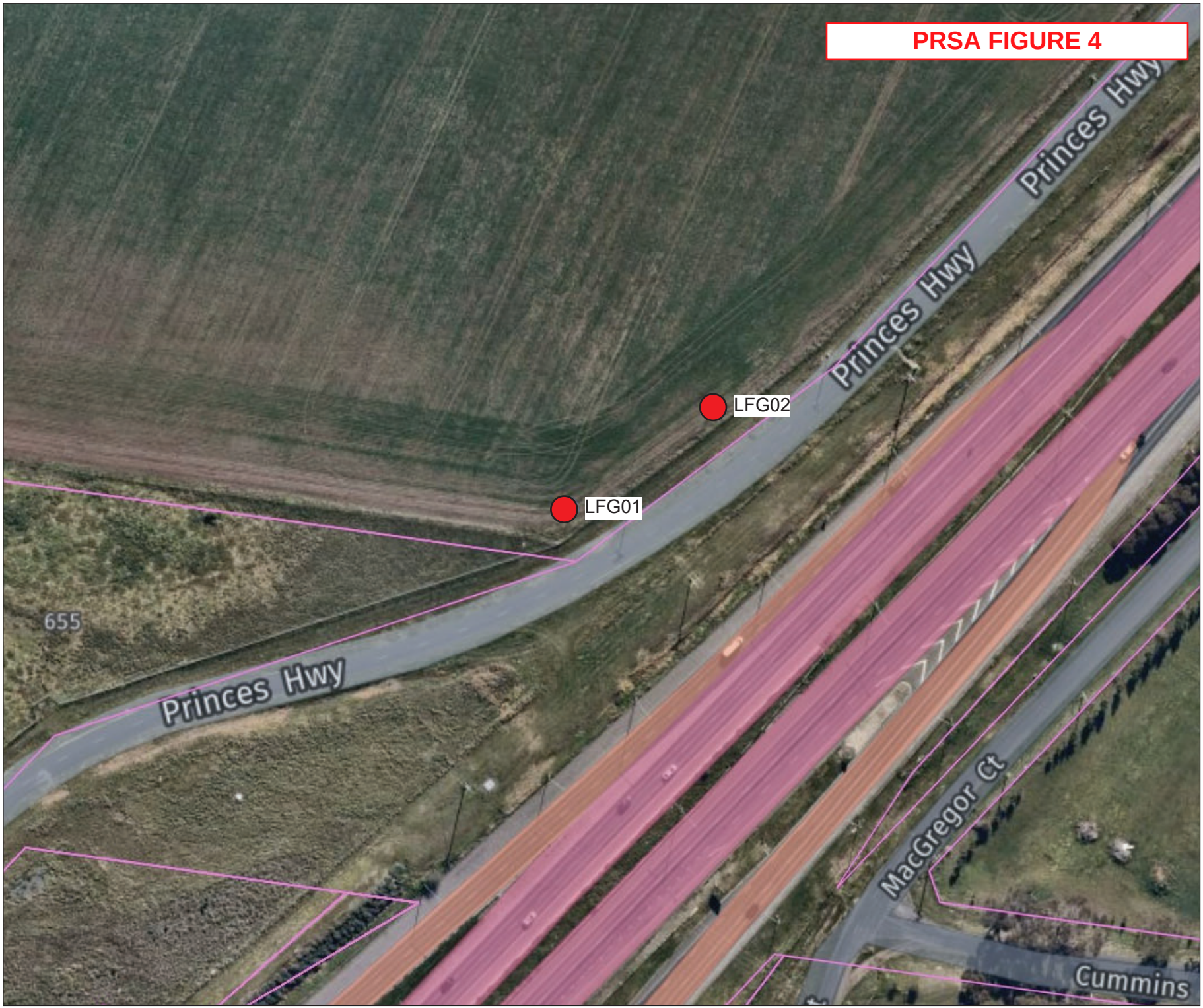
Environmental SITE ASSESMENTS

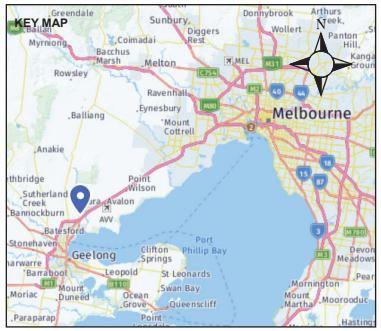
DD-MM-YYYY	12-01-2023
DESIGNED	SL
PREPARED	SL
APPROVED	SL

PROJECT NO.	REV.	FIGURE
ESA/2022/005	1	1

0 Metres 180

PRSA FIGURE 4





LEGEND

Sample Point

CLIENT
LARA FARMS PTY LTD

PROJECT
LANDFILL GAS / ODOUR VALIDATION

TITLE
BORE LOCATIONS

CONSULTANT

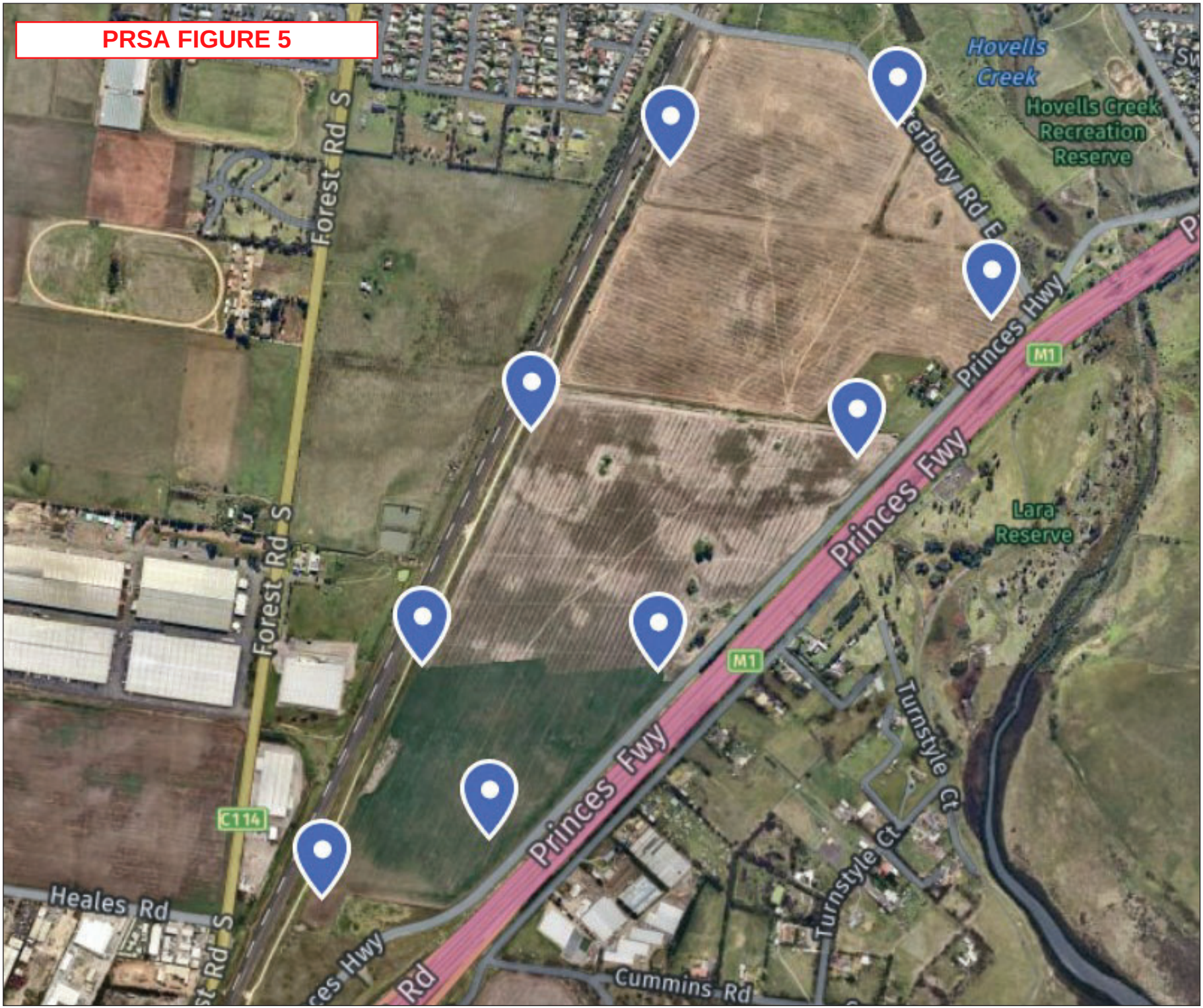
Environmental SITE ASSESMENTS

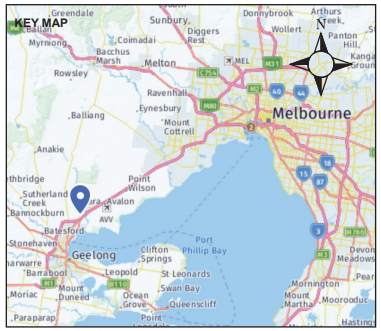
DD-MM-YYYY	19-01-2023
DESIGNED	SL
PREPARED	SL
APPROVED	SL

PROJECT NO.	REV.	FIGURE
ESA/2023/013	1	1

0 Metres 22

PRSA FIGURE 5





CLIENT
LARA FARMS PTY LTD

PROJECT
LANDFILL GAS / ODOUR VALIDATION

TITLE
OVE LOCATIONS

CONSULTANT
Environmental SITE ASSESMENTS

DD-MM-YYYY	19-01-2023
DESIGNED	SL
PREPARED	SL
APPROVED	SL

PROJECT NO.	REV.	FIGURE
ESA/2023/013	1	1

0 Metres 200

AAA Environmental

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8/153 La Trobe Street
Melbourne 3000

Drawn: DJN	Date: 15 June 2023		Job No.: **20245**	Project: **LARA FARMS PTY LTD PRSA**	
Checked: SC	Date: 15 June 2023		Title: **PRSA AND ENVIRONMENTAL AUDIT AREAS 76-156 Canterbury Road East and 705-775 & 785-805 Princes Hwy Lara**		Sheet 1 of 1
File Name: Figure 6.wor	Scale: NTS	A4			**FIGURE 6**

Summary Tables

					OCP			BTEX								Cyanides	Halogenated Benzenes	Halogenated Phenols						Herbicides	Inorganics		Lead	Metals									
					Tokuthion	Organochlorine pesticides EPAVic	Other organochlorine pesticides EPAVic	Benzene	Ethylbenzene	Toluene	Total BTEX	Xylene (m & p)	Xylene (o)	Xylene Total	C6-C10 less BTEX (F1)	Cyanide (WAD)	Hexachlorobenzene	2,4,5-trichlorophenol	2,4,6-trichlorophenol	2,4-dichlorophenol	2,6-dichlorophenol	2-chlorophenol	Pentachlorophenol	Atrazine	Moisture	Moisture Content (dried @ 103°C)	Lead	Arsenic	Barium	Beryllium	Boron	Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Chromium (Trivalent)	Cobalt	Copper
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL								0.2	0.5	0.5	0.2	0.5	0.5	0.5	10	1	0.05	0.5	0.5	0.5	0.5	0.5	2	0.05	1		5	2	10	1	10	0.4	0.5	2		2	5
NEPM 2013 Table 1A(1) HILs Res A Soil																	10					100	320			300	100		60	4500	20	100			100	6000
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion																																					
0-1m								0.5|0.6|0.7	NL|55	160|390|480				40|95|110	40|45|50																					
NEPM 2013 Table 1B(6) ESLs for Urban Res								65		105																											
0-2m								50	70|125	85				45|105																						
LocCode	Field_ID	Sample_Depth	Soil_Type	Sampled_Date-Time																																	
SP01	SP01/0-0.15	0-0.15	SILT	23-May-19	-	-	-	<0.2	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<10	<1	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.05	18.4	-	7	<5	60	<1	<50	<1	<0.5	20	-	7	7
SP02	SP02/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	19.7	-	7	<5	60	<1	<50	<1	-	18	-	6	6
SP03	SP03/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	16	-	9	<5	70	<1	<50	<1	-	27	-	8	9
SP04	SP04/0-0.15	0-0.15	SILT	23-May-19	-	-	-	<0.2	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<10	1	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.05	16.7	-	9	<5	80	<1	<50	<1	<0.5	28	-	8	9
SP05	QC04	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	14	-	8	<5	70	<1	<50	<1	-	25	-	6	7
SP05	QC05	0-0.15	SILT	23-May-19	<0.2	<0.1	<0.1	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	18	13	5.5	120	<2	<10	<0.4	<1	45	45	12	12
SP05	SP05/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	15.7	-	8	<5	80	<1	<50	<1	-	27	-	7	8
SP06	SP06/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	12.1	-	10	<5	40	<1	<50	<1	-	23	-	6	6
SP07	SP07/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	14.2	-	11	5	20	<1	<50	<1	-	24	-	6	6
SP08	SP08/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	11.5	-	10	<5	30	<1	<50	<1	-	18	-	7	6
SP09	SP09/0-0.15	0-0.15	SILT	23-May-19	-	-	-	<0.2	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<10	1	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.05	9.7	-	8	<5	20	<1	<50	<1	<0.5	14	-	3	<5
SP10	SP10/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	13.1	-	12	<5	10	<1	<50	<1	-	22	-	5	<5
SP11	SP11/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	14.4	-	11	<5	20	<1	<50	<1	-	26	-	6	6
SP12	SP12/0-0.15	0-0.15	SILT	23-May-19	-	-	-	<0.2	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<10	1	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.05	15.1	-	9	<5	50	<1	<50	<1	<0.5	27	-	9	7
SP13	SP13/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	14.6	-	7	<5	60	<1	<50	<1	-	19	-	7	6
SP14	SP14/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	17.7	-	6	<5	80	<1	<50	<1	-	19	-	7	7
SP15	SP15/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	15.7	-	6	<5	90	<1	<50	<1	-	21	-	6	8
SP16	SP16/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	14.2	-	6	<5	80	<1	<50	<1	-	19	-	7	6
SP17	SP17/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	15.8	-	6	<5	60	<1	<50	<1	-	17	-	6	6
SP18	SP18/0-0.15	0-0.15	SILT	23-May-19	-	-	-	<0.2	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<10	1	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.05	16.7	-	8	<5	30	<1	<50	<1	<0.5	24	-	6	6
SP19	SP19/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	13.4	-	6	<5	10	<1	<50	<1	-	17	-	5	<5
SP20	SP20/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	15.8	-	13	<5	80	<1	<50	<1	-	26	-	8	10
SP21	SP21/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	16.4	-	32	<5	30	<1	<50	<1	-	25	-	5	12
SP22	SP22/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	12.1	-	30	<5	50	<1	<50	<1	-	17	-	5	8
SP23	SP23/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	17.4	-	26	<5	60	<1	<50	<1	-	20	-	5	9
SP24	SP24/0-0.15	0-0.15	SILT	23-May-19	-	-	-	<0.2	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<10	<1	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.05	15.2	-	8	<5	70	<1	<50	<1	<0.5	19	-	7	7
SP25	QC06	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	11.7	-	11	<5	70	<1	<50	<1	-	20	-	8	8
SP25	QC07	0-0.15	SILT	23-May-19	<0.2	<0.1	<0.1	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	14	14	3.8	120	<2	<10	<0.4	<1	29	29	11	10
SP25	SP25/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	17.6	-	10	<5	60	<1	<50	<1	-	18	-	7	7
SP26	SP26/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	14	-	11	<5	30	<1	<50	<1	-	22	-	9	6
SP27	SP27/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	12.3	-	8	<5	40	<1	<50	<1	-	21	-	8	6
SP28	SP28/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	10.8	-	8	<5	10	<1	<50	<1	-	22	-	5	<5
SP29	SP29/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	12.4	-	9	<5	20	<1	<50	<1	-	22	-	6	<5
SP30	SP30/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	10.1	-	9	<5	10	<1	<50	<1	-	23	-	5	5
SP31	SP31/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	12.1	-	9	<5	20	<1	<50	<1	-	30	-	6	7
SP32	SP32/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	16.1	-	10	<5	20	<1	<50	<1	-	30	-	8	8
SP33	SP33/0-0.15	0-0.15	SILT	23-May-19	-	-	-	<0.2	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<10	1	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.05	13.8	-	<5	<5	<10	<1	<50	<1	<0.5	3	-	<2	<5
SP34	SP34/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	19	-	9	<5	20	<1	<50	<1	-	26	-	5	5
SP35	SP35/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	10.8	-	9	<5	10	<1	<50	<1	-	24	-	4	5
SP36	SP36/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	15.5	-	11	6	20	<1	<50	<1	-	23	-	6	6
SP37	SP37/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	12	-	9	<5	40	<1	<50	<1	-	21	-	8	6
SP38	SP38/0-0.15	0-0.15	SILT	23-May-19	-	-	-	<0.2	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<10	1	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.05	13.2	-	9	<5	20	<1	<50	<1	<0.5	24	-	6	5
SP39	SP39/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	12	-	10	<5	10	<1	<50	<1	-	23	-	5	5
SP40	SP40/0-0.15	0-0.15	SILT	23-May-19	-	-	-	<0.2	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<10	1	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.05	10.5	-	10	<5	20	<1	<50	<1	<0.5	28	-	9	6
SP41	SP41/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	12	-	11	<5	30	<1	<50	<1	-	50	-	19	14
SP42	SP42/0-0.15	0-0.15	SILT	23-May-19	-	-	-	<0.2	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<10	1	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.05	15.2	-	10	<5	30	<1	<50	<1	<0.5	54	-	20	14
SP43	SP43/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	16.4	-	11	<5	160	<1	<50	<1	-	45	-	28	14

									Organochlorine Pesticides																																			
					Manganese	Mercury	Nickel	Selenium	Vanadium	Zinc	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene	Azinophos methyl	Bolstar (Sulprofos)	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Demeton-O
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					5	0.1	2	5	5	5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05		0.05		0.05	0.05	0.05	0.05	0.05		
NEPM 2013 Table 1A(1) HILs Res A Soil					3800	40	400	200		7400				6		50						240		270				10				6		300	20						160			
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion																																												
0-1m																																												
NEPM 2013 Table 1B(6) ESLs for Urban Res																																												
0-2m																																												
LocCode	**Field_ID**	**Sample_Depth**	**Soil_Type**	**Sampled_Date-Time**																																								
SP01	SP01/0-0.15	0-0.15	SILT	23-May-19	194	<0.1	14	<5	26	13	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP02	SP02/0-0.15	0-0.15	SILT	23-May-19	184	<0.1	12	<5	23	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP03	SP03/0-0.15	0-0.15	SILT	23-May-19	248	<0.1	20	<5	38	15	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP04	SP04/0-0.15	0-0.15	SILT	23-May-19	255	<0.1	20	<5	37	16	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP05	QC04	0-0.15	SILT	23-May-19	197	<0.1	17	<5	33	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP05	QC05	0-0.15	SILT	23-May-19	350	<0.1	30	-	59	27	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2
SP05	SP05/0-0.15	0-0.15	SILT	23-May-19	216	<0.1	20	<5	35	14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP06	SP06/0-0.15	0-0.15	SILT	23-May-19	143	<0.1	12	<5	34	16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP07	SP07/0-0.15	0-0.15	SILT	23-May-19	135	<0.1	14	<5	36	23	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP08	SP08/0-0.15	0-0.15	SILT	23-May-19	233	<0.1	11	<5	26	40	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP09	SP09/0-0.15	0-0.15	SILT	23-May-19	93	<0.1	6	<5	21	12	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP10	SP10/0-0.15	0-0.15	SILT	23-May-19	129	<0.1	9	<5	37	23	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP11	SP11/0-0.15	0-0.15	SILT	23-May-19	147	<0.1	12	<5	41	15	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP12	SP12/0-0.15	0-0.15	SILT	23-May-19	277	<0.1	18	<5	39	13	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP13	SP13/0-0.15	0-0.15	SILT	23-May-19	260	<0.1	13	<5	28	11	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP14	SP14/0-0.15	0-0.15	SILT	23-May-19	235	<0.1	14	<5	24	13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP15	SP15/0-0.15	0-0.15	SILT	23-May-19	213	<0.1	17	<5	27	14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP16	SP16/0-0.15	0-0.15	SILT	23-May-19	230	<0.1	13	<5	26	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP17	SP17/0-0.15	0-0.15	SILT	23-May-19	226	<0.1	12	<5	24	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP18	SP18/0-0.15	0-0.15	SILT	23-May-19	163	<0.1	12	<5	35	12	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP19	SP19/0-0.15	0-0.15	SILT	23-May-19	175	<0.1	7	<5	26	6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP20	SP20/0-0.15	0-0.15	SILT	23-May-19	287	<0.1	21	<5	37	50	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP21	SP21/0-0.15	0-0.15	SILT	23-May-19	126	<0.1	18	<5	38	467	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP22	SP22/0-0.15	0-0.15	SILT	23-May-19	143	0.1	10	<5	24	34	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP23	SP23/0-0.15	0-0.15	SILT	23-May-19	200	<0.1	8	<5	31	126	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP24	SP24/0-0.15	0-0.15	SILT	23-May-19	340	<0.1	14	<5	25	25	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP25	QC06	0-0.15	SILT	23-May-19	326	<0.1	12	<5	26	85	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP25	QC07	0-0.15	SILT	23-May-19	440	<0.1	18	-	38	110	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2
SP25	SP25/0-0.15	0-0.15	SILT	23-May-19	301	<0.1	11	<5	24	84	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP26	SP26/0-0.15	0-0.15	SILT	23-May-19	279	<0.1	13	<5	31	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP27	SP27/0-0.15	0-0.15	SILT	23-May-19	241	<0.1	11	<5	31	10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP28	SP28/0-0.15	0-0.15	SILT	23-May-19	105	<0.1	9	<5	34	7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP29	SP29/0-0.15	0-0.15	SILT	23-May-19	223	<0.1	9	<5	36	8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP30	SP30/0-0.15	0-0.15	SILT	23-May-19	111	<0.1	9	<5	38	9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP31	SP31/0-0.15	0-0.15	SILT	23-May-19	116	<0.1	14	<5	42	14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP32	SP32/0-0.15	0-0.15	SILT	23-May-19	186	<0.1	14	<5	44	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP33	SP33/0-0.15	0-0.15	SILT	23-May-19	44	<0.1	<2	<5	<5	<5	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP34	SP34/0-0.15	0-0.15	SILT	23-May-19	173	<0.1	11	<5	40	14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP35	SP35/0-0.15	0-0.15	SILT	23-May-19	114	<0.1	10	<5	37	10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP36	SP36/0-0.15	0-0.15	SILT	23-May-19	126	<0.1	11	<5	33	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP37	SP37/0-0.15	0-0.15	SILT	23-May-19	267	<0.1	12	<5	29	13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP38	SP38/0-0.15	0-0.15	SILT	23-May-19	173	<0.1	10	<5	36	10	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP39	SP39/0-0.15	0-0.15	SILT	23-May-19	184	<0.1	10	<5	37	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP40	SP40/0-0.15	0-0.15	SILT	23-May-19	159	<0.1	16	<5	42	11	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP41	SP41/0-0.15	0-0.15	SILT	23-May-19	397	<0.1	32	<5	61	16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP42	SP42/0-0.15	0-0.15	SILT	23-May-19	377	<0.1	40	<5	65	16	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP43	SP43/0-0.15	0-0.15	SILT	23-May-19	754	<0.1	35	<5	55	21	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-

					Organophosphorous Pesticides																							PAH	PAH/Phenols															
					Demeton-S	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethion	Ethoprop	Fenitrothion	Fensulfothion	Fenthion	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Naled (Dibrom)	Omethoate	Phorate	Prothiofos	Pyrazophos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos	Benzo(b+j)fluoranthene	2,4-dimethylphenol	2-methylphenol	2-nitrophenol	3&4-methylphenol	4-chloro-3-methylphenol	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Carcinogenic PAHs (as B(a)P TPE)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						0.05	0.05	0.05		0.05				0.05	0.05		0.2		0.2				0.05						0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
NEPM 2013 Table 1A(1) HILs Res A Soil																																												3
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion																																												
0-1m																																												
NEPM 2013 Table 1B(6) ESLs for Urban Res																																												
0-2m																																						0.7					
LocCode	Field_ID	Sample_Depth	Soil_Type	Sampled_Date-Time																																								
SP01	SP01/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP02	SP02/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP03	SP03/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP04	SP04/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP05	QC04	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP05	QC05	0-0.15	SILT	23-May-19	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP05	SP05/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP06	SP06/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP07	SP07/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP08	SP08/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP09	SP09/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP10	SP10/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP11	SP11/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP12	SP12/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP13	SP13/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP14	SP14/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP15	SP15/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP16	SP16/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP17	SP17/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP18	SP18/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP19	SP19/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP20	SP20/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP21	SP21/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP22	SP22/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP23	SP23/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP24	SP24/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP25	QC06	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP25	QC07	0-0.15	SILT	23-May-19	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP25	SP25/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP26	SP26/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP27	SP27/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP28	SP28/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP29	SP29/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP30	SP30/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP31	SP31/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP32	SP32/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP33	SP33/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP34	SP34/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP35	SP35/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP36	SP36/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP37	SP37/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP38	SP38/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP39	SP39/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP40	SP40/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP41	SP41/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP42	SP42/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP43	SP43/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

										Pesticides								Polychlorinated Biphenyls	SVOCs	TPH											
					Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	PAHs (Sum of total)	Phenanthrene	Phenol	Pyrene	Bifenthrin	Demeton-S-methyl	Fenamiphos	Mirex	Parathion	Pirimiphos-methyl	Pirimphos-ethyl	PCBs (Sum of total)	EPN	C10-C16	C16-C34	C34-C40	F2-NAPHTHALENE	C6 - C9	C10 - C14	C15 - C28	C29-C36	+C10 - C36 (Sum of total)	C10 - C40 (Sum of total)	C6-C10
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.05	0.05	0.05	0.2	0.2		0.05	0.1		50	100	100	50	10	50	100	100	50	50	10
NEPM 2013 Table 1A(1) HILs Res A Soil									300		3000		600			10				1												
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion																																
0-1m								3|4|5																	110|230|280							
NEPM 2013 Table 1B(6) ESLs for Urban Res																						120	1300	5600								180
0-2m																						120	300	2800								180
LocCode	**Field_ID**	**Sample_Depth**	**Soil_Type**	**Sampled_Date-Time**																												
SP01	SP01/0-0.15	0-0.15	SILT	23-May-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.2	<0.2	-	<0.05	<0.1	-	<50	<100	<100	<50	<10	<50	<100	<100	<50	<50	<10
SP02	SP02/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP03	SP03/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP04	SP04/0-0.15	0-0.15	SILT	23-May-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.2	<0.2	-	<0.05	<0.1	-	<50	<100	<100	<50	<10	<50	<100	<100	<50	<50	<10
SP05	QC04	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP05	QC05	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.2	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-
SP05	SP05/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP06	SP06/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP07	SP07/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP08	SP08/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP09	SP09/0-0.15	0-0.15	SILT	23-May-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.2	<0.2	-	<0.05	<0.1	-	<50	<100	<100	<50	<10	<50	<100	<100	<50	<50	<10
SP10	SP10/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP11	SP11/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP12	SP12/0-0.15	0-0.15	SILT	23-May-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.2	<0.2	-	<0.05	<0.1	-	<50	<100	<100	<50	<10	<50	<100	<100	<50	<50	<10
SP13	SP13/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP14	SP14/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP15	SP15/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP16	SP16/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP17	SP17/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP18	SP18/0-0.15	0-0.15	SILT	23-May-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.2	<0.2	-	<0.05	<0.1	-	<50	<100	<100	<50	<10	<50	<100	<100	<50	<50	<10
SP19	SP19/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP20	SP20/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP21	SP21/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP22	SP22/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP23	SP23/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP24	SP24/0-0.15	0-0.15	SILT	23-May-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.2	<0.2	-	<0.05	<0.1	-	<50	<100	<100	<50	<10	<50	<100	<100	<50	<50	<10
SP25	QC06	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP25	QC07	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.2	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-
SP25	SP25/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP26	SP26/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP27	SP27/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP28	SP28/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP29	SP29/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP30	SP30/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP31	SP31/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP32	SP32/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP33	SP33/0-0.15	0-0.15	SILT	23-May-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.2	<0.2	-	<0.05	<0.1	-	<50	<100	<100	<50	<10	<50	<100	<100	<50	<50	<10
SP34	SP34/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP35	SP35/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP36	SP36/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP37	SP37/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP38	SP38/0-0.15	0-0.15	SILT	23-May-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.2	<0.2	-	<0.05	<0.1	-	<50	120	<100	<50	<10	<50	<100	<100	<50	120	<10
SP39	SP39/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP40	SP40/0-0.15	0-0.15	SILT	23-May-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.2	<0.2	-	<0.05	<0.1	-	<50	100	<100	<50	<10	<50	<100	<100	<50	100	<10
SP41	SP41/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP42	SP42/0-0.15	0-0.15	SILT	23-May-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.2	<0.2	-	<0.05	<0.1	-	<50	120	<100	<50	<10	<50	<100	<100	<50	120	<10
SP43	SP43/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-

					OCP		BTEX							Halogenated Benzenes	Halogenated Phenols	Herbicides										
					Vic EPA IWRG 621 OCP (Total)*	Vic EPA IWRG 621 Other OCP (Total)*	Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene Total	C6-C10 less BTEX (F1)	Hexachlorobenzene	Pentachlorophenol	2,4,5-Trichlorophenoxy Acetic Acid	2,4,5-TP (Silvex)	Hedonal	2,4-Dichlorprop	4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)	Atrazine	Dicamba	Dinoseb	2-Methyl-4-chlorophenoxyacetic acid	2-Methyl-4-Chlorophenoxy Butanoic Acid	Mecoprop
					MG/KG	MG/KG	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.3	20	0.05	1	0.5	0.5	0.5	0.5	0.5	0.2	0.5	0.5	0.5	0.5	0.5
AS2159 2009 Concrete Piles In Soil																										
AS2159 2009 Steel Piles In Soil																										
NEPM 2013 Table 1A(1) HILs Res A Soil														10	100	600		900			320			600	600	600
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion																										
0-1m							0.5|0.6|0.7	NL|55	160|390|480			40|95|110	40|45|50												
NEPM 2013 Table 1B(6) ESLs for Urban Res							65		105				180													
0-2m							50	70|125	85			45|105	180													
NEPM 2013 EILs																										
0-2m																										
LocCode	**Sample_Depth_Range**	**Field_ID**	**Sampled_Date-Time**	**Env_Stds_Conditional_Matrix_Type**																						
SP44	0-0.15	SP44/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP45	0-0.15	SP45/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP46	0-0.15	SP46/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP47	0-0.15	SP47/0.0-0.15	6/01/2023	SILT	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.05	<1	<0.5	-	<0.5	-	-	<0.2	-	-	<0.5	<0.5	<0.5
SP48	0-0.15	SP48/0.0-0.15	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5
SP49	0-0.15	SP49/0.0-0.15	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
SP50	0-0.15	SP50/0.0-0.15	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
SP51	0-0.15	SP51/0.0-0.15	6/01/2023	SILT	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.05	<1	<0.5	-	<0.5	-	-	<0.2	-	-	<0.5	<0.5	<0.5
SP52	0-0.15	SP52/0.0-0.15	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
SP53	0-0.15	SP53/0.0-0.15	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
SP54	0-0.15	SP54/0.0-0.15	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5
SP55	0-0.15	SP55/0.0-0.15	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5
SP56	0-0.15	SP56/0.0-0.15	6/01/2023	SILT	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.05	<1	<0.5	-	<0.5	-	-	<0.2	-	-	<0.5	<0.5	<0.5
SP57	0-0.15	QC01/060123	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
SP57	0-0.15	QC02/060123	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
SP57	0-0.15	SP57/0.0-0.15	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
SP58	0-0.15	SP58/0.0-0.15	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
SP59	0-0.15	SP59/0.0-0.15	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5
SP60	0-0.15	SP60/0.0-0.15	6/01/2023	SILT	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.05	<1	<0.5	-	<0.5	-	-	<0.2	-	-	<0.5	<0.5	<0.5
SP61	0-0.15	SP61/0.0-0.15	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
SP62	0-0.15	SP62/0.0-0.15	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-

NE Not Established

❶ CCME (2007) Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health

❷ US EPA Eco-Tox SSL

❸ ANZECC B levels

					Inorganics			Lead	Metals												Organochlorine Pesticides												
					Cyanide (Free)	Moisture Content (dried @ 103°C)	pH (aqueous extract)	Lead	Arsenic	Beryllium	Boron	Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Cobalt	Copper	Manganese	Mercury	Nickel	Selenium	Zinc	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	chlordane	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II
					mg/kg	%	pH_Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					5	1	0.1	5	2	2	10	0.4	1	5	5	5	5	0.1	5	2	5	0.05	0.05	0.05	0.05	0.05	0.1	0.05	0.05	0.05	0.05	0.05	0.05	0.05
AS2159 2009 Concrete Piles In Soil																																		
AS2159 2009 Steel Piles In Soil							>5																											
NEPM 2013 Table 1A(1) HILs Res A Soil					250		6-8❸	300	100	60	4500	20	100	NE	100	6000	3800	40	400	200	7400				6		50				240			
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion																																		
0-1m																																		
NEPM 2013 Table 1B(6) ESLs for Urban Res																																		
0-2m																																		
NEPM 2013 EILs																																		
0-2m							6-8❸	NE	100					NE	50❶	NE	220❷		NE		NE													
LocCode	**Sample_Depth_Range**	**Field_ID**	**Sampled_Date-Time**	**Env_Stds_Conditional_Matrix_Type**																														
SP44	0-0.15	SP44/0.0-0.15	6/01/2023	SILT	-	7.1	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP45	0-0.15	SP45/0.0-0.15	6/01/2023	SILT	-	8.8	5.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP46	0-0.15	SP46/0.0-0.15	6/01/2023	SILT	-	3.6	7.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP47	0-0.15	SP47/0.0-0.15	6/01/2023	SILT	<5	6.1	5.9	12	4.1	<2	<20	<0.4	<1	41	10	8.7	220	<0.1	16	<2	18	<0.05	-	<0.05	<0.05	-	<0.1	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP48	0-0.15	SP48/0.0-0.15	6/01/2023	SILT	-	9.6	8	15	4.7	-	-	<0.4	-	65	-	15	-	<0.1	30	-	30	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP49	0-0.15	SP49/0.0-0.15	6/01/2023	SILT	-	10	-	12	5	-	-	<0.4	-	71	-	17	-	<0.1	48	-	33	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP50	0-0.15	SP50/0.0-0.15	6/01/2023	SILT	-	19	-	15	4.3	-	-	<0.4	-	80	-	19	-	<0.1	52	-	27	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP51	0-0.15	SP51/0.0-0.15	6/01/2023	SILT	<5	12	6.4	15	5.2	<2	<20	<0.4	<1	79	24	19	400	<0.1	51	<2	32	<0.05	-	<0.05	<0.05	-	<0.1	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP52	0-0.15	SP52/0.0-0.15	6/01/2023	SILT	-	17	-	12	3.5	-	-	<0.4	-	65	-	17	-	<0.1	51	-	26	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP53	0-0.15	SP53/0.0-0.15	6/01/2023	SILT	-	11	-	15	4.9	-	-	<0.4	-	64	-	19	-	<0.1	37	-	31	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP54	0-0.15	SP54/0.0-0.15	6/01/2023	SILT	-	20	7.2	16	5.1	-	-	<0.4	-	81	-	26	-	<0.1	62	-	45	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP55	0-0.15	SP55/0.0-0.15	6/01/2023	SILT	-	13	6.9	21	4.7	-	-	<0.4	-	67	-	19	-	<0.1	42	-	41	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP56	0-0.15	SP56/0.0-0.15	6/01/2023	SILT	<5	11	6.6	16	3.5	<2	<20	<0.4	<1	50	21	13	440	<0.1	25	<2	21	<0.05	-	<0.05	<0.05	-	<0.1	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP57	0-0.15	QC01/060123	6/01/2023	SILT	-	15	-	13	4	-	-	<0.4	-	59	-	18	-	<0.1	33	-	28	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP57	0-0.15	QC02/060123	6/01/2023	SILT	-	27.6	-	14	<5	-	-	<1	-	50	-	16	-	<0.1	27	-	17	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05
SP57	0-0.15	SP57/0.0-0.15	6/01/2023	SILT	-	18	-	13	3.8	-	-	<0.4	-	57	-	17	-	<0.1	31	-	24	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP58	0-0.15	SP58/0.0-0.15	6/01/2023	SILT	-	19	-	13	3.9	-	-	<0.4	-	55	-	17	-	<0.1	32	-	25	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP59	0-0.15	SP59/0.0-0.15	6/01/2023	SILT	-	11	7.5	18	3.5	-	-	<0.4	-	43	-	14	-	<0.1	26	-	36	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP60	0-0.15	SP60/0.0-0.15	6/01/2023	SILT	<5	18	6.9	15	3.7	<2	<20	<0.4	<1	50	25	15	580	<0.1	30	<2	27	<0.05	-	<0.05	<0.05	-	<0.1	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP61	0-0.15	SP61/0.0-0.15	6/01/2023	SILT	-	20	-	13	3.6	-	-	<0.4	-	50	-	16	-	<0.1	27	-	28	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP62	0-0.15	SP62/0.0-0.15	6/01/2023	SILT	-	7.3	-	14	3.4	-	-	<0.4	-	46	-	15	-	<0.1	25	-	33	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

NE Not Established

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❷ US EPA Eco-Tox SSL

❸ ANZECC B levels

												Organophosphorous Pesticides	Other	PAH	PAH/Phenols																
						Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene	Chlorpyrifos	Actril (Ioxynil)	Benzo[b+j]fluoranthene	2-methylphenol	3-&4-methylphenol	4,6-Dinitro-2-methylphenol	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Carcinogenic PAHs (as B(a)P TPE)	Fluoranthene	Fluorene
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.2	0.5	0.5	0.2	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
AS2159 2009 Concrete Piles In Soil																															
AS2159 2009 Steel Piles In Soil																															
NEPM 2013 Table 1A(1) HILs Res A Soil							10				6		300	20	160															3	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion																															
0-1m																															
NEPM 2013 Table 1B(6) ESLs for Urban Res																															
0-2m																									0.7						
NEPM 2013 EILs																															
0-2m																															
LocCode	Sample_Depth_Range	Field_ID	Sampled_Date-Time	Env_Stds_Conditional_Matrix_Type																											
SP44	0-0.15	SP44/0.0-0.15	6/01/2023	SILT		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP45	0-0.15	SP45/0.0-0.15	6/01/2023	SILT		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP46	0-0.15	SP46/0.0-0.15	6/01/2023	SILT		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP47	0-0.15	SP47/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	-	-	-	<0.05	-	<0.05	<0.5	<0.2	-	<0.5	<0.2	<0.4	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP48	0-0.15	SP48/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.2	<0.5	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP49	0-0.15	SP49/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP50	0-0.15	SP50/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP51	0-0.15	SP51/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	-	-	-	<0.05	-	<0.05	<0.5	<0.2	-	<0.5	<0.2	<0.4	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP52	0-0.15	SP52/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP53	0-0.15	SP53/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP54	0-0.15	SP54/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.2	<0.5	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP55	0-0.15	SP55/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.2	<0.5	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP56	0-0.15	SP56/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	-	-	-	<0.05	-	<0.05	<0.5	<0.2	-	<0.5	<0.2	<0.4	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP57	0-0.15	QC01/060123	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP57	0-0.15	QC02/060123	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP57	0-0.15	SP57/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP58	0-0.15	SP58/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP59	0-0.15	SP59/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.2	<0.5	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP60	0-0.15	SP60/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	-	-	-	<0.05	-	<0.05	<0.5	<0.2	-	<0.5	<0.2	<0.4	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP61	0-0.15	SP61/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP62	0-0.15	SP62/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NE Not Established
1 CCME (2007) Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health
2 US EPA Eco-Tox SSL
3 ANZECC B levels

											Pesticides		Polychlorinated Biphenyls								TPH										
				Indeno(1,2,3-c,d)pyrene	Naphthalene	PAHs (Sum of total)	Phenanthrene	Phenol	Picloram	Pyrene	Bifenthrin	Mirex	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	C10-C16	C16-C34	C34-C40	F2-NAPHTHALENE	C6 - C9	C10 - C14	C15 - C28	C29-C36	+C10 - C36 (Sum of total)	C10 - C40 (Sum of total)	C6-C10
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	50	100	100	50	20	20	50	50	50	100	20
AS2159 2009 Concrete Piles In Soil																															
AS2159 2009 Steel Piles In Soil																															
NEPM 2013 Table 1A(1) HILs Res A Soil						300		3000	4500		600	10								1											
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion																															
0-1m					3|4|5																		110|230|280							
NEPM 2013 Table 1B(6) ESLs for Urban Res																						1300	5600	120							
0-2m																						300	2800	120							
NEPM 2013 EILs																															
0-2m																															
LocCode	**Sample_Depth_Range**	**Field_ID**	**Sampled_Date-Time**	**Env_Stds_Conditional_Matrix_Type**																											
SP44	0-0.15	SP44/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP45	0-0.15	SP45/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP46	0-0.15	SP46/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP47	0-0.15	SP47/0.0-0.15	6/01/2023	SILT	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<50	<100	<100	<50	<20	<20	<50	52	52	<100	<20
SP48	0-0.15	SP48/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	<0.5	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP49	0-0.15	SP49/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP50	0-0.15	SP50/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP51	0-0.15	SP51/0.0-0.15	6/01/2023	SILT	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<50	<100	<100	<50	<20	<20	<50	110	110	<100	<20
SP52	0-0.15	SP52/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP53	0-0.15	SP53/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP54	0-0.15	SP54/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	<0.5	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP55	0-0.15	SP55/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	<0.5	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP56	0-0.15	SP56/0.0-0.15	6/01/2023	SILT	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<50	<100	<100	<50	<20	<20	<50	60	60	<100	<20
SP57	0-0.15	QC01/060123	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP57	0-0.15	QC02/060123	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP57	0-0.15	SP57/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP58	0-0.15	SP58/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP59	0-0.15	SP59/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	<0.5	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP60	0-0.15	SP60/0.0-0.15	6/01/2023	SILT	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<50	<100	<100	<50	<20	<20	<50	<50	<50	<100	<20
SP61	0-0.15	SP61/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP62	0-0.15	SP62/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NE Not Established

❶ CCME (2007) Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health

❷ US EPA Eco-Tox SSL

❸ ANZECC B levels

PRSA Statement – 76-156 Canterbury Road East, Lara, Victoria

Preliminary risk screen assessment statement

Under Part 8.3 of the *Environment Protection Act 2017*

Publication F1031.1 published February 2022

The purpose of a preliminary risk screen assessment is:

(a) to assess the likelihood of the presence of contaminated land; and

(b) to determine if an environmental audit is required; and

(c) if an environmental audit is required, to recommend a scope for the environmental audit.

It is important to note that a PRSA statement is not an environmental audit statement or an environmental audit report. It should not be construed as an environmental audit conducted to assess the suitability of land use.

This statement is a summary of the findings of a preliminary risk screen assessment conducted under Part 8.3 of the *Environment Protection Act 2017* for:

76-156 Canterbury Road East, Lara, Victoria
Crown Allotment 3C Section 15B Township of Lara Parish of Moranghurk Volume 9925 Folio 167

Further details are provided in the preliminary risk screen assessment report that accompanies this statement.

Section 1: Preliminary risk screen assessment overview

Environmental auditor details

Name:	
Company:	AAA Environmental Pty Ltd
Address:	8 / 153 La Trobe Street, Melbourne, 3000
Phone:	
Email:	

Site owner/occupant

Name:	
Company:	Lara Farms Pty Ltd

Environmental auditor engaged by

Name:	
Company:	Lara Farms Pty Ltd
Relationship to site owner:	Development Manager

Reason for preliminary risk screen assessment

Planning scheme:	Planning Permit Requirement
Permit details (if applicable):	

Other:	
☐ Permit is attached (if applicable):	

Section 2: Assessment scope

Site details

Address:	76-156 Canterbury Road East, Lara, Victoria
Title details:	Crown Allotment 3C Section 15B Township of Lara Parish of Moranghurk Volume 9925 Folio 167
Area (m^2):	201,181 m^2 (approximately)

☒ a plan of the site is attached

Use or proposed use assessed

The below section details which land uses (current and proposed) the PRSA has assessed. Note, this is not a suitability of land use audit, rather an assessment to determine if an environmental audit is required for the land uses that apply to the specific PRSA.

Sensitive land use categories

Note that sensitive land uses in the Environment Reference Standard 2021 (ERS 2021) are categorised as lower and high density. Lower density is where there is generally substantial access to soil and high density is restricted to developments that make maximum use of available land space, and there is minimal access to soil. For planning purposes, the Ministerial Direction No. 1 (MD No.1) considers secondary schools and children's playgrounds to be sensitive land uses.

☒ High density

☒ Other (lower density)

☒ Residential land use
☒ Child care centre
☒ Pre-school
☒ Primary school
☒ Secondary school

☒ Children's playground (indoor)
☒ Children's playground (outdoor)

Other land use categories

☒ Recreation/open space
☐ Parks and reserves
☐ Agricultural
☒ Commercial
☒ Industrial
☐ Other land uses not captured by the above as described here

Environmental elements assessed

☒ Land
- ☒ all environmental values that apply to the land use category were considered OR
- ☐ all environmental values that apply to the land use category, other than the following, were considered:

Preliminary risk screen assessment statement

☒ Water

- ☐ Surface water
  - ☐ all environmental values that apply to the applicable segment were considered OR
  - ☐ all environmental values that apply to the applicable segment, other than the following, were considered:

- ☒ Groundwater
  - ☒ all environmental values that apply to the applicable segment were considered OR
  - ☐ all environmental values that apply to the applicable segment, other than the following, were considered:

Standards considered

- Australian & New Zealand Guidelines for Fresh and Marine Water Quality website (https://www.waterquality.gov.au/anz-guidelines).
- Australian Government. National Health and Medical Research Council (2008). Guidelines for Managing Risks in Recreational Waters.
- Australian & New Zealand Environment & Conservation Council and Agriculture & Resource Management Council of Australia and New Zealand (2000). Australian and New Zealand Guidelines for Fresh and Marine Water Quality. National Water Quality Management Strategy.
- CRC Care National Remediation Framework Website. (https://www.crccare.com/knowledge-sharing/national-remediation-framework).
- Canadian Council of Ministers of the Environment (2007). Canadian Environmental Quality Guidelines (www.ccme.ca/en/resources/canadian_environmental_quality_guidelines/index.html).
- Department of Environment, Land, Water and Planning (July 2021). Potentially Contaminated Land – Planning Practice Note 30.
- Dutch National Institute of Public Health and the Environment, RIVM (2013). Soil Remediation Circular, Version of 1 July 2013.
- EPA Victoria (2022). Hydrogeological Assessment (Groundwater Quality) Guidelines. EPA Publication 668.1. October 2022.
- EPA Victoria (2022). Environmental Auditor Guidelines for Appointment and Conduct. EPA Publication 865.13. March 2022.
- EPA Victoria (2022). Groundwater Sampling Guidelines. EPA Publication 669.1. February 2022.
- EPA Victoria (2021). Environmental Auditor Guidelines – Provision of Statements and Reports for Environmental Audits and Preliminary Risk Screen Assessments. EPA Publication 2022. August 2021.
- EPA Victoria (2021). Guidance for the Cleanup and Management of Contaminated Groundwater. EPA Publication 2001. July 2021.
- EPA Victoria (2022). Guideline for Conducting Preliminary Risk Screen Assessments. EPA Publication 2021. February 2022.
- EPA Victoria (2021). Contaminated Land Policy. Publication 1915. February 2021.
- EPA Victoria (2021). Proposed Guideline. Notifiable Contamination Guideline – Duty to Notify of Contaminated Land. EPA Publication 2008.1. July 2021.
- EPA Victoria (2021). Assessing and Controlling Contaminated Land Risks: A Guide to Meeting the Duty to Manage for those in Management or Control of Land. EPA Publication 1977. June 2021.

- EPA Victoria (2021). Guide to the Environment Reference Standard. EPA Publication 1992. June 2021.
- EPA Victoria (2021). Using SEPPs and WMPs in the New Environment Protection Framework. EPA Publication 1994. June 2021.
- EPA Victoria (2021). Contaminated Land: Understanding Section 35 of the Environment Protection Act 2017. EPA Publication 1940. February 2021.
- EPA Victoria (2021). Proposed Methodology for Deriving Background Level Concentration when Assessing Potentially Contaminated Land. EPA Publication 1936. January 2021.
- National Environment Protection Council (NEPC) (2013). National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended 2013.
- National Environment Protection Council (NEPC) (2021). National Environment Protection (Ambient Air Quality) Measure 1998, as amended May 2021.
- Standards Australia (2005). Australian Standard, Guide to the sampling and investigation of potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds. AS4482.1 – 2005.
- Standards Australia (1999). Australian Standard, Guide to the sampling and investigation of potentially contaminated soil, Part 2: Volatile Substances. AS4482.2 – 1999.
- Victorian Government Department of Sustainability and Environment (2010). Victorian Best Practice Guidelines for Assessing and Managing Coastal Acid Sulfate Soils. October 2010.
- Victorian Government Gazette (2021). Environment Reference Standard. S245 Wednesday 26 May 2021.
- Victoria Government (2021). Environment Protection Regulations 2021.

Assumptions made during the assessment or any limitations

The environmental element of *Ambient Sound* has been considered in the PRSA due to the residential area of the site having boundaries exposed to the Geelong- Melbourne Railway Line to the north west and the Princes Freeway to the south east. The detail of the management of the required noise attenuation zones has not been included in the PRSA, on the assumption that Council will require this element to be appropriately protected as part of the Planning Permit process.

Exclusions from the assessment and the rationale for these

Surface Water has been excluded from the assessment because no natural surface water bodies are present on the site.

Ambient Air has been excluded from the assessment as the only likely risks to air quality associated with contamination of land or groundwater are expected to be associated with indoor air quality, and as such this element is not considered to be relevant in this setting.

This statement is accompanied by the following preliminary risk screen assessment report

Title:	Preliminary Risk Screen Assessment Report 76-156 Canterbury Road East and 705-775 & 785-805 Princes Highway, Lara, Victoria Lara Farms Pty Ltd
Report no:	20245
Date:	21 June 2023

Section 3: Assessment outcome

Based on my assessment, I am of the opinion that an environmental audit **is required** for the following land uses, **including** the use or proposed use for which the site has been assessed:

Sensitive land use categories

Note that sensitive land uses in the ERS 2021 are categorised as lower and high density. Lower density is where there is generally substantial access to soil and high density is restricted to developments that make maximum use of available land space, and there is minimal access to soil. For planning purposes, the MD No.1 considers secondary schools and children's playgrounds to be sensitive land uses.

☒ High density

☒ Other (lower density)

☒ Residential land use
☒ Child care centre
☒ Pre-school
☒ Primary school
☒ Secondary school

☒ Children's playground (indoor)
Children's playground (outdoor)

Other land use categories

☒ Recreation/open space
☐ Parks and reserves
☐ Agricultural
☒ Commercial
☒ Industrial
☐ Other land uses not captured by the above as described here:

Reason for environmental audit

The Auditor concluded that soil within the site may be impacted by demolition wastes associated with the removal of historical sheds and structures and may be contaminated by historical uses of the site which may have included farming of poultry, including the burial of chicken carcasses and other site wastes.

Preliminary risk screen assessment statement

Proposed scope of environmental audit

Site to be audited:	
Site/premises name	
Address	76-156 Canterbury Road East, Lara, Victoria
Title details	Crown Allotment 3C Section 15B Township of Lara Parish of Moranghurk Volume 9925 Folio 167
Area (m^2)	201,181 (approximately)
Use or proposed use of the site to be audited:	Sensitive land use categories ☐ High density ☒ Other (lower density) ☒ Residential land use ☒ Child care centre ☒ Pre-school ☒ Primary school ☒ Secondary school ☒ Children's playground (indoor) ☒ Children's playground (outdoor) Other land use categories ☒ Recreation/open space ☐ Parks and reserves ☐ Agricultural ☒ Commercial ☒ Industrial ☐ Other land uses not captured by the above as described here:
Elements of the environment to be assessed in the environmental audit:	☒ Land ☒ all environmental values that apply to the land use category to be considered **OR** ☐ all environmental values that apply to the land use category, other than the following, to be considered:
	☐ Water ☐ Surface water ☐ all environmental values that apply to the segment to be considered **OR** ☐ all environmental values that apply to the segment, other than the following, to be considered: ☒ Groundwater ☒ all environmental values that apply to the segment to be considered **OR** ☐ all environmental values that apply to the segment, other than the following, to be considered:

Standards and reference documents to be considered:	**Guidelines issued by the Authority under Section 203 of the Environment Protection Act 2017** • EPA Victoria (2022). Environmental Auditor Guidelines for Appointment and Conduct. EPA Publication 865.13. March 2022. • EPA Victoria (2022). Groundwater Sampling Guidelines. EPA Publication 669.1. February 2022. • EPA Victoria (2021). Guidance for the Cleanup and Management of Contaminated Groundwater. EPA Publication 2001. July 2021. • EPA Victoria (2021). Environmental Auditor Guidelines – Provision of Statements and Reports for Environmental Audits and Preliminary Risk Screen Assessments. EPA Publication 2022. August 2021. **Subordinate Legislation** • Victorian Government Gazette (2021). Environment Reference Standard. S245 Wednesday 26 May 2021. • Victoria Government (2021). Environment Protection Regulations 2021. **National Environment Protection Measures** • National Environment Protection Council (NEPC) (2021). National Environment Protection (Ambient Air Quality) Measure 1998, as amended May 2021. • National Environment Protection Council (NEPC) (2013). National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended 2013. **Policies** • EPA Victoria (2021). Contaminated Land Policy. Publication 1915. February 2021. **EPA Victoria Publications** • EPA Victoria (2022). Hydrogeological Assessment (Groundwater Quality) Guidelines. EPA Publication 668.1. October 2022. • EPA Victoria (2021). Proposed Methodology for Deriving Background Level Concentration when Assessing Potentially Contaminated Land. EPA Publication 1936. January 2021. • EPA Victoria (2021). Contaminated Land: Understanding Section 35 of the Environment Protection Act 2017. EPA Publication 1940. February 2021. • EPA Victoria (2021). Assessing and Controlling Contaminated Land Risks: A Guide to Meeting the Duty to Manage for those in Management or Control of Land. EPA Publication 1977. June 2021. • EPA Victoria (2021). Guide to the Environment Reference Standard. EPA Publication 1992. June 2021. • EPA Victoria (2021). Using SEPPs and WMPs in the New Environment Protection Framework. EPA Publication 1994. June 2021. • EPA Victoria (2021). Proposed Guideline. Notifiable Contamination Guideline – Duty to Notify of Contaminated Land. EPA Publication 2008.1. July 2021. • EPA Victoria (2018). Landfill gas fugitive emissions monitoring guideline. EPA Publication 1984. February 2018. • EPA Victoria (2017). Assessing planning proposals within the buffer of a landfill. EPA Publication 1942. October 2017. • EPA Victoria (2015). Siting, design, operation and rehabilitation of landfills. EPA Publication 788.3. August 2015.

	Other Published Guidelines and Standards • Australian & New Zealand Guidelines for Fresh and Marine Water Quality website (https://www.waterquality.gov.au/anz-guidelines). • Australian Government. National Health and Medical Research Council (2008). Guidelines for Managing Risks in Recreational Waters. • Australian & New Zealand Environment & Conservation Council and Agriculture & Resource Management Council of Australia and New Zealand (2000). Australian and New Zealand Guidelines for Fresh and Marine Water Quality. National Water Quality Management Strategy. • CRC Care National Remediation Framework Website. (https://www.crccare.com/knowledge-sharing/national-remediation-framework). • Canadian Council of Ministers of the Environment (2007). Canadian Environmental Quality Guidelines (www.ccme.ca/en/resources/canadian_environmental_quality_guidelines/index.html). • Department of Environment, Land, Water and Planning (July 2021). Potentially Contaminated Land – Planning Practice Note 30. • Dutch National Institute of Public Health and the Environment, RIVM (2013). Soil Remediation Circular, Version of 1 July 2013. • Standards Australia (2005). Australian Standard, Guide to the sampling and investigation of potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds. AS4482.1 – 2005. • Standards Australia (1999). Australian Standard, Guide to the sampling and investigation of potentially contaminated soil, Part 2: Volatile Substances. AS4482.2 – 1999. • Victorian Government Department of Sustainability and Environment (2010). Victorian Best Practice Guidelines for Assessing and Managing Coastal Acid Sulfate Soils. October 2010.Environment Reference Standard 2021 • National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended from time to time.
Exclusions from the environmental audit and rationale for these:	Previous soil assessments conducted at limited locations across the northern allotment (76-156 Canterbury Road East, Lara) have indicated a low potential for contamination to have occurred as a result of more recent farming related activities. The primary potential risk of soil contamination within the northern allotment is associated with the potential historical use of the eastern paddock of the northern allotment for poultry farming (possibly egg production) based on the nature of the sheds present in the 1947 and 1963 aerial photographs. No details are available on the precise use of this portion of the site at those times. The Auditor has considered that there is some potential that solid wastes associated with the demolition of the site buildings (which may include asbestos containing materials) could have been buried within this portion of the site over the period of shed and other building demolition works. It is also considered by the Auditor that a burial area or areas may be present in this portion of the site associated with the poultry operations, and this could contain chicken carcasses (most likely only bones given the age of these activities) and other site wastes. As a result, the Auditor considered that the soils across this portion of the site should be assessed at a suitable density to detect possible buried contamination sources at the site. At this time, the Auditor is of the opinion that the risk of groundwater contamination is low given the age of the activities. The required soil assessment for the Environmental Audit is limited to the portion of the site that was in use for poultry farming practices and to the extent of any contaminated soil resulting from this use (expected to be limited to the eastern paddock of the northern allotment). The area of the PRSA site that requires an Environmental Audit is shown in the Certificate of Title site plan attached to this PRSA Statement in Attachment 1.

Preliminary risk screen assessment statement

	The environmental elements of *Surface Water and Ambient Air* can be excluded from the Environmental Audit as these elements were not considered relevant in the conduct of the PRSA, and a similar rationale has been applied in developing the scope for the Environmental Audit.
Assumptions made or limitations on the environmental audit:	The environmental element of *Ambient Sound* was considered under the PRSA, but it was assumed in the PRSA that this element would be appropriately addressed by Council through the Planning Permit process and the consideration or development of noise attenuation measures was not a requirement of the PRSA. This conclusion is considered to be the same case for the purpose of the proposed Environmental Audit and so the Environmental Audit is not required to assess this environmental element. The proposed scope of the Environmental Audit is based on the results of the PRSA conducted and the Auditor's opinion on the potential for contamination to be present. This conclusion does not limit the Audit scope to be changed if different site conditions are encountered or the appointed Auditor considers that other scope items are considered necessary to complete the Environmental Audit at that time.

Note: An assessment that an environmental audit is not required does not include any comment on as to whether responsibilities under section 39 of the *Environment Protection Act 2017* (duty to manage contaminated land) exist for the person in management or control of the land. Please refer to EPA publication 1977, *Assessing and controlling contaminated land risks: A guide to meeting the duty to manage for those in management or control of land* (https://www.epa.vic.gov.au/about-epa/publications/1977).

Section 4: Environmental auditor's declaration

I state that:

- I am appointed as an environmental auditor by the Environment Protection Authority Victoria under the Environment Protection Act 2017.
- The findings contained in this statement represents a true and accurate summary of the findings of the preliminary risk screen assessment that I have completed.

Date: 21 June 2023

Signed:

Name: Nunn

Environmental Auditor

Attachment 1
Certificate of Title / Site Plan

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 09925 FOLIO 167

Security no : 124105587185Y
Produced 24/04/2023 11:10 AM

LAND DESCRIPTION

Crown Allotment 3C Section 15B Township of Lara Parish of Moranghurk.
PARENT TITLE Volume 09824 Folio 024
Created by instrument P269748P 23/06/1989

REGISTERED PROPRIETOR

Estate Fee Simple
Sole Proprietor
LARA FARMS PTY LTD of LEVEL 1 2 MYERS STREET GEELONG VIC 3220
AV797723E 29/06/2022

ENCUMBRANCES, CAVEATS AND NOTICES

For details of any other encumbrances see the plan or imaged folio set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE TP785257R FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

----------END OF REGISTER SEARCH STATEMENT----------

Additional information: (not part of the Register Search Statement)

Street Address: 76-156 CANTERBURY ROAD EAST LARA VIC 3212

ADMINISTRATIVE NOTICES

NIL

eCT Control 19232V SLADEN LEGAL
Effective from 29/06/2022

DOCUMENT END

TITLE PLAN		EDITION 1	TP 785257R

Location of Land

Parish: MORANGHURK
Township: LARA
Section: 15B
Crown Allotment: 3C
Crown Portion:

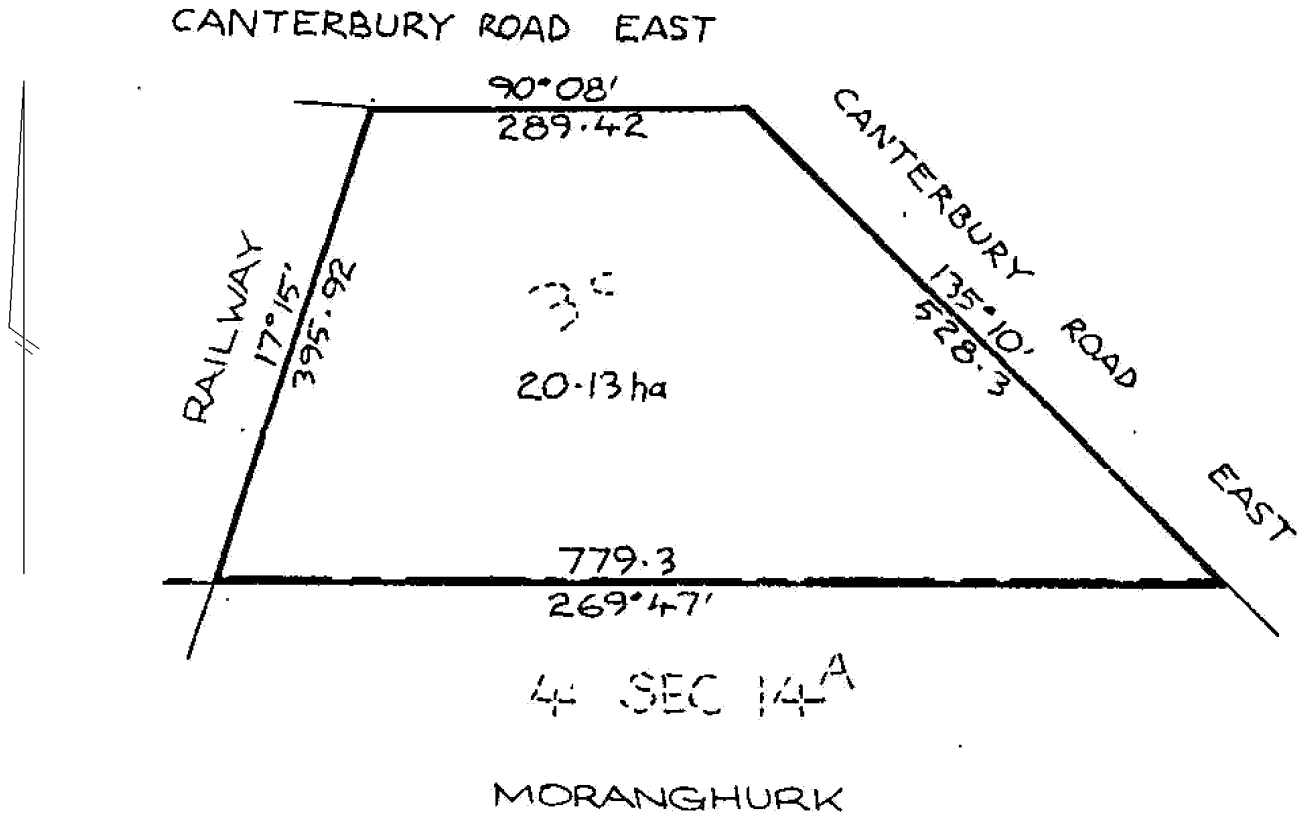
Last Plan Reference:
Derived From: VOL 9925 FOL 167
Depth Limitation: NIL

Notations

ANY REFERENCE TO MAP IN THE TEXT MEANS THE DIAGRAM SHOWN ON THIS TITLE PLAN

Description of Land / Easement Information

THIS PLAN HAS BEEN PREPARED FOR THE LAND REGISTRY, LAND VICTORIA, FOR TITLE DIAGRAM PURPOSES AS PART OF THE LAND TITLES AUTOMATION PROJECT
COMPILED: 18/05/2003
VERIFIED: L.S.



LENGTHS ARE IN METRES	Metres = 0.3048 x Feet Metres = 0.201168 x Links		Sheet 1 of 1 sheets

PRSA Statement – 705-775 & 785-805 Princes Highway, Lara, Victoria

Preliminary risk screen assessment statement

Under Part 8.3 of the *Environment Protection Act 2017*

Publication F1031.1 published February 2022

The purpose of a preliminary risk screen assessment is:

(a) to assess the likelihood of the presence of contaminated land; and

(b) to determine if an environmental audit is required; and

(c) if an environmental audit is required, to recommend a scope for the environmental audit.

It is important to note that a PRSA statement is not an environmental audit statement or an environmental audit report. It should not be construed as an environmental audit conducted to assess the suitability of land use.

This statement is a summary of the findings of a preliminary risk screen assessment conducted under Part 8.3 of the *Environment Protection Act 2017* for:

705-775 & 785-805 Princes Highway, Lara, Victoria
Lot 2 LP98249 Volume 09002 Folio 660 and Lot 1 TP156147 Volume 09002 Folio 922

Further details are provided in the preliminary risk screen assessment report that accompanies this statement.

Section 1: Preliminary risk screen assessment overview

Environmental auditor details

Name:	Nunn
Company:	AAA Environmental Pty Ltd
Address:	8 / 153 La Trobe Street, Melbourne, 3000
Phone:	
Email:	

Site owner/occupant

Name:	
Company:	Lara Farms Pty Ltd

Environmental auditor engaged by

Name:	
Company:	Lara Farms Pty Ltd
Relationship to site owner:	Development Manager

Reason for preliminary risk screen assessment

Planning scheme:	Planning Permit Requirement
Permit details (if applicable):	
Other:	

☐ Permit is attached (if applicable):	

Section 2: Assessment scope

Site details

Address:	705-775 & 785-805 Princes Highway, Lara, Victoria
Title details:	Lot 2 LP98249 Volume 09002 Folio 660 Lot 1 TP156147 Volume 09002 Folio 922
Area (m^2):	941,861 m^2 (approximately)

☒ a plan of the site is attached

Use or proposed use assessed

The below section details which land uses (current and proposed) the PRSA has assessed. Note, this is not a suitability of land use audit, rather an assessment to determine if an environmental audit is required for the land uses that apply to the specific PRSA.

Sensitive land use categories

Note that sensitive land uses in the Environment Reference Standard 2021 (ERS 2021) are categorised as lower and high density. Lower density is where there is generally substantial access to soil and high density is restricted to developments that make maximum use of available land space, and there is minimal access to soil. For planning purposes, the Ministerial Direction No. 1 (MD No.1) considers secondary schools and children's playgrounds to be sensitive land uses.

☒ High density	☒ Residential land use
☒ Other (lower density)	☒ Child care centre ☒ Pre-school ☒ Primary school ☒ Secondary school

☒ Children's playground (indoor)
☒ Children's playground (outdoor)

Other land use categories

☒ Recreation/open space
☐ Parks and reserves
☐ Agricultural
☒ Commercial
☒ Industrial
☐ Other land uses not captured by the above as described here

Environmental elements assessed

☒ Land
- ☒ all environmental values that apply to the land use category were considered OR
- ☐ all environmental values that apply to the land use category, other than the following, were considered:

☒ Water
- ☐ Surface water
  - ☐ all environmental values that apply to the applicable segment were considered OR
  - ☐ all environmental values that apply to the applicable segment, other than the following, were considered:

Preliminary risk screen assessment statement

☒ Groundwater

- ☒ all environmental values that apply to the applicable segment were considered OR
- ☐ all environmental values that apply to the applicable segment, other than the following, were considered:

Standards considered

- Australian & New Zealand Guidelines for Fresh and Marine Water Quality website (https://www.waterquality.gov.au/anz-guidelines).
- Australian Government. National Health and Medical Research Council (2008). Guidelines for Managing Risks in Recreational Waters.
- Australian & New Zealand Environment & Conservation Council and Agriculture & Resource Management Council of Australia and New Zealand (2000). Australian and New Zealand Guidelines for Fresh and Marine Water Quality. National Water Quality Management Strategy.
- CRC Care National Remediation Framework Website. (https://www.crccare.com/knowledge-sharing/national-remediation-framework).
- Canadian Council of Ministers of the Environment (2007). Canadian Environmental Quality Guidelines (www.ccme.ca/en/resources/canadian_environmental_quality_guidelines/index.html).
- Department of Environment, Land, Water and Planning (July 2021). Potentially Contaminated Land – Planning Practice Note 30.
- Dutch National Institute of Public Health and the Environment, RIVM (2013). Soil Remediation Circular, Version of 1 July 2013.
- EPA Victoria (2022). Hydrogeological Assessment (Groundwater Quality) Guidelines. EPA Publication 668.1. October 2022.
- EPA Victoria (2022). Environmental Auditor Guidelines for Appointment and Conduct. EPA Publication 865.13. March 2022.
- EPA Victoria (2022). Groundwater Sampling Guidelines. EPA Publication 669.1. February 2022.
- EPA Victoria (2021). Environmental Auditor Guidelines – Provision of Statements and Reports for Environmental Audits and Preliminary Risk Screen Assessments. EPA Publication 2022. August 2021.
- EPA Victoria (2021). Guidance for the Cleanup and Management of Contaminated Groundwater. EPA Publication 2001. July 2021.
- EPA Victoria (2022). Guideline for Conducting Preliminary Risk Screen Assessments. EPA Publication 2021. February 2022.
- EPA Victoria (2021). Contaminated Land Policy. Publication 1915. February 2021.
- EPA Victoria (2021). Proposed Guideline. Notifiable Contamination Guideline – Duty to Notify of Contaminated Land. EPA Publication 2008.1. July 2021.
- EPA Victoria (2021). Assessing and Controlling Contaminated Land Risks: A Guide to Meeting the Duty to Manage for those in Management or Control of Land. EPA Publication 1977. June 2021.
- EPA Victoria (2021). Guide to the Environment Reference Standard. EPA Publication 1992. June 2021.
- EPA Victoria (2021). Using SEPPs and WMPs in the New Environment Protection Framework. EPA Publication 1994. June 2021.

- EPA Victoria (2021). Contaminated Land: Understanding Section 35 of the Environment Protection Act 2017. EPA Publication 1940. February 2021.
- EPA Victoria (2021). Proposed Methodology for Deriving Background Level Concentration when Assessing Potentially Contaminated Land. EPA Publication 1936. January 2021.
- National Environment Protection Council (NEPC) (2013). National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended 2013.
- National Environment Protection Council (NEPC) (2021). National Environment Protection (Ambient Air Quality) Measure 1998, as amended May 2021.
- Standards Australia (2005). Australian Standard, Guide to the sampling and investigation of potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds. AS4482.1 – 2005.
- Standards Australia (1999). Australian Standard, Guide to the sampling and investigation of potentially contaminated soil, Part 2: Volatile Substances. AS4482.2 – 1999.
- Victorian Government Department of Sustainability and Environment (2010). Victorian Best Practice Guidelines for Assessing and Managing Coastal Acid Sulfate Soils. October 2010.
- Victorian Government Gazette (2021). Environment Reference Standard. S245 Wednesday 26 May 2021.
- Victoria Government (2021). Environment Protection Regulations 2021.

Assumptions made during the assessment or any limitations

The environmental element of *Ambient Sound* has been considered in the PRSA due to the residential area of the site having boundaries exposed to the Geelong- Melbourne Railway Line to the north west and the Princes Freeway to the south east. The detail of the management of the required noise attenuation zones has not been included in the PRSA, on the assumption that Council will require this element to be appropriately protected as part of the Planning Permit process.

Exclusions from the assessment and the rationale for these

Surface Water has been excluded from the assessment because no natural surface water bodies are present on the site.

Ambient Air has been excluded from the assessment as the only likely risks to air quality associated with contamination of land or groundwater are expected to be associated with indoor air quality, and as such this element is not considered to be relevant in this setting.

This statement is accompanied by the following preliminary risk screen assessment report

Title:	Preliminary Risk Screen Assessment Report 76-156 Canterbury Road East and 705-775 & 785-805 Princes Highway, Lara, Victoria Lara Farms Pty Ltd
Report no:	20245
Date:	21 June 2023

Section 3: Assessment outcome

Based on my assessment, I am of the opinion that an environmental audit is **not required** for the following land uses, **including** the use or proposed use for which the site has been assessed:

Sensitive land use categories

Note that sensitive land uses in the ERS 2021 are categorised as lower and high density. Lower density is where there is generally substantial access to soil and high density is restricted to developments that make maximum use of available land space, and there is minimal access to soil. For planning purposes, the MD No.1 considers secondary schools and children's playgrounds to be sensitive land uses.

☒ High density

☒ Other (lower density)

☒ Residential land use
☒ Child care centre
☒ Pre-school
☒ Primary school
☒ Secondary school

☒ Children's playground (indoor)
Children's playground (outdoor)

Other land use categories

☒ Recreation/open space
☐ Parks and reserves
☐ Agricultural
☒ Commercial
☒ Industrial
☐ Other land uses not captured by the above as described here:

Section 4: Environmental auditor's declaration

I state that:

- I am appointed as an environmental auditor by the Environment Protection Authority Victoria under the Environment Protection Act 2017.
- The findings contained in this statement represents a true and accurate summary of the findings of the preliminary risk screen assessment that I have completed.

Date: 21 June 2023

Signed:

Name:

Environmental Auditor

Attachment 1
Certificates of Title / Site Plans

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 12385 FOLIO 750

Security no : 124105587525E
Produced 24/04/2023 11:16 AM

LAND DESCRIPTION

Lot 1 on Title Plan 156147J.
PARENT TITLE Volume 09000 Folio 922
Created by instrument AV766619Y 22/06/2022

REGISTERED PROPRIETOR

Estate Fee Simple
Sole Proprietor
LARA FARMS PTY LTD of LEVEL 1 2 MYERS STREET GEELONG VIC 3220
AV797724C 29/06/2022

ENCUMBRANCES, CAVEATS AND NOTICES

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE TP156147J FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

----------END OF REGISTER SEARCH STATEMENT----------

Additional information: (not part of the Register Search Statement)

Street Address: 785-805 PRINCES HIGHWAY LARA VIC 3212

ADMINISTRATIVE NOTICES

NIL

eCT Control 19232V SLADEN LEGAL
Effective from 01/07/2022

DOCUMENT END

TITLE PLAN		EDITION 1	TP 156147J

Location of Land

Parish: MORANGHURK
Township:
Section:
Crown Allotment:
Crown Portion:

Last Plan Reference: LP 81458
Derived From: VOL 9000 FOL 922
Depth Limitation: NIL

Notations

ANY REFERENCE TO MAP IN THE TEXT MEANS THE DIAGRAM SHOWN ON THIS TITLE PLAN

Description of Land / Easement Information

THIS PLAN HAS BEEN PREPARED FOR THE LAND REGISTRY, LAND VICTORIA, FOR TITLE DIAGRAM PURPOSES AS PART OF THE LAND TITLES AUTOMATION PROJECT
COMPILED: 21-09-1999
VERIFIED: AD

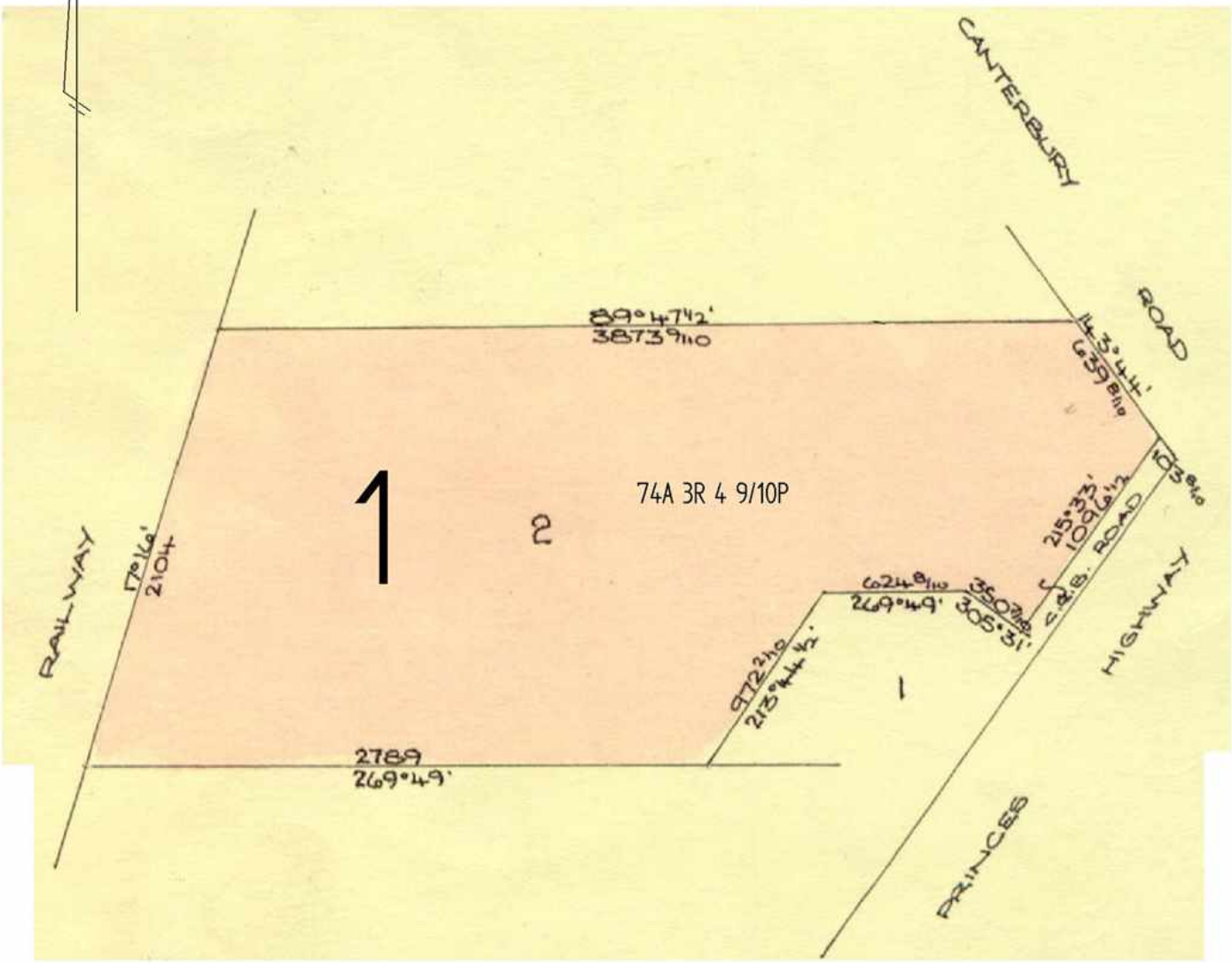


TABLE OF PARCEL IDENTIFIERS
WARNING: Where multiple parcels are referred to or shown on this Title Plan this does not imply separately disposable parcels under Section 8A of the Sale of Land Act 1962
PARCEL 1 = LOT 2 (PT) ON LP 81458

LENGTHS ARE IN LINKS	Metres = 0.3048 x Feet Metres = 0.201168 x Links		Sheet 1 of 1 sheets

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 09002 FOLIO 660

Security no : 124105587184A
Produced 24/04/2023 11:10 AM

LAND DESCRIPTION

Lot 2 on Plan of Subdivision 098249.
PARENT TITLE Volume 08986 Folio 529
Created by instrument LP098249 18/12/1973

REGISTERED PROPRIETOR

Estate Fee Simple
Sole Proprietor
LARA FARMS PTY LTD of LEVEL 1 2 MYERS STREET GEELONG VIC 3220
AV797723E 29/06/2022

ENCUMBRANCES, CAVEATS AND NOTICES

COVENANT as to part V953535R 21/11/2001

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan or imaged folio set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE TP485710V FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

----------END OF REGISTER SEARCH STATEMENT----------

Additional information: (not part of the Register Search Statement)

Street Address: 705-765 PRINCES HIGHWAY LARA VIC 3212

ADMINISTRATIVE NOTICES

NIL

eCT Control 19232V SLADEN LEGAL
Effective from 29/06/2022

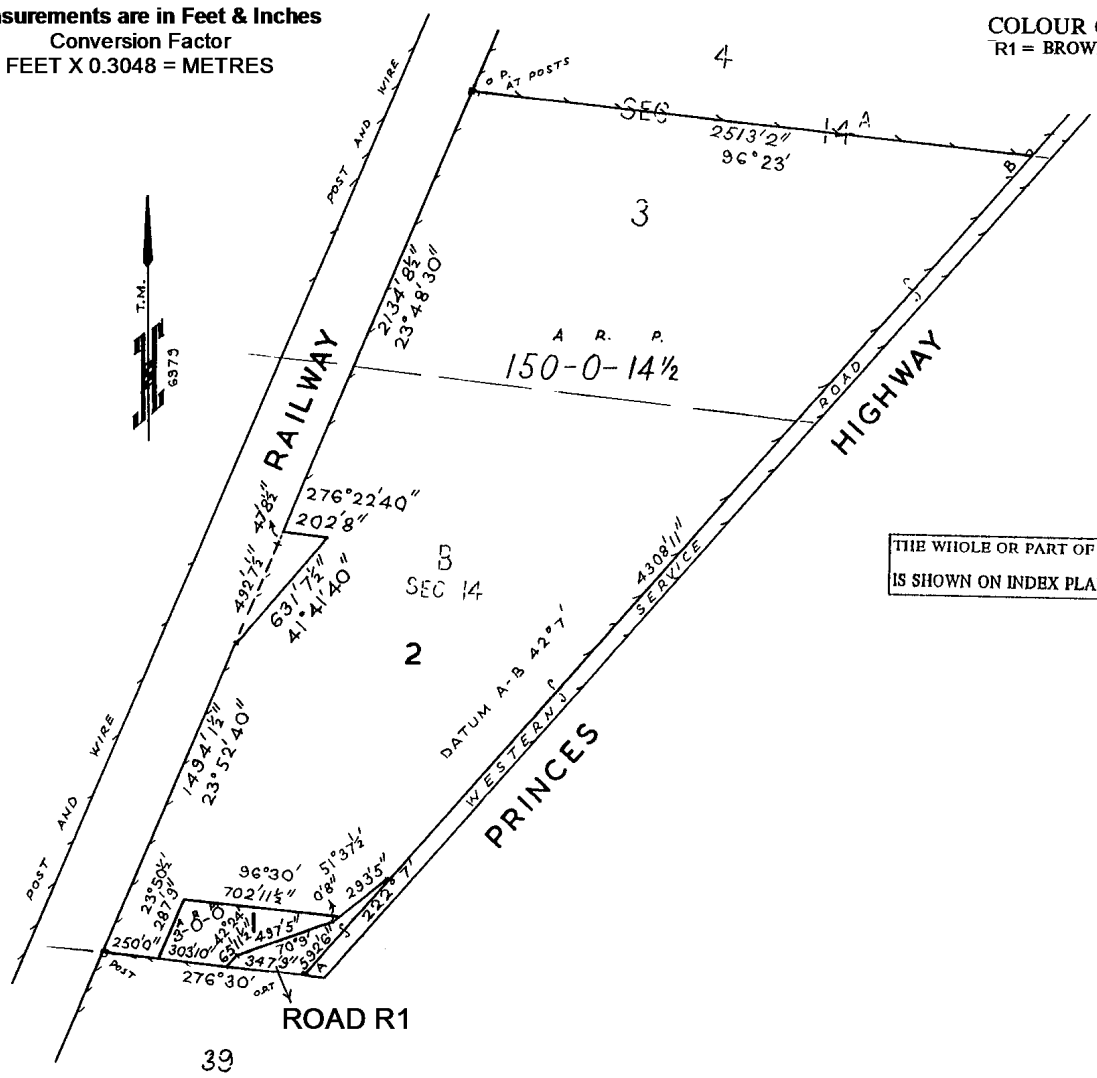
DOCUMENT END

LP98249
EDITION 1
APPROVED 17/10/73

PLAN OF SUBDIVISION OF PART OF CROWN PORTION B SECTION 14 & PART OF CROWN ALLOTMENT 3 SECTION 14A PARISH: MORANGHURK COUNTY: GRANT VOL.8986 FOL.529	APPROPRIATIONS	ENCUMBRANCES & OTHER NOTATIONS
	BROWN - WAY & DRAINAGE	

Measurements are in Feet & Inches
Conversion Factor
FEET X 0.3048 = METRES

COLOUR CONVERSION
R1 = BROWN



THE WHOLE OR PART OF THIS PLAN
IS SHOWN ON INDEX PLAN No. 245

39

Appendix A Current Certificates of Title

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 09925 FOLIO 167

Security no : 124105587185Y
Produced 24/04/2023 11:10 AM

LAND DESCRIPTION

Crown Allotment 3C Section 15B Township of Lara Parish of Moranghurk.
PARENT TITLE Volume 09824 Folio 024
Created by instrument P269748P 23/06/1989

REGISTERED PROPRIETOR

Estate Fee Simple
Sole Proprietor
LARA FARMS PTY LTD of LEVEL 1 2 MYERS STREET GEELONG VIC 3220
AV797723E 29/06/2022

ENCUMBRANCES, CAVEATS AND NOTICES

For details of any other encumbrances see the plan or imaged folio set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE TP785257R FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

----------END OF REGISTER SEARCH STATEMENT----------

Additional information: (not part of the Register Search Statement)

Street Address: 76-156 CANTERBURY ROAD EAST LARA VIC 3212

ADMINISTRATIVE NOTICES

NIL

eCT Control 19232V SLADEN LEGAL
Effective from 29/06/2022

DOCUMENT END

Imaged Document Cover Sheet

The document following this cover sheet is an imaged document supplied by LANDATA®, Secure Electronic Registries Victoria.

Document Type	**Plan**
Document Identification	**TP785257R**
Number of Pages (excluding this cover sheet)	**1**
Document Assembled	**16/05/2022 16:39**

TITLE PLAN		EDITION 1	TP 785257R

Location of Land

Parish: MORANGHURK
Township: LARA
Section: 15B
Crown Allotment: 3C
Crown Portion:

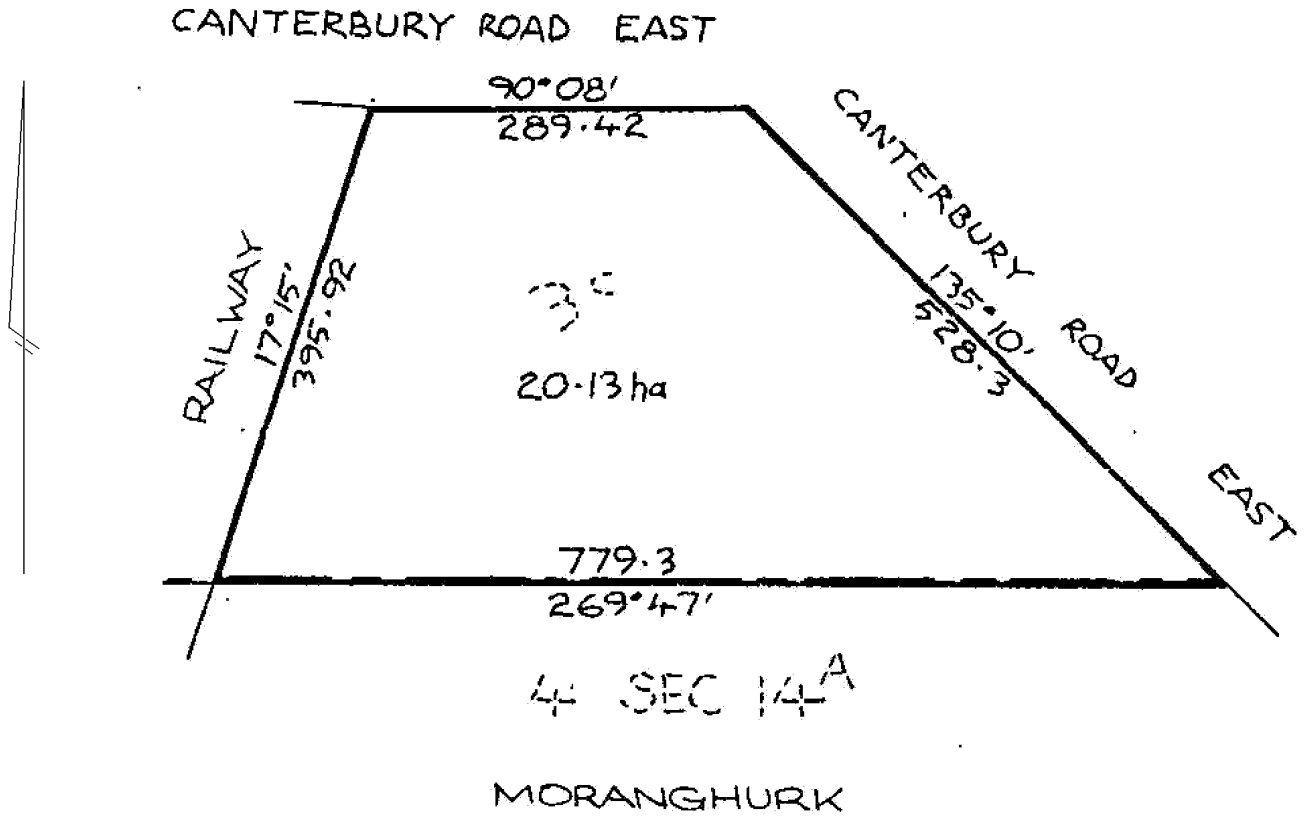
Last Plan Reference:
Derived From: VOL 9925 FOL 167
Depth Limitation: NIL

Notations

ANY REFERENCE TO MAP IN THE TEXT MEANS THE DIAGRAM SHOWN ON THIS TITLE PLAN

Description of Land / Easement Information

THIS PLAN HAS BEEN PREPARED FOR THE LAND REGISTRY, LAND VICTORIA, FOR TITLE DIAGRAM PURPOSES AS PART OF THE LAND TITLES AUTOMATION PROJECT
COMPILED: 18/05/2003
VERIFIED: L.S.



LENGTHS ARE IN METRES	Metres = 0.3048 x Feet Metres = 0.201168 x Links		Sheet 1 of 1 sheets

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 12385 FOLIO 750

Security no : 124105587525E
Produced 24/04/2023 11:16 AM

LAND DESCRIPTION

Lot 1 on Title Plan 156147J.
PARENT TITLE Volume 09000 Folio 922
Created by instrument AV766619Y 22/06/2022

REGISTERED PROPRIETOR

Estate Fee Simple
Sole Proprietor
LARA FARMS PTY LTD of LEVEL 1 2 MYERS STREET GEELONG VIC 3220
AV797724C 29/06/2022

ENCUMBRANCES, CAVEATS AND NOTICES

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE TP156147J FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

----------END OF REGISTER SEARCH STATEMENT----------

Additional information: (not part of the Register Search Statement)

Street Address: 785-805 PRINCES HIGHWAY LARA VIC 3212

ADMINISTRATIVE NOTICES

NIL

eCT Control 19232V SLADEN LEGAL
Effective from 01/07/2022

DOCUMENT END

Imaged Document Cover Sheet

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Document Type	**Plan**
Document Identification	**TP156147J**
Number of Pages (excluding this cover sheet)	**1**
Document Assembled	**17/05/2022 12:43**

TITLE PLAN		EDITION 1	TP 156147J

Location of Land

Parish: MORANGHURK
Township:
Section:
Crown Allotment:
Crown Portion:

Last Plan Reference: LP 81458
Derived From: VOL 9000 FOL 922
Depth Limitation: NIL

Notations

ANY REFERENCE TO MAP IN THE TEXT MEANS THE DIAGRAM SHOWN ON THIS TITLE PLAN

Description of Land / Easement Information

THIS PLAN HAS BEEN PREPARED FOR THE LAND REGISTRY, LAND VICTORIA, FOR TITLE DIAGRAM PURPOSES AS PART OF THE LAND TITLES AUTOMATION PROJECT
COMPILED: 21-09-1999
VERIFIED: AD

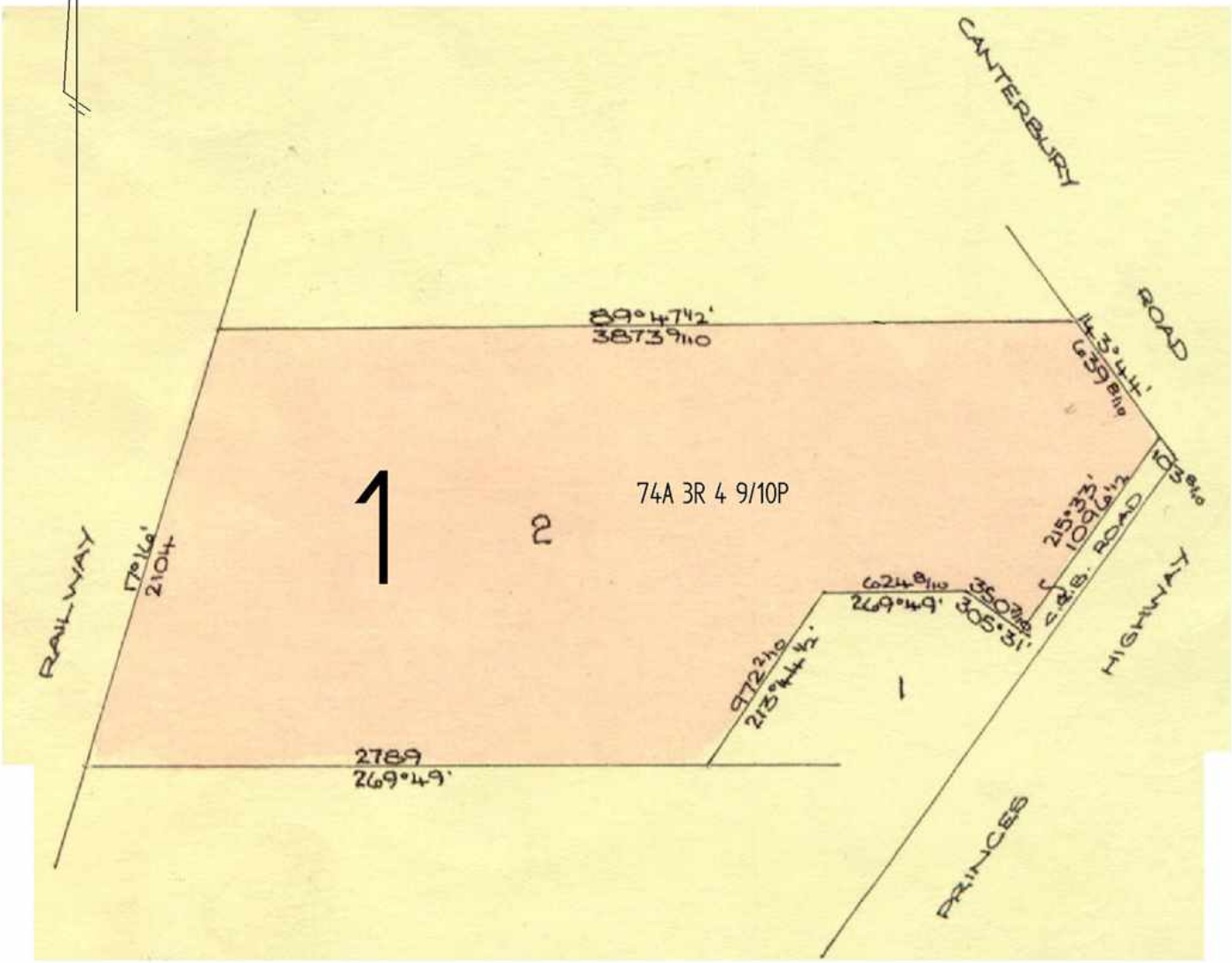

TABLE OF PARCEL IDENTIFIERS
WARNING: Where multiple parcels are referred to or shown on this Title Plan this does not imply separately disposable parcels under Section 8A of the Sale of Land Act 1962
PARCEL 1 = LOT 2 (PT) ON LP 81458

LENGTHS ARE IN LINKS	Metres = 0.3048 x Feet Metres = 0.201168 x Links		Sheet 1 of 1 sheets

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 09002 FOLIO 660

Security no : 124105587184A
Produced 24/04/2023 11:10 AM

LAND DESCRIPTION

Lot 2 on Plan of Subdivision 098249.
PARENT TITLE Volume 08986 Folio 529
Created by instrument LP098249 18/12/1973

REGISTERED PROPRIETOR

Estate Fee Simple
Sole Proprietor
LARA FARMS PTY LTD of LEVEL 1 2 MYERS STREET GEELONG VIC 3220
AV797723E 29/06/2022

ENCUMBRANCES, CAVEATS AND NOTICES

COVENANT as to part V953535R 21/11/2001

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan or imaged folio set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE TP485710V FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

----------END OF REGISTER SEARCH STATEMENT----------

Additional information: (not part of the Register Search Statement)

Street Address: 705-765 PRINCES HIGHWAY LARA VIC 3212

ADMINISTRATIVE NOTICES

NIL

eCT Control 19232V SLADEN LEGAL
Effective from 29/06/2022

DOCUMENT END

Imaged Document Cover Sheet

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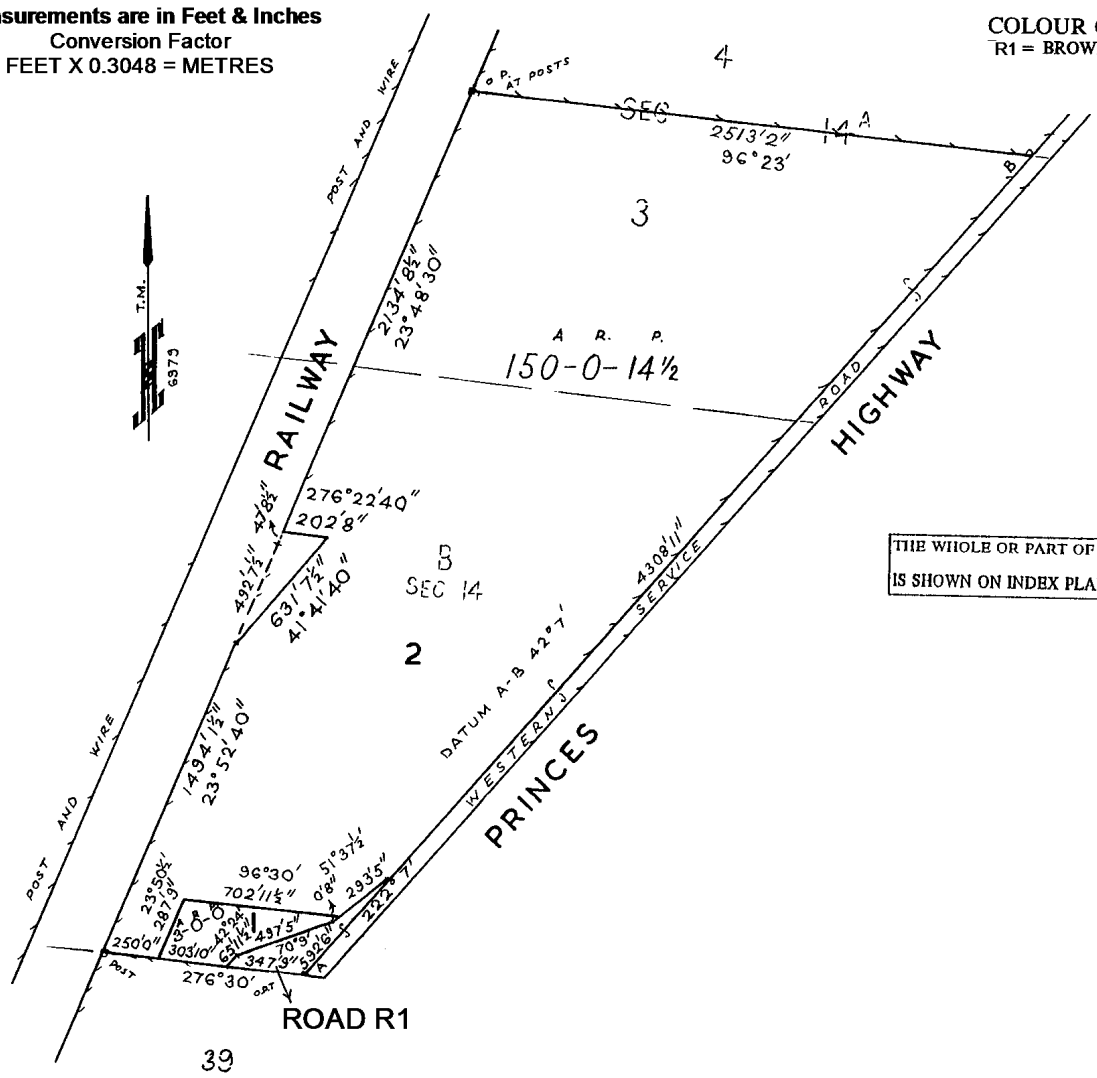
Document Type	**Plan**
Document Identification	**LP098249**
Number of Pages (excluding this cover sheet)	**1**
Document Assembled	**16/05/2022 16:34**

LP98249
EDITION 1
APPROVED 17/10/73

PLAN OF SUBDIVISION OF PART OF CROWN PORTION B SECTION 14 & PART OF CROWN ALLOTMENT 3 SECTION 14A PARISH: MORANGHURK COUNTY: GRANT VOL.8986 FOL.529	APPROPRIATIONS	ENCUMBRANCES & OTHER NOTATIONS
	BROWN - WAY & DRAINAGE	

Measurements are in Feet & Inches
Conversion Factor
FEET X 0.3048 = METRES

COLOUR CONVERSION
R1 = BROWN



THE WHOLE OR PART OF THIS PLAN
IS SHOWN ON INDEX PLAN No. 245

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Appendix B Environmental Site Assessments Pty Ltd Environmental Assessment Report (2019)

Environmental Assessment

76-156 Canterbury Road East, 705-775 Princes Hwy & 785-805 Princes Hwy, Lara

Prepared for:

Costa Property Group

Environmental Site Assessments

office@esagroup.com.au | 0433 747 187 | www.esagroup.com.au

Document Control

Environmental Site Assessments Pty Ltd
PO Box 3106
Waurn Ponds 3216
Phone: 0433 747 187

Report Title	Environmental Assessment – 76-156 Canterbury Road East, 705-775 Princes Hwy & 785-805 Princes Hwy, Lara
Doc. Ref	ESA/447/2019
Client	Costa Property Group
Signatures	Prepared and Authorised by: Seton Lillas BSc *Waik.* Senior Environmental Scientist

Revision Status

Revision #	Status	Date	Writer
1	Final	28/05/19	S. Lillas

Documents Distribution

Revision #	Number of copies	Type	Recipient	Position and Company
1	1	Email	Mike Schokman	Development Manager – Costa Property Group

Contents

Appendices

CONCLUSION OF ENVIRONMENTAL ASSESSMENT

Conclusions	There is a Low likelihood of chemical contamination of soil in the paddocks due to application of fertilisers and/or herbicides. There is a Low likelihood of contamination of soil at the Site due to industrial waste. There is a Low probability of occurrence of Acid Sulfate soils on Site. The Site is surrounded by low risk properties. There is no apparent soil staining, soil discolouration or odours at the Site. There is no apparent asbestos contamination. There is no apparent Prescribed Industrial Waste or Putrescible Waste. There is no apparent imported fill on Site.
Risk of Contamination	Based on all available information, this soil at the Site has a Low risk of contamination. All soils analysed were BELOW the upper thresholds for NEPM HIL A, HSL A/B and ESLs (Urban Residential). As per the Ministerial Direction No. 1, Zone 1 of the Site (see **Appendix 4**) is suitable for a sensitive use (defined as residential, child-care centre, pre-school centre or primary school), agriculture or public open space.

1.0 INTRODUCTION

Environmental Site Assessments Pty Ltd ('ESA') was engaged by Costa Property Group ('the Client') to undertake an Environmental Assessment ('EA') at 76-156 Canterbury Road, 705-775 Princes Hwy & 785-805 Princes Hwy, Lara ('the Site'). The Site is currently zoned as Farming ('FZ').

<u>The client plans to develop the Site for the following uses:</u>

Zone 1 - Conventional residential.

Zone 2 – Non-sensitive uses including recreation, light industrial and business.

Zone 3 – Industrial, commercial and business.

<u>The intention of the EA is to determine whether:</u>

- The Site is potentially contaminated; and
- Whether Zone 1 is suitable for a sensitive use (i.e. residential).

Potentially contaminated land is defined in Ministerial Direction No. 1 – Potentially Contaminated Land, as land used or known to have been used for industry, mining or the storage of chemicals, gas, wastes or liquid fuel (if not ancillary to another use of land). This practice note also deals with land that may have been contaminated by other means such as by ancillary activities, contamination from surrounding land, fill using contaminated soil or agricultural uses.

Ministerial Direction No. 1 – Potentially Contaminated Land (Direction No. 1) requires planning authorities when preparing planning scheme amendments, to satisfy themselves that the environmental conditions of land proposed to be used for a sensitive use (defined as residential, child-care centre, pre-school centre or primary school), agriculture or public open space are, or will be, suitable for that use.

1.1 Project Understanding and Objectives

This EA will involve the collection and assessment of information derived from records of its previous use (preliminary study) and a Site inspection coupled with limited soil sampling.

<u>Limited soil sampling is carried out to:</u>

(a) Produce evidence through an investigation to indicate whether a Site is potentially contaminated; and

(b) Determine whether a Detailed Site Investigation ('DSI') should be conducted.[1]

1.2 Scope of Work Undertaken

Based on the project understanding and objectives described above, ESA undertook the following scope of works:

- The collection of historical information about the Site uses to assist in determining its potential for contamination;
- The collection of geological and hydrogeological information about the Site and its surroundings;
- A physical inspection of the Site;
- A limited soil-sampling program to provide an initial indication of the likely contamination status of the Site soils; and
- A report of the findings and recommendations.

2.0 PRELIMINARY STUDY

2.1 Site Details

The following table summarises the relevant details that describe the Site.

Site Address	76-156 Canterbury Road East, 705-775 Princes Hwy & 785-805 Princes Hwy, Lara
Current Site Owner/s	TC Nash Holdings Pty Ltd, JAN Nominees Pty Ltd
Current Title Volumes/Folios	Volume 9329 Folio 313 Volume 9925 Folio 167 Volume 9000 Folio 922
Municipality	Greater Geelong
Current Land Use Zonings	Farming
Current Site Uses	Farming
Lot and Plan Numbers	2/PS098249 Crown Allotment 3C Section 15B TP785257R 1/TP156147J
Area of Site (Approximate)	111 Ha

2.2 Current Use

The Site is currently being used for farming purposes (livestock).

2.3 Surrounding Land Use

North	Farming
South	Farming
East	Rural Living, Farming, Public Park and Recreation, Public Conservation and Resource
West	Rural Living, Farming, Residential

[1] Guide to the investigation and sampling of sites with potentially contaminated soil Part 1: Non-volatile and semi-volatile compounds AS 4482.1—2005.

2.4 Relevant Planning Information

Under the Greater Geelong planning scheme, the Site is currently zoned as Farming ('FZ').

Per the Lotsearch report (**Appendix 1**), the Site is not currently subject to the requirements of an Environmental Audit Overlay ('EAO').

2.5 Regional Geology

Per the Lotsearch report (**Appendix 1**) the geology on Site is:

- Neo - Newer Volcanic Group - basalt flows; and
- Nxr – Darley Gravel.

Within 1 kilometre of the Site are Nbb, Neo, Nxr, Qa1 and Qg.

2.6 Potential Acid Sulfate Soils

Per the Lotsearch report (**Appendix 1**), the potential for ASS on Site is low to extremely low.

2.7 Regional Hydrogeology

Per the Lotsearch report (**Appendix 1**), the following is known about the hydrogeology for the Site and its immediate surrounds.

TDS (mg/L)	3,500 – 7,000
Groundwater Beneficial Use Segment (per SEPP)	C
Depth to Upper Aquifer	<5m BGL (33% of the Site) 5 - 10m BGL (67% of the Site)
Surface Elevation above sea level (m AHD)	5 – 23
Inferred Groundwater Flow Direction	North/northeast towards Hovells Creek

Table 2.7

Per the Lotsearch report (**Appendix 1**) there are 123 groundwater wells within a 2km radius of the Site.

The wells are used for the following purposes:

- Irrigation;
- Industrial;
- Miscellaneous;
- Groundwater Investigation;
- Observation;
- Non-Groundwater;
- Domestic; and
- Stock.

Per the Lotsearch report (**Appendix 1**), the lithology is:

- Alkali basalt (major proportion); tholeiitic basalt (major proportion); alluvium (minor proportion); tuff (minor proportion); and
- Gravel material (significant); sand (significant); silt material (significant).

2.8 Nearest Surface Water Bodies

- Hovells Creek, 200 metres to the north.

2.9 Previous Investigations

There are no known previous investigations.

3.0 SITE HISTORY REVIEW

3.1 Title Information

Copies of Title Information are contained in **Appendix 2** and summarised in Table 3.1 below.

76-156 Canterbury Road East, Lara

Land	Volume/Folio	Parent Volume/Folio	Registered Proprietor/s	Date	Status
Crown Allotment 3C, Section 15B, Township of Lara, Parish of Moranghurk	9925/167	9824/024		09/08/2007	Current
				25/01/1990	History
				09/01/1990	History
				23/06/1989	History
Crown Allotment 3B, Section 15B, Township of Lara, Parish of Moranghurk	9824/024	6663/401		06/05/1988	History
Crown Allotment 3B, Section 15B, Township of Lara, Parish of Moranghurk	6663/401	6363/416		23/02/1972	History
			(Grazier)	19/11/1943	History
Crown Allotment 3B, Section 15B, Town of Lara, Parish of Moranghurk	6363/416	4466/136	(Grazier)	17/11/1939	History
Crown Allotment 3B, Section 15B, Town of Lara, Parish of Moranghurk	4466/136	828/520	Abraham Alexander McClelland & Robert Samuel McClelland (Farmers)	06/05/1921	History

Land	Volume/Folio	Parent Volume/Folio	Registered Proprietor/s	Date	Status
Crown Allotment 3B, Section 15B, Parish of Moranghurk, County of Grant	828/520	Nil	(Farmers)	06/05/1921	History
				06/05/1921	History
				22/?/1894	History
				24/07/1875	History

705-775 Princes Hwy, Lara

Land	Volume/Folio	Parent Volume/Folio	Registered Proprietor/s	Date	Status
Lot 1 on Title Plan 191059G	09329/313	08743/077		09/08/2007	Current
			Carriers)	09/03/1979	History
Lot 1 on Plan of Subdivision No. 81458	08743/077	4327/349		14/10/1968	History
Crown Allotment 4, Section 14A, Parish of Moranghurk, County of Grant	4327/349	2296/169AA		08/02/1954	History
				02/06/1920	History
Crown Allotment 4, Section 14A, Parish of Moranghurk, County of Grant	2296/169AA	731/63	(Farmer)	21/08/1911	History
			(Farmer)	03/05/1904	History
				09/09/1890	History

Land	Volume/Folio	Parent Volume/Folio	Registered Proprietor/s	Date	Status
Crown Allotment 4, Section 14A, Parish of Moranghurk, County of Grant	731/63	Nil		31/07/1874	History

785-805 Princes Hwy, Lara

Land	Volume/Folio	Parent Volume/Folio	Registered Proprietor/s	Date	Status
Lot 1 on Title Plan 156147J	9000/922	8743/078	TC Nash Holdings Pty Ltd, JAN Nominees Pty Ltd	10/10/2007	Current
			Paloma Damien Pty Ltd	14/07/1976	History
			Accident Insurance Mutual Limited	21/09/1973	History
Lot 2 on Plan of Subdivision No. 81458, Parish of Moranghurk, County of Grant	8743/078	4327/349		14/10/1968	History

Table 3.1

3.2 Historical Aerial Photographs

A range of aerial photographs are contained within the Lotsearch report (**Appendix 1**) and described below.

Year	Observations
1947	• There are a number of structures present on the northeast of the Site. • The remainder of the visible Site is vacant land.
1963	• The number of structures on the northeast of the Site has reduced. • The remainder of the Site is vacant land.
1970	• The number of structures on the northeast of the Site has reduced. • The remainder of the Site is vacant land.
1978	• There are now no structures present on the northeast of the Site. • The remainder of the Site is vacant land.
1984	• No change from 1978.

Year	Observations
1990	• No change from 1978.
2002	• No change from 1978.
2009	• No change from 1978.

3.3 Cathodic Protection Systems

A request was made through Energy Safe Victoria ('ESV') regarding the presence of Cathodic Protection Systems on Site. ESV confirmed that there are no Cathodic Protection Systems registered for the Site. The ESV response can be found in **Appendix 3.**

3.4 Defence PFAS Investigation & Management Program

Per the Lotsearch report (**Appendix 1**), there have been no previous Defence PFAS Investigation & Management Programs on Site. There have been no Defence PFAS Investigation & Management Programs conducted within 1km of the Site.

3.5 Airservices Australia National PFAS Management Program

Per the Lotsearch report (**Appendix 1**), there have been no previous Airservices Australia National PFAS Management Programs on Site. There have been no Airservices Australia National PFAS Management Programs conducted within 1km of the Site.

3.6 Defence 3 Year Regional Contamination Investigation Program

Per the Lotsearch report (**Appendix 1**), there have been no previous Defence 3 Year Regional Contamination Investigation Programs on Site. There have been no Defence 3 Year Regional Contamination Investigation Programs conducted within 1km of the Site.

3.7 Waste Management Facilities

Per the Lotsearch report (**Appendix 1**), there have been no Waste Management Facilities on Site. There are 2 within 1km of the Site. These will not affect the Site.

3.8 Former Gasworks

Per the Lotsearch report (**Appendix 1**), there have been no Gasworks on or within 1km of the Site.

3.9 Dry Cleaners, Motor Garages & Service Stations

Per the Lotsearch report (**Appendix 1**), there have been no Dry Cleaners on or within 1km of the Site. In 1960, 2 service stations were registered within 1km of the site. These will not affect the Site. There were none registered for the Site.

4.0 EPA RECORDS SEARCH

4.1 Current and Former EPA Priority Sites Register ('PSR') Review

Per the Lotsearch report (**Appendix 1**), no Clean Up or Pollution Abatement Notices (relevant to land and/or groundwater contamination) have been issued to the owner or occupier of the Site. There are 16 properties within 1km of the Site listed on the current or former PSR. They will not affect the Site.

4.2 EPA PFAS Site Investigations

Per the Lotsearch report (**Appendix 1**), there have been no previous EPA PFAS Site Investigations on Site. There have been no EPA PFAS Site Investigations conducted within 1km of the Site.

4.3 Environmental Audit Reports

Per the Lotsearch report (**Appendix 1**), there have been no previous environmental audits on Site. There have been 5 environmental audits conducted within 1km of the Site. They will not affect the Site.

4.4 Groundwater Quality Restricted Use Zones ('GQRUZ')

Per the Lotsearch report (**Appendix 1**) there are no zones within 1km of the Site.

4.5 Current and Former EPA Licensed Activities

Per the Lotsearch report (**Appendix 1**), there are 1 current and 1 former EPA licensed activities or works approvals within 1km of the Site. These will not affect the Site. There are none registered for the Site.

4.6 EPA Works Approvals

Per the Lotsearch report (**Appendix 1**), there is 1 current EPA licensed works approval within 1km of the Site. This will not affect the Site. There are none registered for the Site.

4.7 EPA Prescribed Waste Database

Per the Lotsearch report (**Appendix 1**), there are 3 listed treaters or disposers within 1km of the Site. These will not affect the Site. There are none registered for the Site.

4.8 EPA Victorian Landfill Register

Per the Lotsearch report (**Appendix 1**), there are no landfills registered on Site. There is 1 closed landfill within 1km of the Site. This will not affect the Site.

5.0 SITE INSPECTION

Land Parcel Site Inspection Details	
Date and Time of Inspection	23 May 2019, 10.00
Weather Conditions	Fine
Current Site Uses	Livestock
Previous Site Uses	Farming
Site Coverage incl. condition and type of ground cover, e.g. bare ground, bitumen, concrete, gravel, etc.	Bare ground.
Current Adjacent Land Uses incl. the apparent condition of adjacent properties	Rural Living, Farming, Public Open Space, Residential. Good condition.
Details of Structures on Site incl. location and condition of all visible features, including foundations, positions of former buildings, tanks, pits, wells, drains and bores.	Nil
Process Details (in relation to previous Site use)	Nil apparent.
Details of Chemical use incl. chemical storage and transfer areas, including the presence of waste or chemical containers	Nil apparent.
Presence of above ground storage tanks	Nil apparent.
Presence of underground storage tanks	Nil apparent.
Presence of septic tanks	Nil apparent.

Details of waste handling	Nil apparent.
Evidence of burning of burying of waste	Nil apparent.
Spill Incidents	Nil apparent.
Spill control systems, e.g. bund (materials of construction should be noted)	Nil apparent.
Locations of dispensing or fill points	Nil apparent.
Evidence of Fill Materials	Nil apparent.
Presence of any stockpiled material	Nil apparent.
Evidence of scrap and industrial or chemical waste	Nil apparent.
Evidence of settlement, subsidence and disturbed ground	Nil apparent.
Evidence of on Site or adjacent cut and fill activities or quarrying	Nil apparent.
Evidence of Contamination (discoloured soil, polluted water, affected plant growth)	Nil apparent.
Potential Asbestos containing material	Nil apparent.
Animal populations	Livestock.
Significant odours	Nil apparent.
Assessment of soil loss or deposition that has occurred in the past and evaluation of the future erosion potential	Nil apparent.
The direction of the flow of water run-off from the Site and adjacent properties	North.
The depth of any standing water, the direction and rate of flow of rivers, streams or canals, together with their flood levels and any tidal fluctuations	Nil apparent.
Transformers	Nil apparent.

6.0 POTENTIAL CONTAMINANTS OF CONCERN

According to AS4482.1[2], the Site has the following potential contaminants of concern due to its previous land uses:

- Fertilisers – Copper, Cadmium; and

[2] AS 4482.1-2005 Guide to the investigation and sampling of sites with potentially contaminated soil - Non-volatile and Semi-Volatile compounds

- Herbicides – Arsenic, Mercury, Organochlorines, Organophosphates.

There were no instances of Asbestos Containing Material ('ACM') observed on Site.

Preliminary Study Conclusions and Recommendations	
Conclusions	There is a Medium likelihood of chemical contamination of surface soils in the paddocks due to application of fertilisers and/or herbicides. There is a Low likelihood of contamination of soil at the Site due to industrial waste. There is a Low probability of occurrence of Acid Sulfate soils on Site. The Site is surrounded by low risk properties. There is no apparent soil staining, soil discolouration or odours at the Site. There is no apparent asbestos contamination. There is no apparent Prescribed Industrial Waste or Putrescible Waste. There is no apparent imported fill on Site.
Risk of Contamination	Based on information collected to this point, soils at the Site have a Low-Medium risk of contamination.
Recommendations	Surface soil samples from the paddocks are required to discount impacts due to fertiliser/herbicide contamination.

7.0 SOIL SAMPLING PROGRAM

This sampling program was undertaken on Site on 23 May 2019. Soil samples were collected by ESA staff from the surface soils (0-0.15m BGL) by mechanical auger. The approximate sampling points for the Site are shown in **Appendix 4**.

The sampling program was concentrated in Zone 1 at the north of the Site that is earmarked for residential development. Three samples were collected from other areas on site at the request of the client.

Table 7.0 illustrates the samples that were collected. The soil samples that were collected consisted of:

- CLAYEY SILT: Medium Plasticity, Orange/Brown, Loose, Moist.

A Photoionisation Detector ('PID') was employed to screen samples for Volatile Organic Compounds ('VOC'). The following methodology was employed:

- A sample of soil was carefully collected with minimal disturbance that could cause loss of volatile constituents;
- The sample was immediately extruded into a plastic bag and sealed;
- The sealed bag containing the sample was crushed between the fingers to disperse the sample and release volatile constituents;
- The inlet tube of the PID was then inserted through a small opening in the bag into the headspace over the sample; and
- The PID response (in ppm) was measured within 2-3 seconds and the result recorded on the field form.#

The PID calibration form is attached as **Appendix 5.**

Sample ID	Sampling Point	Depth of Sample (m BGL)	Lab Analysis	PID (PPM)/Odour
SP01/0-0.15	SP01	0-0.15	NEPM Suite*	0.0/Nil
SP02/0-0.15	SP02	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil

Sample ID	Sampling Point	Depth of Sample (m BGL)	Lab Analysis	PID (PPM)/Odour
SP03/0-0.15	SP03	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP04/0-0.15	SP04	0-0.15	NEPM Suite*	0.0/Nil
SP05/0-0.15 QC04 QC05	SP05	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP06/0-0.15	SP06	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP07/0-0.15	SP07	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP08/0-0.15	SP08	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP09/0-0.15	SP09	0-0.15	NEPM Suite*	0.0/Nil
SP10/0-0.15	SP10	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP11/0-0.15	SP11	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP12/0-0.15	SP12	0-0.15	NEPM Suite*	0.0/Nil
SP13/0-0.15	SP13	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP14/0-0.15	SP14	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP15/0-0.15	SP15	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP16/0-0.15	SP16	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil

Sample ID	Sampling Point	Depth of Sample (m BGL)	Lab Analysis	PID (PPM)/Odour
SP17/0-0.15	SP17	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP18/0-0.15	SP18	0-0.15	NEPM Suite*	0.0/Nil
SP19/0-0.15	SP19	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP20/0-0.15	SP20	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP21/0-0.15	SP21	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP22/0-0.15	SP22	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP23/0-0.15	SP23	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP24/0-0.15	SP24	0-0.15	NEPM Suite*	0.0/Nil
SP25/0-0.15 QC06 QC07	SP25	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP26/0-0.15	SP26	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP27/0-0.15	SP27	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP28/0-0.15	SP28	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP29/0-0.15	SP29	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP30/0-0.15	SP30	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil

Sample ID	Sampling Point	Depth of Sample (m BGL)	Lab Analysis	PID (PPM)/Odour
SP31/0-0.15	SP31	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP32/0-0.15	SP32	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP33/0-0.15	SP33	0-0.15	NEPM Suite*	0.0/Nil
SP34/0-0.15	SP34	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP35/0-0.15	SP35	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP36/0-0.15	SP36	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP37/0-0.15	SP37	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP38/0-0.15	SP38	0-0.15	NEPM Suite*	0.0/Nil
SP39/0-0.15	SP39	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP40/0-0.15	SP40	0-0.15	NEPM Suite*	0.0/Nil
SP41/0-0.15	SP41	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
SP42/0-0.15	SP42	0-0.15	NEPM Suite*	0.0/Nil
SP43/0-0.15	SP43	0-0.15	OC/OP Pesticides including Dieldrin and 15 Metals**	0.0/Nil
QC01 (Trip Blank)	N/A	N/A	TRH C6-C10 & BTEXN	N/A
QC02 (Trip Blank)	N/A	N/A	TRH C6-C10 & BTEXN	N/A

Sample ID	Sampling Point	Depth of Sample (m BGL)	Lab Analysis	PID (PPM)/Odour
QC03 (Field Blank)	SP01	N/A	OC/OP Pesticides including Dieldrin and 15 Metals**	N/A
QC08 (Rinsate Blank)	SP24	N/A	OC/OP Pesticides including Dieldrin and 15 Metals**	N/A

Table 7.0

* = 15 Metals including As, Ba, Be, B, Cd, Cr, Co, Cu, Hg, Mn, Ni, Pb, Se V, Zn, TRH (C6-C36 or 40) / BTEXN, PAH/Phenols (16 PAHs & 12 Phenols), OC/OP Pesticides Including Triazine, Pesticides (Atrazine) and Bifenthrin, PCB, Cyanide – WAD, Chromium – Hexavalent (Alkaline Leach)

** = 15 Metals including As, Ba, Be, B, Cd, Cr, Co, Cu, Hg, Mn, Ni, Pb, Se V, Zn

The following sections describe the guidelines, standards and investigation methods adopted for the soil sampling program.

7.1 Relevant Guidelines and Standards

The sampling program was undertaken in accordance with the following guidelines, standards and policies:

- Australia Standard (AS 4482.1) - Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil, Part 1: Non-volatile and Semi-volatile compounds (Standards Australia, 2005);
- Australia Standard (AS 4482.2) - Guide to the Sampling and Investigation of Potentially Contaminated Soil, Part 2: Volatile Substances (Standards Australia, 1999);
- National Environment Protection (Assessment of Site Contamination) Measure 1999 (Amended); and
- State Environment Protection Policy (Prevention and Management of Contamination of Land) No. S95, EPA Victoria, June 2002.

7.2 Quality Assurance / Quality Control

7.2.1 Environmental Site Assessments Quality Assurance ('QA') Program

Environmental Site Assessments has developed and implemented a Quality Assurance Program in general accordance with the following guidelines:

- Australia Standard (AS 4482.1) - Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil, Part 1: Non-volatile and Semi-volatile compounds (Standards Australia, 2005); and
- National Environment Protection Council (NEPC) - National Environment Protection (Assessment of Site Contamination) Measure (NEPM) - Schedule B3 Guideline on Laboratory Analysis of Potentially Contaminated Soils, 1999 (Amended).

As part of the Quality Assurance Program, Environmental Site Assessments ensures that the following methodology is employed:

- The use of appropriately qualified and trained environmental scientists to perform intrusive works;
- The use of standardised field sheets to record the findings of the Site investigations;
- The collection and analysis of Quality Control samples as per AS 4482.1;
- The use of Chain of Custody procedures to ensure that sample integrity is maintained through the transport and handling stages; and
- Only using NATA accredited laboratories for the analysis of samples collected during the investigation activities.

As per the Environmental Site Assessments Quality Assurance Program, the following data quality indicators were used for the assessment of the laboratory analytical data:

- All sample analysis to be conducted using NATA registered methods in accordance with NEPM 1999 (Amended) guidelines;
- Laboratory method blank analysis required to be below the Limit of Reporting (LOR); and
- Surrogate compound concentrations required to be spiked at similar concentration to sample result.

7.2.2 Environmental Site Assessments Quality Control ('QC') Program

The overall precision of field quality control samples, laboratory split samples and laboratory duplicates is generally assessed by their Relative Percentage Difference (RPD), given by:

$$\frac{(C1 - C2)\ x\ 100}{\frac{(C1 + C2)}{2}}$$

Where:

C1 is the primary sample concentration.

C2 is the duplicate sample concentration.

The Relative Percentage Difference (RPD) of duplicated analysis were calculated and compared to the following criteria for acceptability. The acceptance criteria are listed in AS4482.1 (2005):

- Less than 30-50% for field duplicates (blind replicate and split samples);
- Less than 30% for laboratory duplicates where the detection is less than 10 times the LOR;
- Less than 20% for laboratory duplicates where the detection is greater than 10 times the LOR;
- RPDs for control spike duplicates will be compared to an acceptable limit of 20%;
- RPDs for matrix spike duplicates will be compared to an acceptable limit of 20%; and
- Percentage recoveries of control spikes and matrix spikes will be compared to an acceptable range of 70% – 130%. Where this range is exceeded, reference to the laboratories internal data quality objective limits will be made. In addition, percentage recoveries of surrogates will also be compared to the USEPA surrogate recovery limits.

7.2.3 Sample Documentation

All samples collected were labelled in a clear and precise way for proper identification in the field and for tracking in the laboratory.

The samples had identifiable and unique numbers. The sample labels contained the following information:

- Company name;
- Name of sampler;
- Sample ID; and
- Date/Time sample was collected.

Chain-of-custody forms were used to document sample collection and transport to laboratories for analysis. All sample transports for analysis were accompanied by a chain-of-custody form.

The chain-of-custody forms identified the contents of each transport and maintained the custodial integrity of the samples. The coolers in which samples were stored were sealed with self-adhesive custody seals. All custody seals were signed.

7.2.4 Packaging and Transport

All sample containers were placed in a plastic cooler. The following outlines the packaging procedures that were followed for samples:

- When ice was used, it was packed in zip-locked, double plastic bags. The drain plug of the cooler was sealed with fiberglass tape to prevent melting ice from leaking out of the cooler;
- The bottom of the cooler was lined with bubble wrap to prevent breakage during transport;
- All glass sample containers were enclosed in bubble wrap to prevent breakage;
- Where required, empty space in the cooler was filled with bubble wrap to prevent movement and breakage during transport;
- Ice used to cool samples was placed on top and around the samples to chill them to the correct temperature; and
- Each cooler was securely taped shut with signed custody seals.

7.2.5 Field Notes

The following information was recorded during the collection of each sample:

- Sample location and description;
- Sampling area sketch showing sample location and measured distances (where required);
- Sampler's name(s);

- Date and time of sample collection;
- Sample ID;
- Type of soil/material encountered (Fill, Natural etc.);
- PID readings;
- Field observations and details related to analysis or integrity of samples (e.g., weather conditions, noticeable odours, colours etc.);
- Soil descriptions as per AS1726-1993; and
- Sample preservation details.

In addition to the sampling information, the following specific information was also recorded in the field logbook:

- Team members and their responsibilities;
- Time of arrival/entry on Site and time of Site departure;
- Other personnel on Site;
- Summary of any meetings or discussions;
- Deviations from sampling plans;
- Changes in personnel and responsibilities with reasons for the changes; and
- Calibration readings for any equipment used and equipment model and serial number.

7.3 Results of Analysis

Investigation levels and **screening levels** are the concentrations of a contaminant above which further appropriate investigation and evaluation will be required.

Investigation and screening levels provide the basis of Tier 1 risk assessment. A Tier 1 assessment is a risk-based analysis comparing Site data with generic investigation and screening levels for various land uses to determine the need for further assessment or development of an appropriate management strategy. The application of investigation and screening levels is subject to a range of limitations.

Health investigation levels ('HILs') have been developed for a broad range of metals and organic substances. The HILs are applicable for assessing human health risk via all relevant pathways of exposure. The HILs are generic to all soil types and apply generally to a depth of 3m below the surface for residential use. Site-specific conditions should determine the depth to which HILs apply for other land uses.

Health screening levels ('HSLs') have been developed for selected petroleum compounds and fractions and are applicable to assessing human health risk via the inhalation and direct contact pathways. The HSLs depend on specific soil physicochemical properties, land use scenarios, and the characteristics of building structures. They apply to different soil types, and depths below surface to >4m.

Ecological screening levels ('ESLs') have been developed for selected petroleum hydrocarbon compounds and total petroleum hydrocarbon (TPH) fractions and are applicable for assessing risk to terrestrial ecosystems. ESLs broadly apply to coarse- and fine-grained soils and various land uses. They are generally applicable to the top 2m of soil.

The laboratories used for conducting the soil analysis were Australian Laboratory Services Pty Ltd ('ALS') and Eurofins MGT ('MGT'). Both ALS and MGT are NATA certified for the analysis undertaken.

The comparison tables for laboratory results are attached in **Appendix 6**. All chain of custody forms, certificates of analysis and laboratory QA/QC documents are in **Appendix 7.** The laboratory report numbers are EM1907943 & 657494.

The laboratory results were compared with NEPM 1999 (Amended) guidelines for HIL A, HSL A/B, and ESLs (Urban Residential).

<u>The comparison results were as follows:</u>

- There were no results in excess of NEPM HIL A, HSL A/B, and ESLs (Urban Residential) upper thresholds.

As per the Ministerial Direction No. 1, Zone 1 of the Site is suitable for a sensitive use (defined as residential, child-care centre, pre-school centre or primary school), agriculture or public open space.

7.4 Laboratory QA/QC

As part of their NATA accreditation, ALS and MGT perform internal duplicate analysis of samples for comparison of results to demonstrate precision. Laboratory standards including matrix spike samples, laboratory control samples and surrogates are also conducted as a basis to demonstrate accuracy. In addition, internal laboratory blank samples are run to assess the potential for laboratory equipment errors. The laboratory QA/QC results are attached in **Appendix 7.**

7.4.1 ALS Environmental Laboratory

- For all matrices, no Method Blank value outliers occur.
- For all matrices, no Duplicate outliers occur.
- For all matrices, no Laboratory Control outliers occur.
- For soil, Matrix Spike outliers occur.
- For all matrices, no Surrogate Recovery outliers occur.

7.4.2 Eurofins MGT Laboratory

- For all matrices, no Method Blank value outliers occur.
- For all matrices, no Duplicate outliers occur.
- For all matrices, no Laboratory Control outliers occur.
- For all matrices, no Matrix Spike outlier occur.
- For all matrices, no Surrogate Recovery outliers occur.

7.4.3 Sample Holding Times and Sample Receipt Temperature

Sample holding times were within acceptable ranges from collection to extraction. The documented temperature of samples upon receipt at the respective laboratory was within an acceptable range.

7.4.4 Conclusion

A review of the laboratory reports indicates that ALS and MGT have met their internal acceptance criteria for the quality control samples.

7.5 Field Quality Control Samples

7.5.1 Blind Replicate and Split samples

The relative percentage difference was calculated for the blind (QC04 & QC06) and split samples (QC05 & QC07). The comparison table is attached to **Appendix 6.**

For the blind sample there were no RPD exceedances.

For the split sample there were RPD exceedances for Barium (67%) and Manganese (38% and 40%).

<u>The following comments should be noted when interpreting the elevated RPD calculation/s:</u>

- Where results were outside the acceptable range, these were all less than an order of magnitude from the original; and
- It is considered that the variations reported may be due to differences in inter-lab testing procedures.

RPD exceedances are not considered to adversely affect the data quality and hence, alter the findings of the investigation. Where the reported concentrations of the quality control sample are higher than the primary samples, the higher concentrations were adopted for comparison against the relevant screening criteria.

7.5.2 Trip, Field and Rinsate Blanks

Trip blanks (QC01 and QC02) evaluate if the transport and handling procedures are introducing contaminants into the samples, and if cross contamination in the form of VOC migration has occurred between the collected samples. Field blanks (QC03) evaluate whether contaminants have been introduced into the samples during the sampling due to contamination from sample containers. Equipment rinsate blanks (QC08) evaluate field sampling and decontamination procedures.

Analysis of these quality control samples indicate that transport and handling, sample containers and decontamination procedures have not resulted in cross-contamination of the collected soil samples. The table of results is attached in **Appendix 6.**

There were no analyte levels greater than the limit of reporting ('LOR').

8.0 REFERENCES

- Ministerial Direction No. 1 – Potentially Contaminated Land ('Direction No. 1')
- National Environment Protection Council 1999 (As Amended) - National Environment Protection (Assessment of Site Contamination) Measure – Guideline on Investigation Levels for Soil and Groundwater.
- Standards Australia. 2005. AS 4482.1, Guide to the sampling and investigation of potentially contaminated soil, Part 1: Non-volatile compounds. Standards Association of Australia

- Standards Australia. 1999. AS4482.1, Guide to the sampling and investigation of potentially contaminated soil Part 2: Volatile substances. Standards Association of Australia

DISCLAIMER

This disclaimer, together with any limitations specified in the report, applies to use of this report.

This report was prepared in accordance with a contracted scope of services. There were a series of cost, time and other constraints which have affected the accuracy and completeness of investigations undertaken.

This report has been prepared solely for use by, and is confidential to; the client who contracted the scope of services and Environmental Site Assessments accepts no responsibility for its use by other persons.

The contract for the preparation of this report contains express limitations upon the liability of Environmental Site Assessments which should be considered carefully. This report is subject to copyright protection and the copyright owner reserves its rights. This report does not constitute legal advice.

This report must be read in conjunction with the Statement of Qualifications and Limitations contained within it.

STATEMENT OF QUALIFICATIONS AND LIMITATIONS

It is not possible to identify all contamination or potential contaminants in or under the surface of the Site. This is an intrinsic risk when investigating potentially and contaminated Sites. As such, Environmental Site Assessments has prepared the following information which details the limitations of this environmental report.

In preparing this report, Environmental Site Assessments has relied on client/ third party information which was not verified by Environmental Site Assessments and Environmental Site Assessments does not accept responsibility for omissions or inaccuracies in the client/ third party information.

This report is based solely on the specific instructions received from its client and/or the scope of work agreed between Environmental Site Assessments and its client. Those instructions and/or scope of work may not be fully described in this report.

This report is based on the Site conditions identified at the time of inspection. It is not possible to identify all contamination or potential contaminants in or under the surface of the Site.

Investigations undertaken in respect of this report may have been constrained by the particular Site conditions, such as the location of buildings, services and vegetation. Further, changes that may have occurred after inspection.

As a result of these matters, not all relevant Site history, contaminants or potential for contamination may have been identified in this report. No warranties express or implied, as to the accuracy or completeness of the matters contained within it are made.

Although normal standards of professional practice have been applied, the absence of any identified potential for air, soil or groundwater impacts on the subject property should not be interpreted as a conclusion that impacts do not exist on the Site.

Subsurface conditions can vary across a particular Site, which cannot be wholly defined by investigation.

As a result, it is unlikely that the results and estimations presented in this report will reflect the extremes of conditions within the Site. Subsurface conditions including impact concentrations can change in a limited period of time. Any information provided may be based on "spot" tests. Conditions may vary between or beyond those locations from the interpreted conditions based on the actual data.

The analyses, evaluations, opinions and conclusions presented in this report are based on the information provided, and they could change if the information is in fact found to be unrepresentative of conditions between sampling and analysis locations.

The assessment and remediation of contamination is a developing science. Clean Up technology is constantly changing as scientific information on data collection, risk assessment, toxicology and remediation technologies are published. Further, opinions can vary as to the criterion for whether particular conditions constitute contamination, and if so how that contamination should be addressed or remediated. Different persons might reasonably or otherwise form opinions different to those of Environmental Site Assessments.

Use of the Site for any purpose may require planning and other approvals and, in some cases, EPA and accredited Site auditor approvals. Environmental Site Assessments offers no opinion as to the likelihood of obtaining any such approvals, or the conditions and obligations which such approvals may impose, which may include the requirement for significant environment works.

The ongoing use of the Site or use of the Site for a different purpose may require the owner/ user to manage and/ or remediate Site conditions, such as contamination and other conditions, including but not limited to conditions referred to in this report. This report is not intended to be used for the purposes of tendering, programming of works, refurbishment works or demolition works unless used in conjunction with a specification detailing the extent of the works.

To ensure its contextual integrity, the report must be read in its entirety and should not be copied, distributed or referred to in part only. Environmental Site Assessments makes no determination or recommendation regarding a decision whether to acquire or provide financing with respect to the Site.

Appendix 1: Lotsearch Report

LOTSEARCH

LOTSEARCH ENVIRO PROFESSIONAL

Address: 76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Date: 22 May 2019 19:07:02

Reference: LS006423 EP

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Location Confidences

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

Location Confidence	Description
Premise Match	Georeferenced to the site location / premise or part of site
Area Match	Georeferenced with the confidence of the general/approximate area
Road Match	Georeferenced to the road or rail
Road Intersection	Georeferenced to the road intersection
Buffered Point	Feature is a buffered point
Network of Features	Georeferenced to a network of features

Dataset Listing

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

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features in Buffer
Topographic and Cadastre data	State Government Victoria - Department of Environment, Land, Water & Planning	25/03/2019	25/03/2019	Quarterly	-	-	-	-
Current EPA Priority Sites	Environment Protection Authority (Vic)	13/05/2019	31/03/2019	Monthly	1000	0	1	2
Former EPA Priority Sites & other Remedial Notices	Environment Protection Authority (Vic)	02/05/2019	01/04/2019	Monthly	1000	0	2	16
EPA PFAS Site Investigations	Environment Protection Authority (Vic)	13/05/2019	13/12/2018	Monthly	2000	0	0	0
Defence PFAS Investigation & Management Program	Department of Defence	29/04/2019	29/04/2019	Monthly	2000	0	0	0
Airservices Australia National PFAS Management Program	Airservices Australia	29/04/2019	29/04/2019	Monthly	2000	0	0	0
Defence 3 Year Regional Contamination Investigation Program	Department of Defence	29/04/2019	29/04/2019	Monthly	2000	0	0	0
EPA Environmental Audit Reports	Environment Protection Authority (Vic)	15/05/2019	15/05/2019	Monthly	1000	0	0	5
EPA Groundwater Zones with Restricted Uses	Environment Protection Authority (Vic)	15/05/2019	15/05/2019	Monthly	1000	0	0	0
Current EPA Licensed Activities	Environment Protection Authority (Vic)	15/05/2019	15/05/2019	Monthly	1000	0	0	1
Former EPA Licensed Activities	Environment Protection Authority (Vic)	15/05/2019	15/05/2019	Monthly	1000	0	0	1
EPA Works Approvals	Environment Protection Authority (Vic)	15/05/2019	15/05/2019	Monthly	1000	0	0	1
National Waste Management Facilities Database	Geoscience Australia	07/05/2019	07/03/2017	Quarterly	1000	0	0	1
Statewide Waste and Resource Recovery Infrastructure Plan Facilities	State Government Victoria - Department of Sustainability	27/11/2014	31/12/2012	None planned	1000	0	0	1
EPA Prescribed Industrial Waste	Environment Protection Authority (Vic)	24/04/2019	24/04/2019	Quarterly	1000	0	0	9
EPA Victorian Landfill Register	Environment Protection Authority (Vic)	03/04/2019	03/04/2019	Quarterly	1000	0	0	1
Former Gasworks	Various historical sources collated by Lotsearch	15/08/2017	15/08/2017	Not required	1000	0	0	0
UBD Business Directory 1970 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1970 (Road & Area Matches)	Hardie Grant			Not required	150	-	4	8
UBD Business Directory 1960-62 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1960-62 (Road & Area Matches)	Hardie Grant			Not required	150	-	7	10
UBD Business Directory 1950 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1950 (Road & Area Matches)	Hardie Grant			Not required	150	-	0	0
Sands & McDougall's Directory 1945 (Premise & Intersection Matches)	Sands & McDougall, State Library Victoria			Not required	150	0	0	0
Sands & McDougall's Directory 1945 (Road & Area Matches)	Sands & McDougall, State Library Victoria			Not required	150	-	0	0
Sands & McDougall's Directory 1925 (Premise & Intersection Matches)	Sands & McDougall, State Library Victoria			Not required	150	0	0	0
Sands & McDougall's Directory 1925 (Road & Area Matches)	Sands & McDougall, State Library Victoria			Not required	150	-	0	0

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features in Buffer
Sands & McDougall's Directory 1905 (Premise & Intersection Matches)	Sands & McDougall, State Library Victoria			Not required	150	0	0	0
Sands & McDougall's Directory 1905 (Road & Area Matches)	Sands & McDougall, State Library Victoria			Not required	150	-	0	0
Historical Business Directory Drycleaners & Motor Garages/Service Stations (Premise & Intersection Matches)	Hardie Grant; Sands & McDougall, State Library Victoria			Not required	500	0	0	0
Historical Business Directory Drycleaners & Motor Garages/Service Stations (Road & Area Matches)	Hardie Grant; Sands & McDougall, State Library Victoria			Not required	500	-	1	2
Features of Interest	State Government Victoria - Department of Environment, Land, Water & Planning	09/04/2019	09/04/2019	Quarterly	1000	1	4	39
Hydrogeology Map of Australia	Commonwealth of Australia (Geoscience Australia)	08/10/2014	17/03/2000	As required	1000	1	1	1
Groundwater Salinity	State Government Victoria - Department of Environment, Land, Water & Planning	14/08/2015	29/08/2012	Unknown	0	2	-	-
Depth to Watertable	State Government Victoria - Department of Environment, Land, Water & Planning	14/08/2015	29/08/2012	Unknown	0	2	-	-
Surface Elevation	State Government Victoria - Department of Environment, Land, Water & Planning	14/08/2015	23/09/2013	Unknown	0	1	-	-
Basement Elevation	State Government Victoria - Department of Environment, Land, Water & Planning	14/08/2015	23/09/2013	Unknown	0	1	-	-
Groundwater Boreholes WMIS	State Government Victoria - Department of Environment, Land, Water & Planning	01/02/2019	31/01/2019	Quarterly	2000	1	1	59
Groundwater Boreholes Earth Resources Database	State Government Victoria - Department of Economic Development, Jobs, Transport and Resources	27/07/2018	17/02/2010	As required	2000	0	0	7
Groundwater Boreholes Fed Uni	Federation University Australia	21/12/2017	07/01/2014	As required	2000	1	1	57
Historical Mining Activity - Shafts	State Government Victoria - Department of Economic Development, Jobs, Transport and Resources	18/10/2018	20/07/2018	As required	1000	0	0	0
Geological Units 1:50,000	State Government Victoria - Department of Economic Development, Jobs, Transport and Resources	13/01/2015	24/06/2014	Unknown	1000	2	-	5
Geological Structures 1:50,000	State Government Victoria - Department of Economic Development, Jobs, Transport and Resources	13/01/2015	24/06/2014	Unknown	1000	0	-	0
Dykes and Marker Beds 50k	State Government Victoria - Department of Economic Development, Jobs, Transport and Resources	13/01/2015	24/06/2014	Unknown	1000	0	-	0
Shear zones 250k	State Government Victoria - Department of Economic Development, Jobs, Transport and Resources	13/01/2015	24/06/2014	Unknown	1000	0	-	0
Atlas of Australian Soils	CSIRO	19/05/2017	17/02/2011	As required	1000	3	3	3
Victorian Soil Type Mapping	State Government Victoria - Department of Economic Development, Jobs, Transport and Resources	24/08/2017	21/03/2016	Unknown	1000	2	3	4
Atlas of Australian Acid Sulfate Soils	CSIRO	19/01/2017	21/02/2013	As required	1000	2	2	3
Coastal Acid Sulfate Soils	State Government Victoria - Department of Economic Development, Jobs, Transport and Resources	28/03/2017	30/03/2011	None planned	1000	0	0	2
Planning Scheme Zones	State Government Victoria - Department of Environment, Land, Water & Planning	02/05/2019	23/04/2019	Monthly	1000	1	8	68
Planning Scheme Overlay	State Government Victoria - Department of Environment, Land, Water & Planning	02/05/2019	17/04/2019	Monthly	1000	0	1	19
Commonwealth Heritage List	Australian Government Department of the Environment and Energy - Heritage Branch	16/01/2019	31/07/2018	Unknown	1000	0	0	0
National Heritage List	Australian Government Department of the Environment and Energy - Heritage Branch	16/01/2019	28/09/2018	Unknown	1000	0	0	0
Victorian Heritage Register	State Government Victoria - Department of Environment, Land, Water & Planning	10/04/2019	10/04/2019	Quarterly	1000	0	0	1

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features in Buffer
Cultural Heritage Sensitivity	State Government Victoria - Department of Planning and Community Development	10/04/2019	31/12/2018	Quarterly	1000	3	5	21
Bushfire Prone Area	State Government Victoria - Department of Transport, Planning and Local Infrastructure	09/04/2019	04/04/2019	Quarterly	1000	1	1	1
Fire History	State Government Victoria - Department of Environment, Land, Water & Planning	09/04/2019	31/12/2018	Quarterly	1000	0	0	0
Flood - 1 in 100 Year Modelled Flood Extent	State Government Victoria - Department of Environment, Land, Water & Planning	10/04/2019	31/12/2014	Quarterly	1000	2	3	5
Victorian Coastal Inundation Sea Level Rise	State Government Victoria - Department of Environment, Land, Water & Planning	10/04/2018	24/10/2017	Unknown	1000	0	1	8
Native Vegetation (Modelled 2005 Ecological Vegetation Classes)	State Government Victoria - Department of Environment, Land, Water & Planning	13/01/2015	31/12/2005	None planned	1000	1	2	7
Ramsar Wetland Areas in Victoria	State Government Victoria - Department of Environment, Land, Water & Planning	28/03/2017	24/06/2013	None planned	1000	0	0	0
Groundwater Dependent Ecosystems Atlas	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	1000	0	1	5
Inflow Dependent Ecosystems Likelihood	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	1000	0	1	6

Aerial Imagery 2019

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Scale:

0 150 300 600
Meters

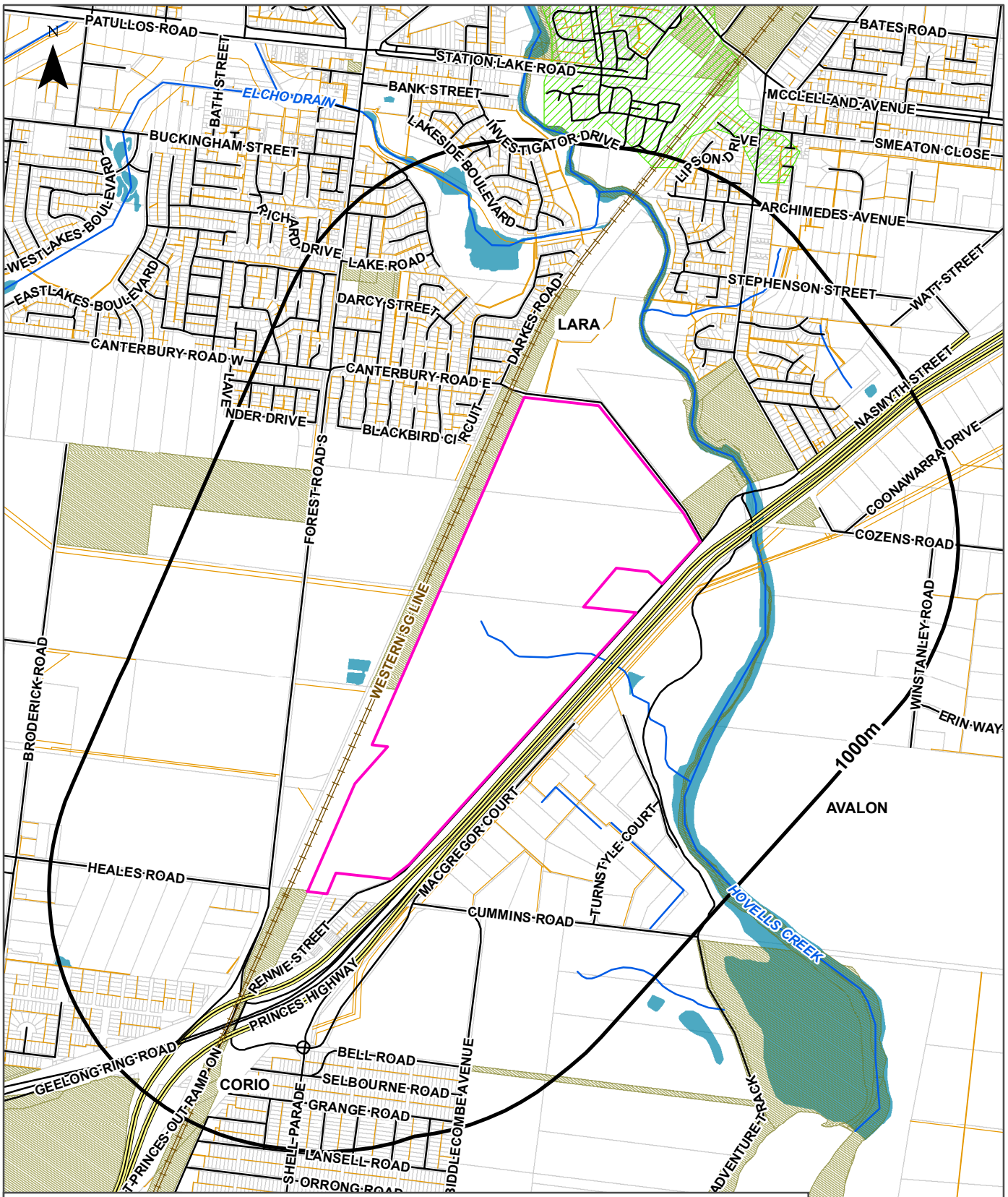
Data Source Aerial Imagery: © 2019 Google Inc, used with permission. Google and the Google logo are registered trademarks of Google Inc.

Coordinate System:
GDA 1994 MGA Zone 55

Date: 22 May 2019

Topographic Data

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



Legend

- Site Boundary
- Report Buffer
- Property Boundaries
- Water Area
- Crown or Commonwealth Land
- Statewide Forest
- Major Road
- Road
- Track/Pathway
- Railway
- Light Rail
- Rail - Underground/Tunnel
- Watercourse
- Easement

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

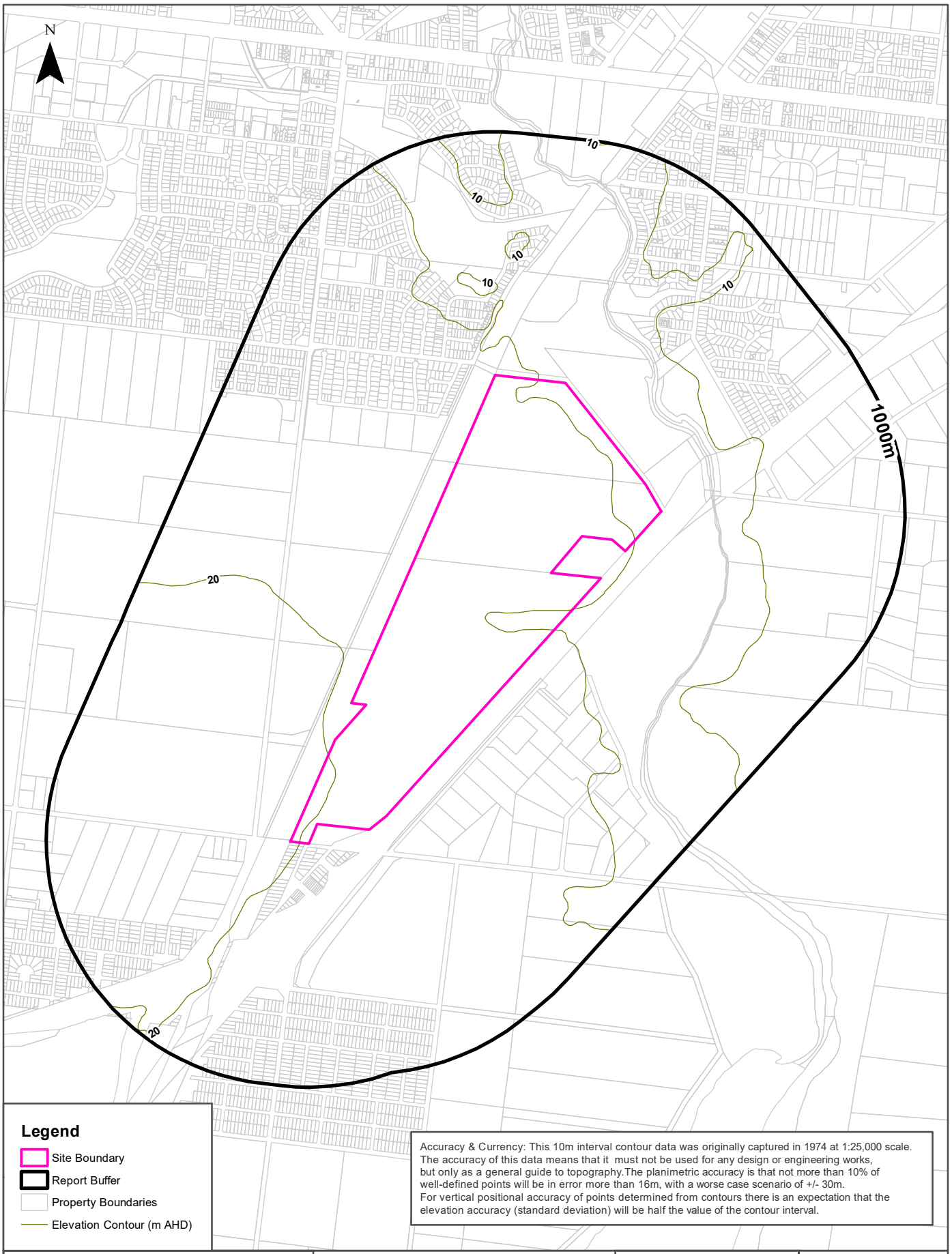
Data Sources: Property Boundaries - State Government Victoria - Department of Environment, Land, Water & Planning

Coordinate System: GDA 1994 MGA Zone 55

Date: 22 May 2019

Elevation Contours (m AHD) 10m Interval at 1:25,000

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



Accuracy & Currency: This 10m interval contour data was originally captured in 1974 at 1:25,000 scale. The accuracy of this data means that it must not be used for any design or engineering works, but only as a general guide to topography.The planimetric accuracy is that not more than 10% of well-defined points will be in error more than 16m, with a worse case scenario of +/- 30m. For vertical positional accuracy of points determined from contours there is an expectation that the elevation accuracy (standard deviation) will be half the value of the contour interval.

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

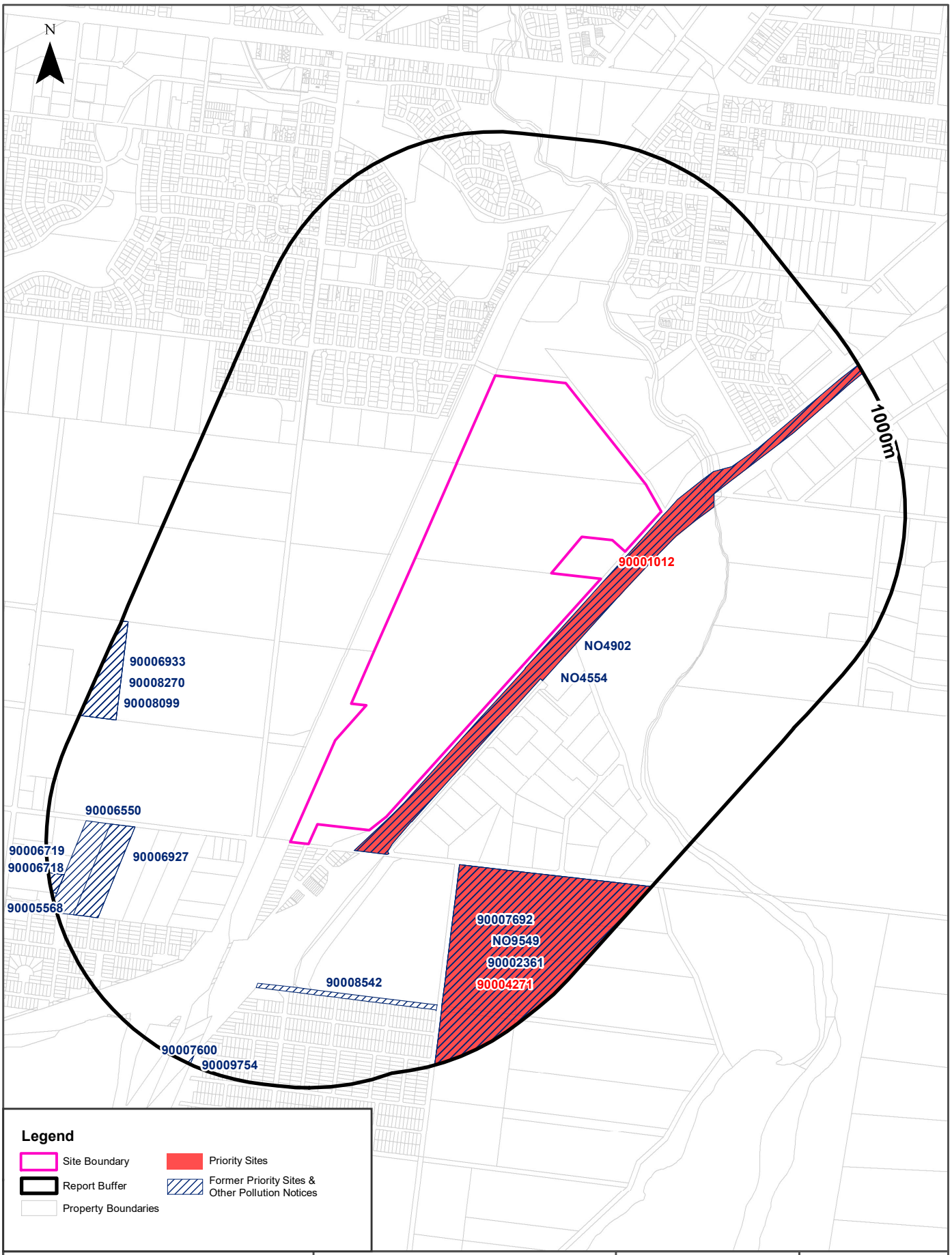
Data Sources: Property Boundaries - State Government Victoria - Department of Environment, Land, Water & Planning

Coordinate System: GDA 1994 MGA Zone 55

Date: 22 May 2019

EPA Records - Priority Sites & Pollution Notices

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



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

Data Sources: Property Boundaries - State Government Victoria - Department of Environment, Land, Water & Planning

Coordinate System: GDA 1994 MGA Zone 55

Date: 23 May 2019

EPA Records

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Current EPA Priority Sites Register

Sites on the current EPA priority sites register that exist within the dataset buffer:

Notice No	Address	Suburb	Issue	Loc Conf	Dist (m)	Direction
90001012	Princes HWY	LARA	Accidental spill/leak (non-industrial site). Requires assessment and/or clean up.	Road Match	11m	North East
90004271	1500 - 1580 BIDDLECOMBE AV	CORIO	Former Landfill. Requires ongoing management.	Premise Match	354m	South

Priority Sites Data Custodian: State Government Victoria - Environment Protection Authority (EPA)

Former EPA Priority Sites & Other Pollution Notices

Sites within the dataset buffer that have been issued a Pollution Notice:
Note. Due to pollution notices being revoked and removed from published lists this is not an exhaustive list of all past pollution notices.

Notice No	Notice Type	Company	Address	Suburb	Status	Issue	Date Issued	Loc Conf	Dist	Dir
NO4902	62A(1)	THE SHELL CO OF AUST LTD	PRINCES HWY (12 KILOMETRE & 15 KILOMETRE MARK)	LARA	Legacy EPA Database Pollution Notice	Accidental Spill/Leak (non-industrial site), Requires assessment and/or clean up.	11/08/2005	Road Match	11m	North East
NO4554	62A(1)	THE SHELL CO OF AUST LTD	PRINCES HWY (12 KILOMETRE & 15 KILOMETRE MARK)	LARA	Legacy EPA Database Pollution Notice		13/05/2004	Road Match	11m	North East
NO9549	31A(1)	GREATER GEELONG CITY COUNCIL	1500-1580 BIDDLECOMBE AV	CORIO	Legacy EPA Database Pollution Notice	Current Landfill, Requires assessment and/or clean up.	05/07/2011	Premise Match	354m	South
90007692	Previous Priority Notice		1500 - 1580 BIDDLECOMBE AV	CORIO	Previous Priority Notice	Former Landfill. Requires ongoing management.		Premise Match	354m	South
90002361	Previous Priority Notice, Pollution Abatement Notice	GREATER GEELONG CITY COUNCIL [CORIO]	1500 Biddlecombe AV	CORIO	Previous Priority Notice	Current landfill. Requires assessment and/or clean up	05/07/2011	Premise Match	354m	South
90008542	Previous Priority Notice		Bell Rd	CORIO	Previous Priority Notice	Former Landfill. Requires assessment and/or clean up.		Road Match	590m	South
90006927	Pollution Abatement Notice	Ameropa Australia Pty Ltd [CORIO]	55 HEALES RD	CORIO	Previous Pollution Notice		13/05/2016	Premise Match	640m	South West
90006550	Pollution Abatement Notice	Impact Fertilisers Pty Ltd [CORIO]	55 Heales Rd.	CORIO	Previous Pollution Notice		10/12/2015	Premise Match	640m	South West

Notice No	Notice Type	Company	Address	Suburb	Status	Issue	Date Issued	Loc Conf	Dist	Dir
90008270	Clean Up Notice	C & D RECYCLING PTY LTD [LARA]	300-400 BRODERICK RD LARA VIC 3212	LARA	Current Pollution Notice		06/11/2017	Premise Match	855m	West
90008099	Pollution Abatement Notice	C & D RECYCLING PTY LTD [LARA]	300-400 BRODERICK RD	LARA	Current Pollution Notice		06/03/2018	Premise Match	855m	West
90006933	Clean Up Notice	C & D RECYCLING PTY LTD [LARA]	300-400 BRODERICK RD	LARA	Previous Pollution Notice		30/05/2016	Premise Match	855m	West
90006719	Pollution Abatement Notice	VEOLIA ENVIRONMENTAL SERVICES (AUSTRALIA) PTY LTD [CORIO]	140 BRODERICK RD	CORIO	Previous Pollution Notice		23/02/2016	Premise Match	936m	South West
90006718	Pollution Abatement Notice	VEOLIA ENVIRONMENTAL SERVICES (AUSTRALIA) PTY LTD [CORIO]	140 BRODERICK RD	CORIO	Previous Pollution Notice		25/02/2016	Premise Match	936m	South West
90005568	Pollution Abatement Notice	VEOLIA ENVIRONMENTAL SERVICES	140 BRODERICK RD	CORIO	Previous Pollution Notice		08/12/2014	Premise Match	936m	South West
90009754	Clean Up Notice	VIVA ENERGY REFINING PTY LTD [CORIO]	90 REFINERY RD / CORIO	CORIO	Current Pollution Notice		12/03/2019	Premise Match	963m	South West
90007600	Pollution Abatement Notice	VIVA ENERGY REFINING PTY LTD [CORIO]	90 REFINERY RD CORIO VIC 3214	CORIO	Previous Pollution Notice		20/03/2017	Premise Match	963m	South West

Pollution Notice Data Custodian: State Government Victoria - Environment Protection Authority (EPA)

PFAS Investigation Sites

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

EPA PFAS Site Investigations

Sites being investigated by the EPA for PFAS contamination within the dataset buffer:

Map ID	Site Name	Address	Loc Conf	Dist	Dir
N/A	No records in buffer				

EPA PFAS Site Investigations Data Custodian: State Government Victoria - Environment Protection Authority (EPA)

Defence PFAS Investigation & Management Program

Sites being investigated or managed by the Department of Defence for PFAS contamination within the dataset buffer:

Map ID	Base Name	Address	Loc Conf	Dist	Dir
N/A	No records in buffer				

Defence PFAS Investigation & Management Program Data Custodian: Department of Defence, Australian Government

Airservices Australia National PFAS Management Program

Sites being investigated or managed by Airservices Australia for PFAS contamination within the dataset buffer:

Map ID	Site Name	Impacts	Loc Conf	Dist	Dir
N/A	No records in buffer				

Airservices Australia National PFAS Management Program Data Custodian: Airservices Australia

Defence Sites

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Defence 3 Year Regional Contamination Investigation Program

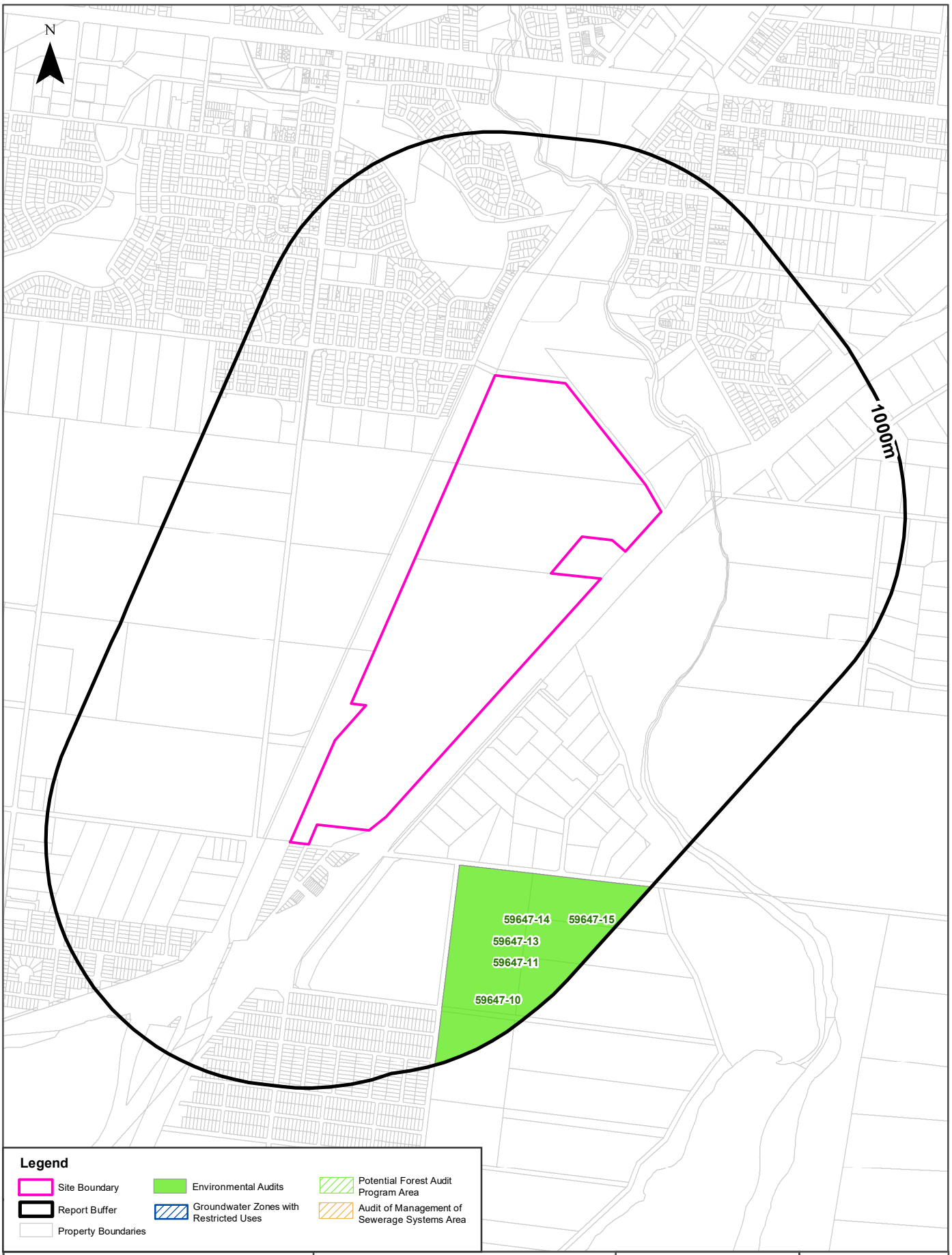
Sites which have been assessed as part of the Defence 3 Year Regional Contamination Investigation Program within the dataset buffer:

Property ID	Base Name	Address	Known Contamination	Loc Conf	Dist	Dir
N/A	No records in buffer					

Defence 3 Year Regional Contamination Investigation Program, Data Custodian: Department of Defence, Australian Government

EPA Records - Audit Reports & GQRUZ

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



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

Data Sources: Property Boundaries - State Government Victoria - Department of Environment, Land, Water & Planning

Coordinate System: GDA 1994 MGA Zone 55

Date: 22 May 2019

EPA Records

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

EPA Environmental Audits

EPA environmental audit records that exist within the dataset buffer:
Note. Please click on CARMS No. to activate a hyperlink to online documentation. If link does not work, documentation may still be accessible via the EPA Interaction Portal.

CARMS No	Transaction No	Site	Address	Suburb	Date Complete	Loc Conf	Distance	Direction
59647-11	8004346	1500-1580 BIDDLECOMBE AVENUE CORIO LANDFILL	1500-1580 BIDDLECOMBE AVENUE CORIO LANDFILL	Corio	28/08/2014	Premise Match	354m	South
59647-13	8004633	CORIO LANDFILL 1500-1580 BIDDLECOMBE AV	CORIO LANDFILL 1500-1580 BIDDLECOMBE AV	CORIO	25/09/2015	Premise Match	354m	South
59647-14	8004989	CORIO LANDFILL 1500-1580 BIDDLECOMBE AV	CORIO LANDFILL 1500-1580 BIDDLECOMBE AV	CORIO	07/10/2016	Premise Match	354m	South
59647-15	8005386	1500-1580 BIDDLECOMBE AV, CORIO VIC 3214 1500 -1580 BIDDLECOMBE AV		CORIO	26/10/2017	Premise Match	354m	South
59647-10	8004170	CORIO LANDFILL 1500-1800 BIDDLECOMBE AV	CORIO LANDFILL 1500-1800 BIDDLECOMBE AV, CORIO	CORIO	11/01/2017	Premise Match	724m	South

Environmental Audit Data Custodian: State Government Victoria - Environment Protection Authority (EPA)

EPA Records

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

EPA Groundwater Zones with Restricted Uses

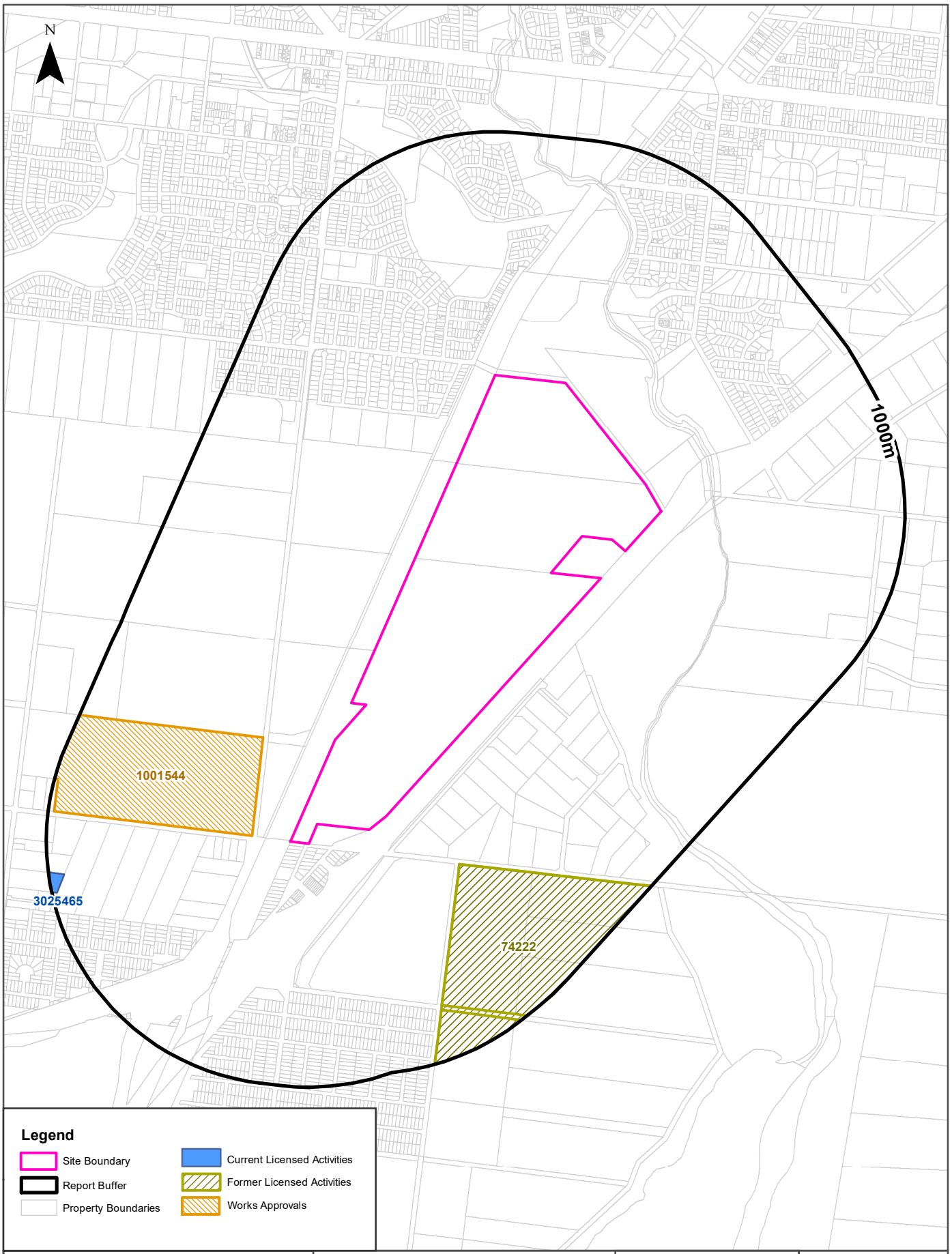
EPA GQRUZ records that exist within the dataset buffer:
Note. Please click on CARMS No. to activate a hyperlink to online documentation.

CARMS No	EPA Id	Site History	Site Address	Restricted Uses	Loc Conf	Distance	Direction
N/A	No records in buffer						

Environmental GQRUZ Data Custodian: State Government Victoria - Environment Protection Authority (EPA)

EPA Records - Licensed Activities & Works Approvals

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



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

Data Sources: Property Boundaries - State Government Victoria - Department of Environment, Land, Water & Planning

Coordinate System: GDA 1994 MGA Zone 55

Date: 22 May 2019

EPA Records

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

EPA Licensed Activities

EPA licensed activities that exist within the dataset buffer:

Trans No	Licence No	Licence Type	Organisation	Premise Ref	Premise Address 1	Premise Address 2	Activities	Loc Conf	Dist (m)	Direction
3025465	10414	Licence	VEOLIA ENVIRONMENTAL SERVICES (AUSTRALIA) PTY LTD [CORIO]		2 140 BRODERICK RD	CORIO	A01 Prescribed Industrial Waste Management	Premise Match	936m	South West

Licensed Activity Data Custodian: State Government Victoria - Environment Protection Authority (EPA)

Former EPA Licensed Activities

Former EPA licensed activities that exist within the dataset buffer:

Licence No	Organisation	Premise Address	Suburb	Activities	Loc Conf	Dist (m)	Direction
74222	GREATER GEELONG CITY COUNCIL	1500-1580 BIDDLECOMBE AV	CORIO VIC 3214	A01 Prescribed Industrial Waste Management; A05 Landfills; A07 Composting	Premise Match	354m	South

Former Licensed Activity Data Custodian: State Government Victoria - Environmental Protection Authority (EPA)

EPA Works Approvals

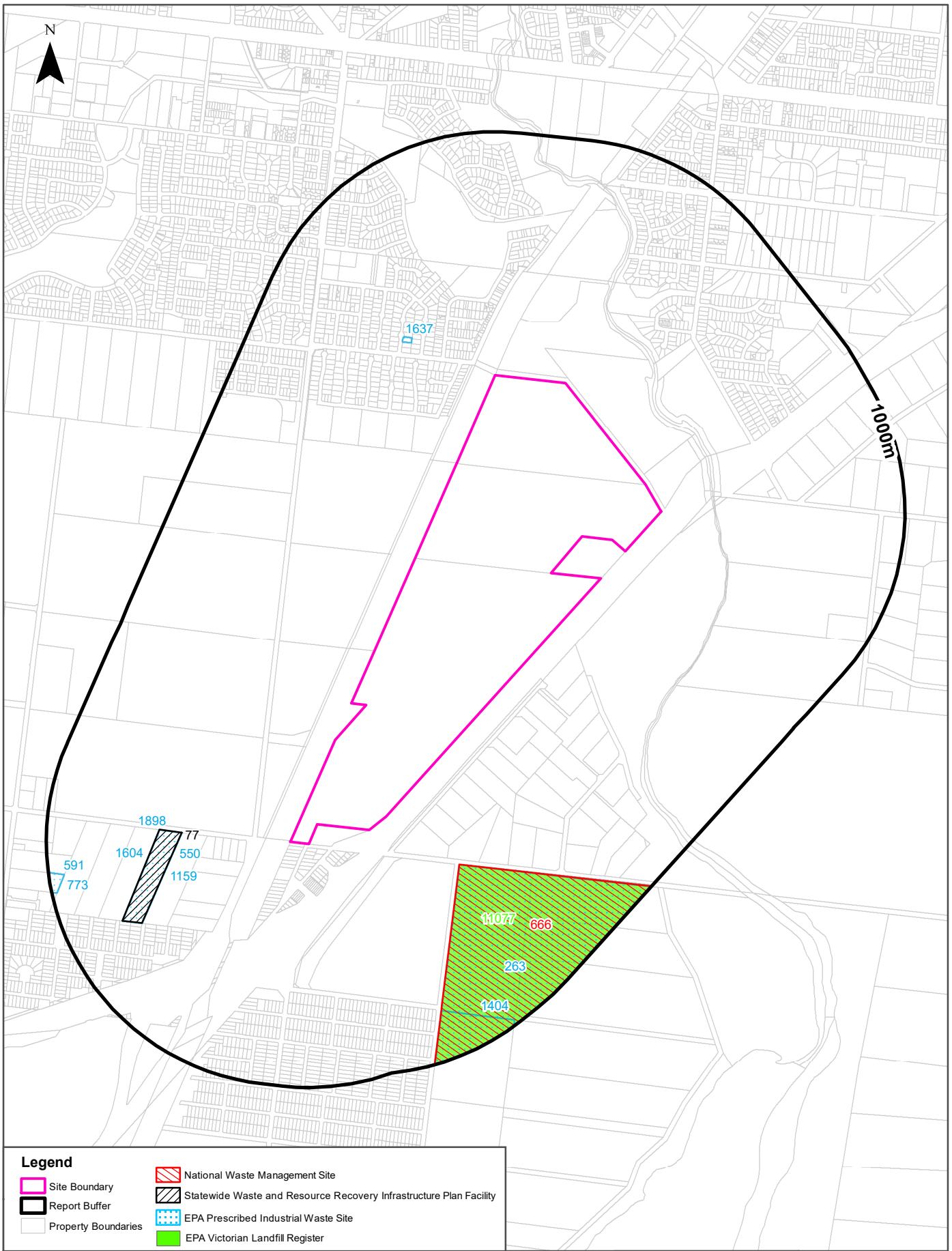
EPA works approvals that exist within the dataset buffer:

Transaction No	Status	Approval No	Organisation	Premise Address	Suburb	Scheduled Categories	Loc Conf	Dist (m)	Direction
1001544	Approved/Issued	102836	SNF (AUSTRALIA) PTY LTD [LARA]	270-298 BRODERICK RD LARA VIC 3212	LARA	G01 Chemical Works	Premise Match	159m	South West

Works Approvals Data Custodian: State Government Victoria - Environment Protection Authority (EPA)

Waste Management Facilities & Landfills

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



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

Data Sources: Property Boundaries - State Government Victoria - Department of Environment, Land, Water & Planning

Coordinate System: GDA 1994 MGA Zone 55

Date: 22 May 2019

Waste Management Facilities & Landfills

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

National Waste Management Site Database

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

Site Id	Owner	Name	Address	Suburb	Class	Landfill	Reprocess	Transfer	Comments	Loc Conf	Dist (m)	Direction
666	Greater Geelong City Council	Corio Landfill	Bell Road	Corio	Landfill	Operational				Premise Match	354m	South

Waste Management Facilities Data Source: Australian Government Geoscience Australia

Statewide Waste and Resource Recovery Infrastructure Plan Facilities

Statewide Waste and Resource Recovery Infrastructure Plan Facilities within the dataset buffer:

Map Id	Owner	Site Name	Address	Suburb	Category	Sub Category	Loc Conf	Distance	Direction
77	Sita	Sita	35 Heales Rd	Lara	Commercial & Industrial	C&I Recovery	Premise Match	446m	South West

SWRRIPF Data Source: State Government Victoria - Department of Sustainability

EPA Prescribed Industrial Waste

EPA Prescribed Industrial Waste treaters, disposers and permitted transporters within the dataset buffer:

Map Id	Company Name	Address	Suburb	Treatment /Disposal	Transport	Accredited Agent	EPA List Status	Loc Conf	Dist' (m)	Direct
263	GREATER GEELONG CITY COUNCIL [CORIO]	1500-1580 BIDDLECOMBE AV	CORIO VIC 3214	Yes	No	No	Previous EPA List	Premise Match	354m	South
1637	CJP CARTAGE PTY LTD	6 LORETTA CL	LARA VIC 3212	No	Yes	No	Current EPA List	Premise Match	369m	North
1159	CANDARA PTY LTD	35 HEALES RD	CORIO VIC 3214	No	Yes	No	Current EPA List	Premise Match	446m	South West
1898	JLC Waste Pty Ltd	35 HEALES ROAD	CONO VIC	No	Yes	No	Current EPA List	Premise Match	446m	South West
1604	SUEZ RECYCLING & RECOVERY PTY LTD [CORIO]	35 HEALES RD	CORIO VIC 3214	No	Yes	No	Current EPA List	Premise Match	446m	South West
550	SITA AUST PTY LTD [CORIO]	35 HEALES RD	CORIO VIC 3214	No	Yes	No	Previous EPA List	Premise Match	446m	South West
1404	THE GREATER GEELONG CITY COUNCIL [CORIO]	1500-1580 BIDDLECOMBE AV	CORIO VIC 3214	Yes	No	No	Previous EPA List	Premise Match	796m	South
773	VEOLIA ENVIRONMENTAL SERVICES (AUSTRALIA) PTY LTD [CORIO]	2, 140 BRODERICK RD	CORIO VIC 3214	Yes	Yes	Yes	Current EPA List	Premise Match	936m	South West
591	SWEENEY TODD WASTE DISPOSAL PTY LTD [CORIO]	UNIT 2, 140 BRODERICK RD	CORIO VIC 3214	No	Yes	Yes	Current EPA List	Premise Match	936m	South West

Prescribed Industrial Waste Data Source: State Government Victoria - Environment Protection Authority (EPA)

EPA Victorian Landfill Register

EPA Victorian Landfill Register sites within the dataset buffer:

Landfill Register No.	Site	Address	Operating Status	Est. Year Of Closure	Waste type	Loc Conf	Dist' (m)	Direction
11077	Not available	1500-1580 Biddlecombe Avenue, Corio, VIC 3214	Closed	2011	Asbestos, Contaminated soil (Cat C), Tyres (shredded), Solid inert waste, Putrescible waste, Tannery & wool scouring waste, Commercial food waste, Green waste	As Supplied	355m	South

EPA Victorian Landfill Register Data Source: State Government Victoria - Environment Protection Authority (EPA)

Former Gasworks

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Former Gasworks

Former Gasworks identified from various historical sources within the dataset buffer:
Note - As this is a dataset collated from various historical sources, it is not an exhaustive list of all former Gasworks

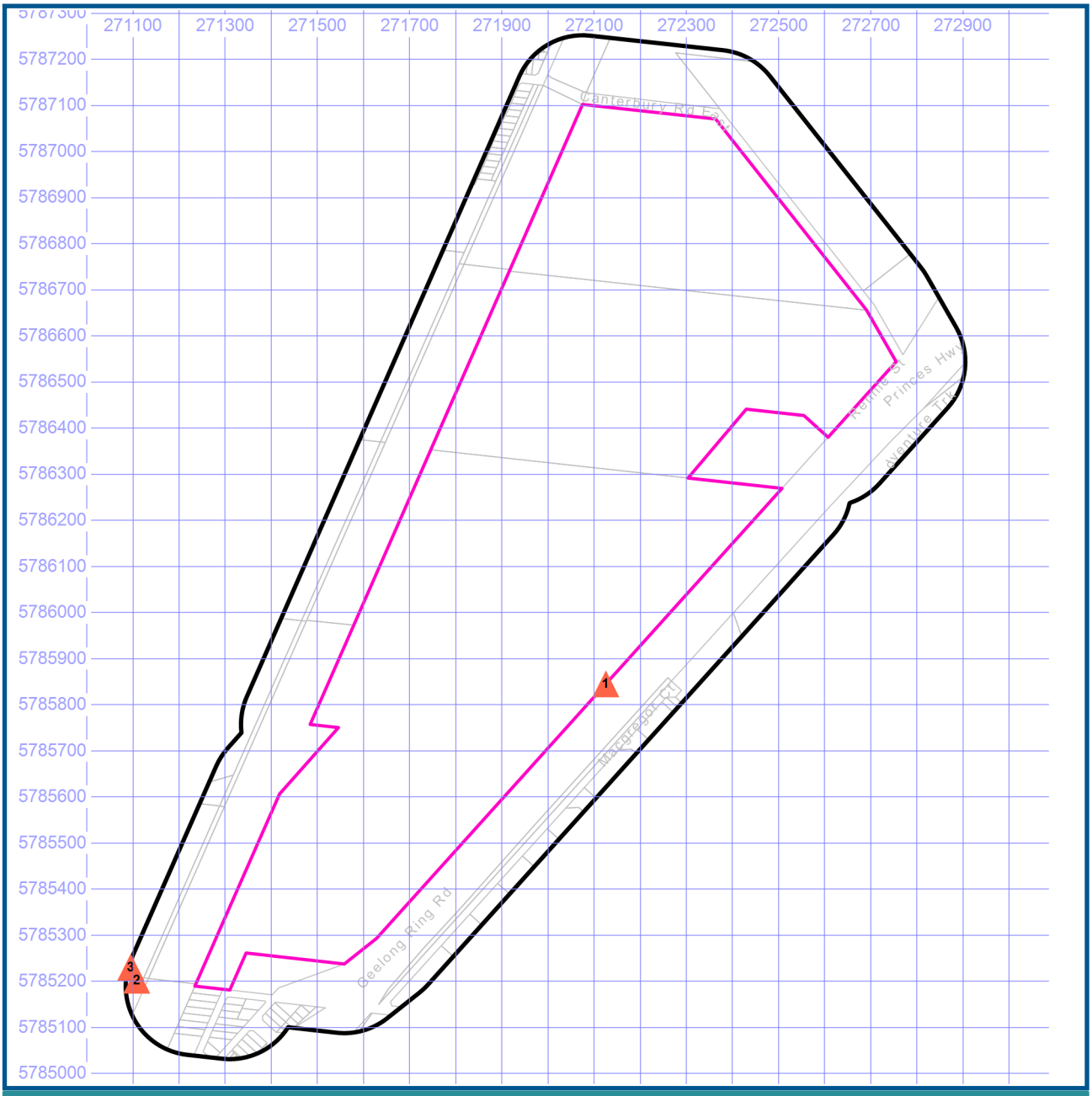
Map Id	Site Name	Date Opened	Year Closed	Location Confidence	Distance	Direction
N/A	No records in buffer					

Former Gasworks Data Source: Collated from various historical sources

Historical Business Directories

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

1970 Business Directory Records



Site Boundary

Buffer 150m

Property Boundaries

Business directory records mapped to a specific premise

Business directory records mapped to a road intersection

Business directory records mapped to a road corridor

Business directory records mapped to a general area

N

Projected Coordinate System:
GDA94 MGA Zone 55

Data Sources: Universal Business Directories (UBD), derived data, licensed from Hardie Grant.
Property Boundaries © State Government Victoria - Dept. of Environment, Land, Water & Planning 2019

Historical Business Directories

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

1970 Business Directory Records
Premise or Road Intersection Matches

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

Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
	No records in buffer					

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

1970 Business Directory Records
Road or Area Matches

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

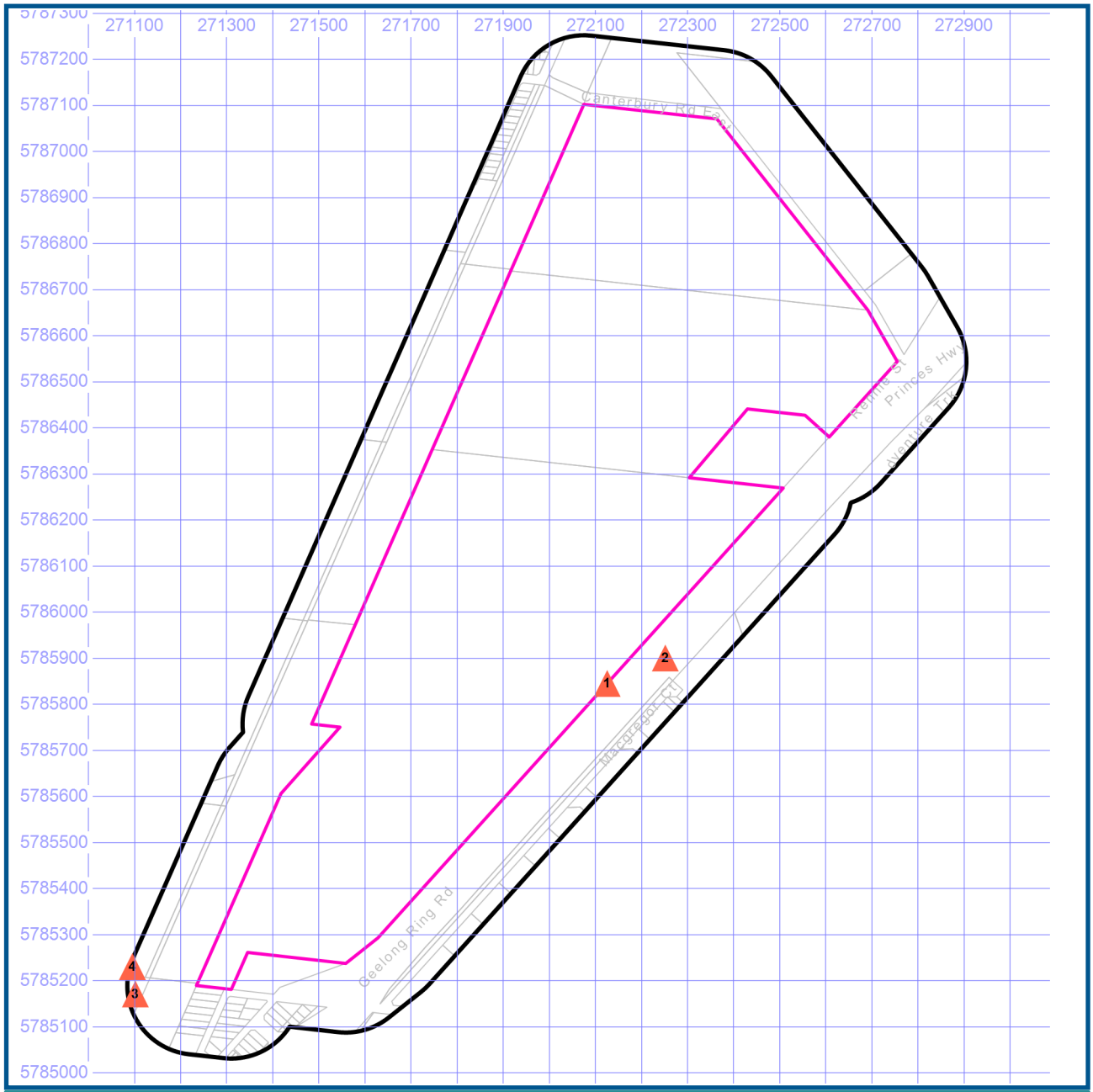
Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
1	CARRIERS & CARTAGE CONTRACTORS	Bate. E .,Rennie St Lara Lara & Lara Lake	5461	Road Match	0m
	POULTRY PRODUCERS	Olive Bros.,Rennie St Lara Lara & Lara Lake	5544	Road Match	0m
	GOVERNMENT DEPARTMENTS	Police Victoria Police Station.,Rennie St Lara Lara & Lara Lake	5494	Road Match	0m
	CARRIERS & CARTAGE CONTRACTORS	Wilson. C .,Rennie St Lara Lara & Lara Lake	5465	Road Match	0m
2	LIQUID PETROLEUM DEPOTS	Shell Co. of Aust. Bulk Storage Depot.,Heales Rd Lara Lara & Lara Lake	5521	Road Match	102m
	LIQUID PETROLEUM DEPOTS	Thermal Traders (Vic.) Pty. Ltd Cylinder Filling Plant.,Heales Rd Lara Lara & Lara Lake	5522	Road Match	102m
3	CONCRETE MASONRY MANUFACTURERS	Monier Besser Ltd.,Forest Rd Lara Lara & Lara Lake	5480	Road Match	138m
	HORSE & CATTLE BRANDS & FLUIDS	Pettit. M. H .,Forest Rd Lara Lara & Lara Lake	5511	Road Match	138m

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

Historical Business Directories

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

1960-62 Business Directory Records



Site Boundary

Buffer 150m

Property Boundaries

Business directory records mapped to a specific premise

Business directory records mapped to a road intersection

Business directory records mapped to a road corridor

Business directory records mapped to a general area

N

Projected Coordinate System:
GDA94 MGA Zone 55

Data Sources: Universal Business Directories (UBD), derived data, licensed from Hardie Grant.
Property Boundaries © State Government Victoria - Dept. of Environment, Land, Water & Planning 2019

Historical Business Directories

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

1960-62 Business Directory Records Premise or Road Intersection Matches

Records from the 1960-62 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
	No records in buffer					

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

1960-62 Business Directory Records Road or Area Matches

Records from the 1960-62 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
1	CARRIERS & CARTAGE CONTRACTORS	Bate. E., Rennie St., Lara, Lara & Lara Lake.	155826	Road Match	0m
	BUILDERS IRONWORK	De Keyser, J., Rennie St., Lara, Lara & Lara Lake.	155822	Road Match	0m
	GATE & FENCING MANUFACTURERS	De Keyser, J., Rennie St., Lara, Lara .	155843	Road Match	0m
	WELDERS, ELECTRIC & OXY ACETYLENE	De Keyser, J., Rennie St., Lara, Lara .	155877	Road Match	0m
	WROUGHT IRON WORKERS	De Keyser, J., Rennie St., Lara, Lara .	155879	Road Match	0m
	CARRIERS & CARTAGE CONTRACTORS	Wilson, C., Rennie St., Lara, Lara & Lara Lake.	155831	Road Match	0m
2	MOTOR SERVICE STATIONS	Cochrane's Avalon Motors, Prince's H'way., Lara.	155864	Road Match	11m
3	MOTOR GARAGES & ENGINEERS	Corio Service Station. Melbourne Rd.. Corio., Geelong.	140756	Road Match	106m
4	HAIRDRESSERS (LADIES) & BEAUTY SALONS	Mclean, Dawn, Forest Rd., Lara Lake, Lara .	155849	Road Match	138m
	PLUMBERS	Quick, A. J. & Co. Forest Rd., Lara Lake, Lara .	155867	Road Match	138m

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

Historical Business Directories

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

1950 Business Directory Records
Premise or Road Intersection Matches

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

Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
	No records in buffer					

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

1950 Business Directory Records
Road or Area Matches

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

Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
	No records in buffer				

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

Historical Business Directories

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

1945 Business Directory Records
Premise or Road Intersection Matches

Records from the 1945 Sands & McDougall's Directory, mapped to a premise or road intersection, within the dataset buffer:

Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
	No records in buffer					

Business Directory Content derived from Sands & McDougall's Directory of Victoria and Canberra ACT - Digitised by State Library Victoria

1945 Business Directory Records
Road or Area Matches

Records from the 1945 Sands & McDougall's Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
	No records in buffer				

Business Directory Content derived from Sands & McDougall's Directory of Victoria and Canberra ACT - Digitised by State Library Victoria

Historical Business Directories

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

1925 Business Directory Records
Premise or Road Intersection Matches

Records from the 1925 Sands & McDougall's Directory, mapped to a premise or road intersection, within the dataset buffer:

Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
	No records in buffer					

Business Directory Content derived from Sands & McDougall's Directory of Victoria - Digitised by State Library Victoria

1925 Business Directory Records
Road or Area Matches

Records from the 1925 Sands & McDougall's Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
	No records in buffer				

Business Directory Content derived from Sands & McDougall's Directory of Victoria - Digitised by State Library Victoria

Historical Business Directories

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

1905 Business Directory Records
Premise or Road Intersection Matches

Records from the 1905 Sands & McDougall's Directory, mapped to a premise or road intersection, within the dataset buffer:

Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
	No records in buffer					

Business Directory Content derived from Sands & McDougall's Melbourne, Suburban, and Country Directory - Digitised by State Library Victoria

1905 Business Directory Records
Road or Area Matches

Records from the 1905 Sands & McDougall's Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

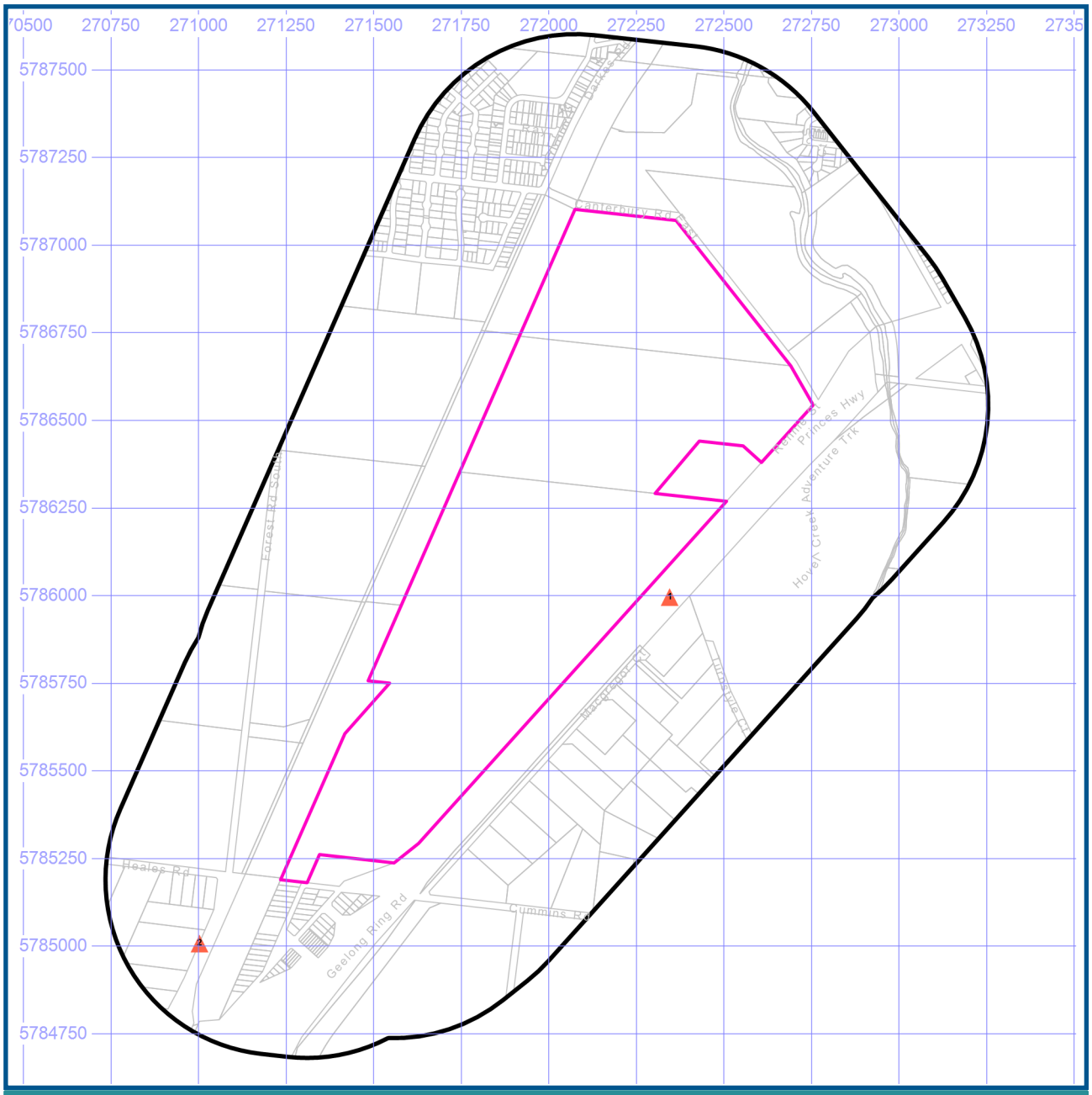
Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
	No records in buffer				

Business Directory Content derived from Sands & McDougall's Melbourne, Suburban, and Country Directory - Digitised by State Library Victoria

Historical Business Directories

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Dry Cleaners, Motor Garages & Service Stations



Site Boundary

Buffer 500m

Property Boundaries

Business directory records mapped to a specific premise

Business directory records mapped to a road intersection

Business directory records mapped to a road corridor

Business directory records mapped to a general area

N

Projected Coordinate System:
GDA94 MGA Zone 55

Data Sources: Universal Business Directories (UBD), derived data, licensed from Hardie Grant.
Sands & McDougall's Directory of Victoria, derived data, digitised by State Library Victoria.
Property Boundaries © State Government Victoria - Dept. of Environment, Land, Water & Planning2019

Historical Business Directories

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

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

Dry Cleaners, Motor Garages & Service Stations from Sands & McDougall's Directories and UBD Business Directories, mapped to a premise or road intersection within the dataset buffer.

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
	No records in buffer						

Business Directory Content Derived from Sands & McDougall's Directory of Victoria (Digitised by State Library Victoria) and Universal Business Directories (Licensed from Hardie Grant)

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

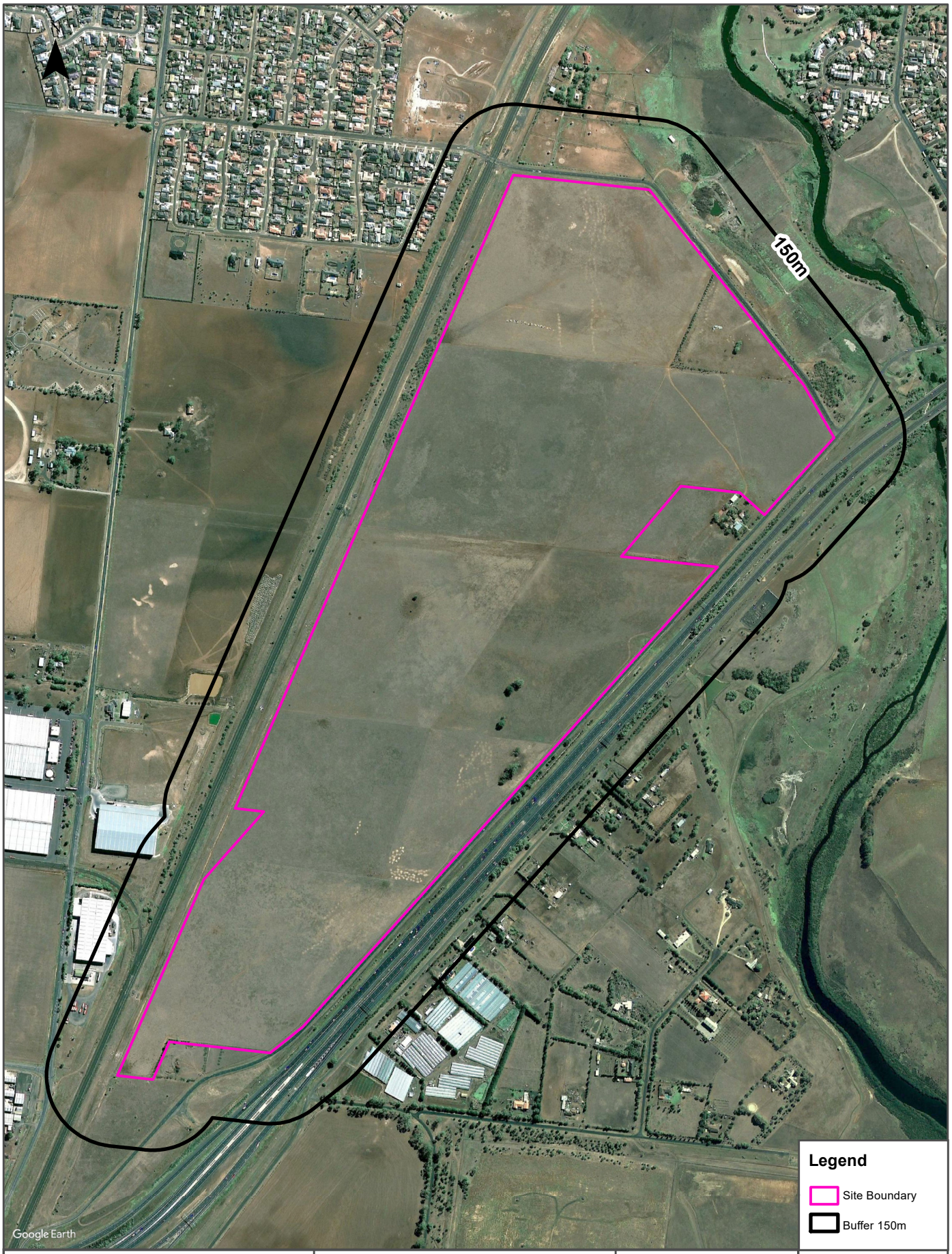
Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories and Sands & McDougall's Directories, mapped to a road or an area within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory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

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
1	MOTOR SERVICE STATIONS	Cochrane's Avalon Motors, Prince's H'way., Lara.	155864	1960	Road Match	11m
2	MOTOR GARAGES & ENGINEERS	Corio Service Station. Melbourne Rd.. Corio., Geelong.	140756	1960	Road Match	106m

Business Directory Content Derived from Sands & McDougall's Directory of Victoria (Digitised by State Library Victoria) and Universal Business Directories (Licensed from Hardie Grant)

Aerial Imagery 2009

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



Scale:

0 150 300 600
Meters

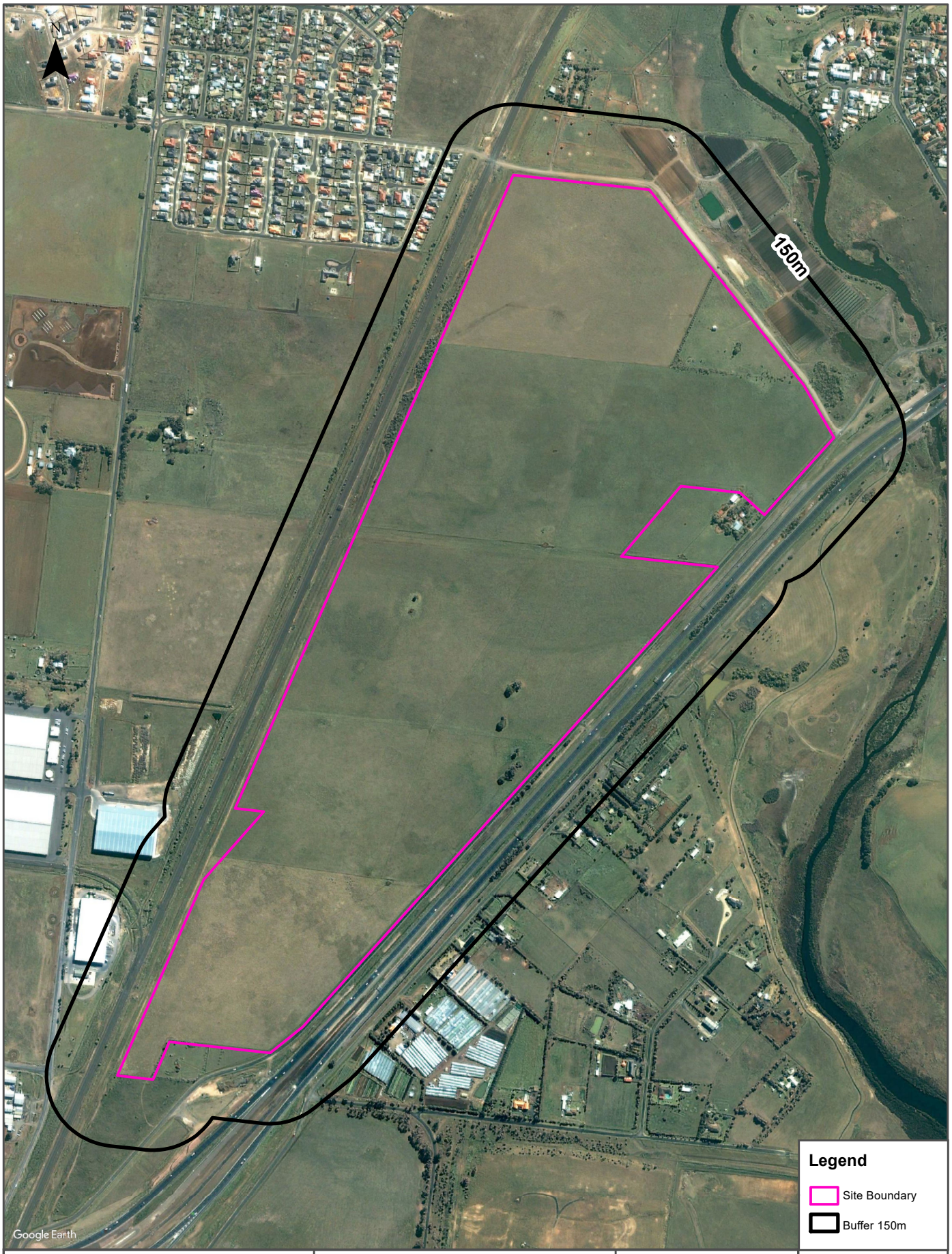
Data Source Aerial Imagery: © 2019 Google Inc, used with permission. Google and the Google logo are registered trademarks of Google Inc.

Coordinate System:
GDA 1994 MGA Zone 55

Date: 22 May 2019

Aerial Imagery 2002

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



Scale:
0 150 300 600
Meters

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Coordinate System:
GDA 1994 MGA Zone 55

Date: 22 May 2019

Aerial Imagery 1990

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Scale:
0 150 300 600
Meters

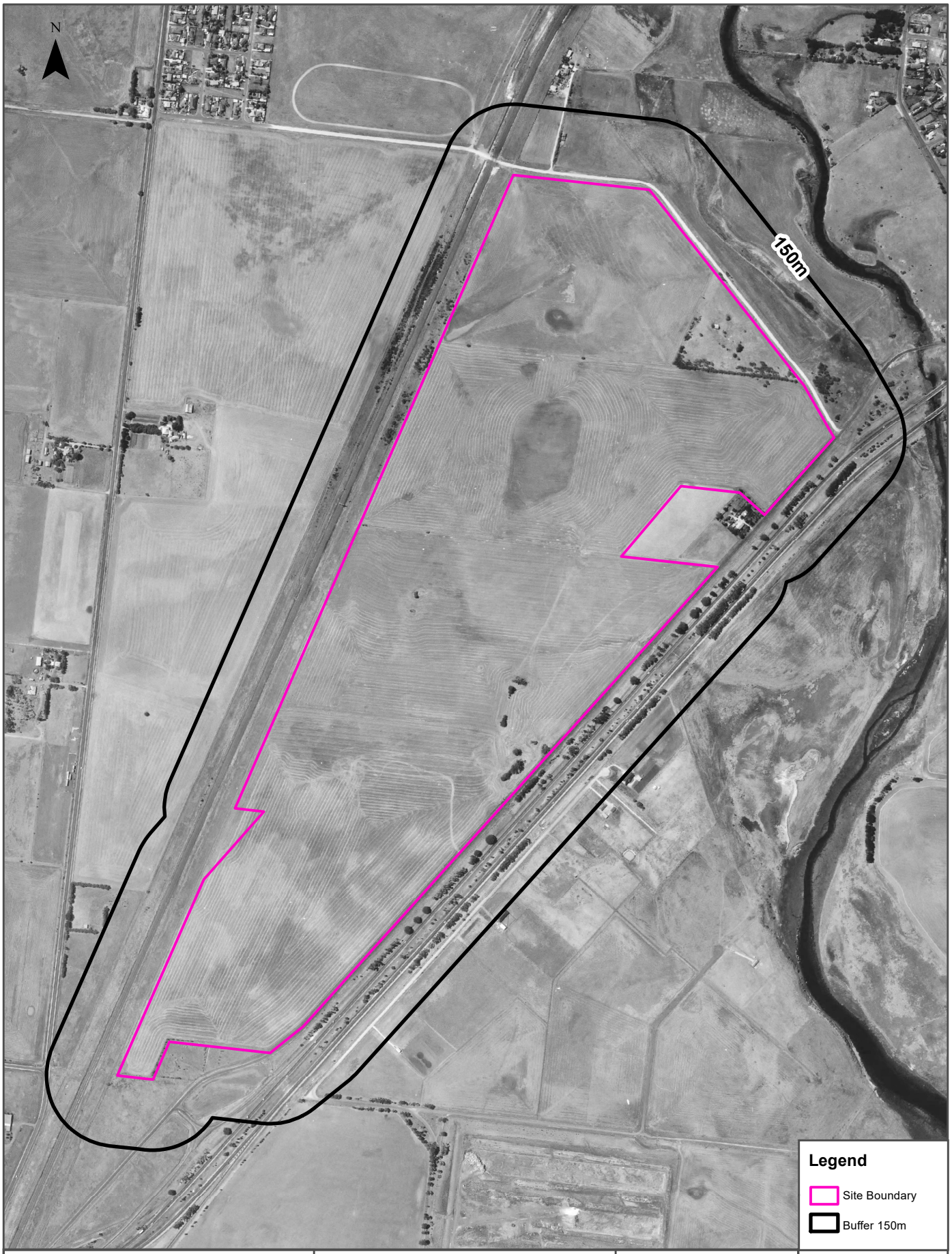
Data Source Aerial Imagery:
© Department of Environment, Land, Water and Planning
(Vicmap Topographic Mapping Program)

Coordinate System:
GDA 1994 MGA Zone 55

Date: 22 May 2019

Aerial Imagery 1984

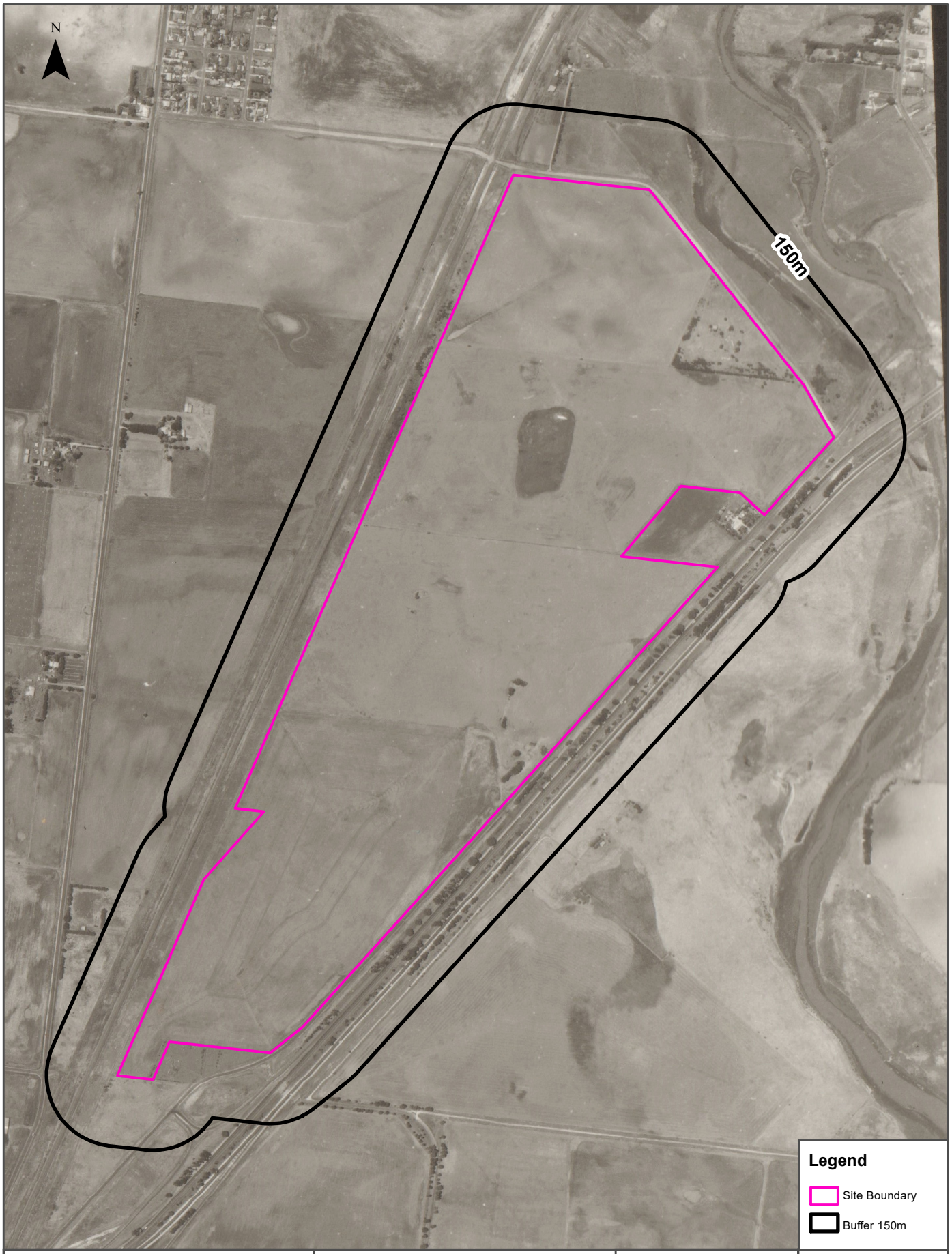
76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



Scale:	Data Source Aerial Imagery:	Coordinate System:	Date: 22 May 2019
0 150 300 600 Meters	© Department of Environment, Land, Water and Planning (Vicmap Topographic Mapping Program)	GDA 1994 MGA Zone 55	

Aerial Imagery 1978

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



Scale:
0 150 300 600
Meters

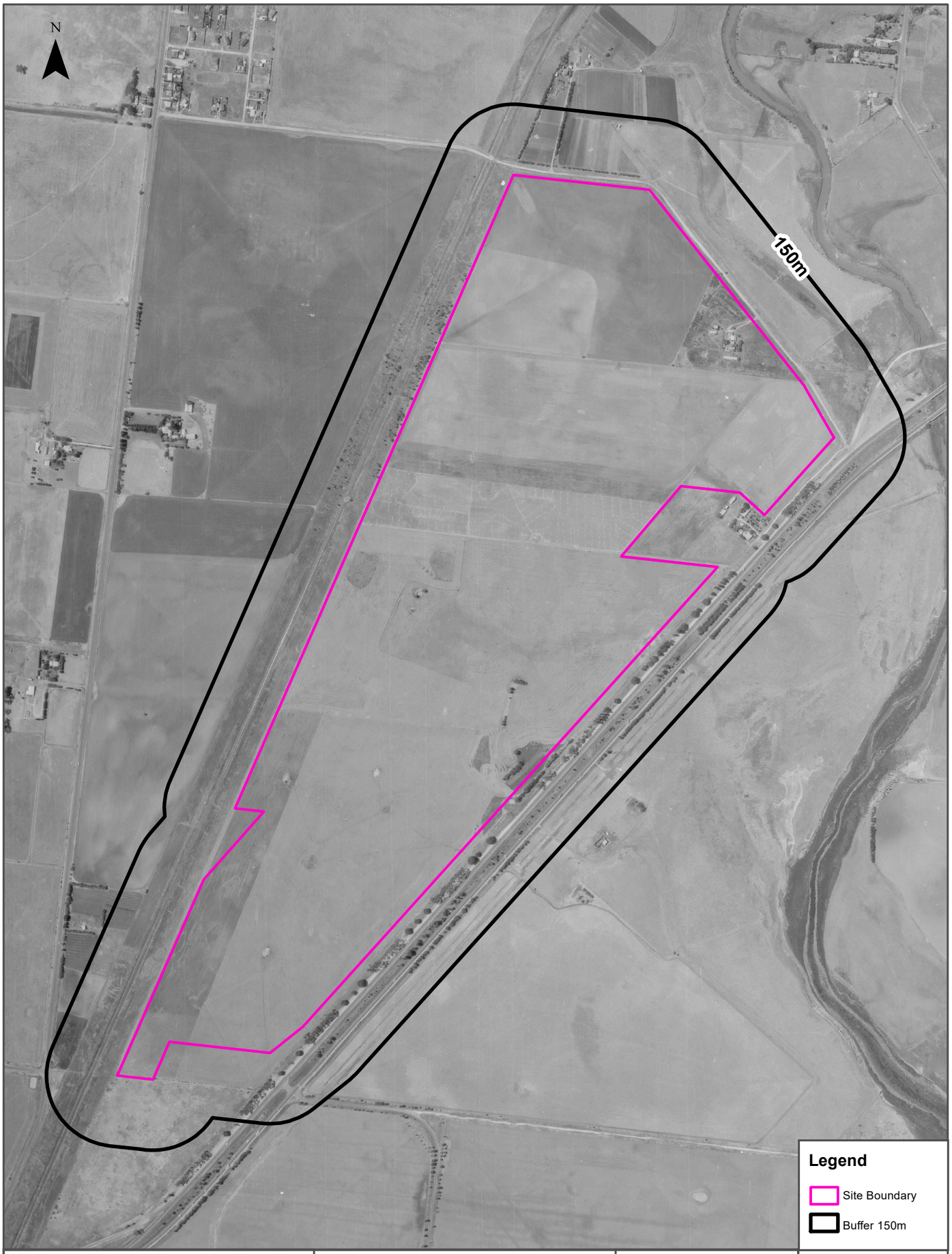
Data Source Aerial Imagery:
© Department of Environment, Land, Water and Planning
(Vicmap Topographic Mapping Program)

Coordinate System:
GDA 1994 MGA Zone 55

Date: 22 May 2019

Aerial Imagery 1970

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



Scale:
0 150 300 600
Meters

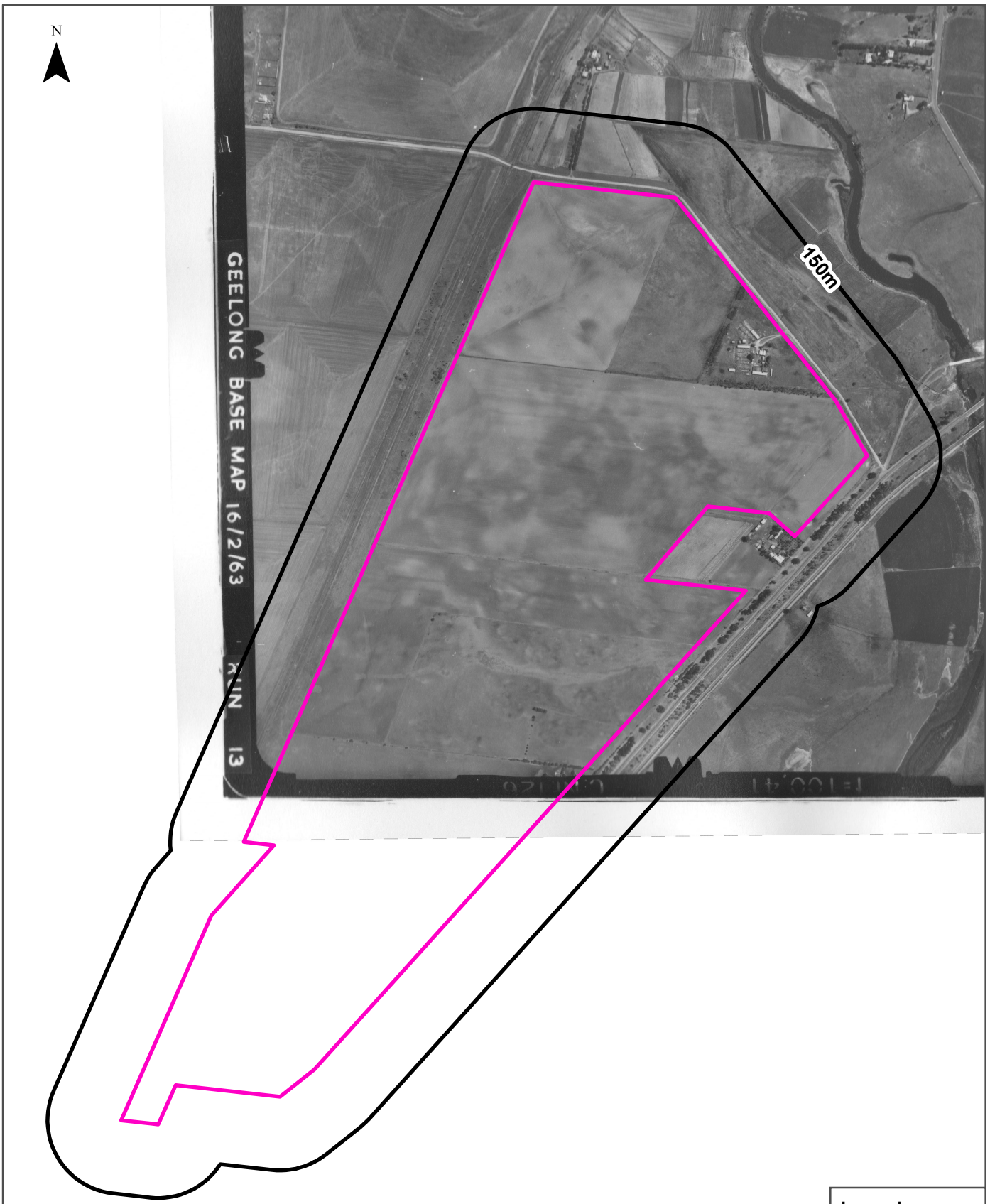
Data Source Aerial Imagery:
© Department of Environment, Land, Water and Planning
(Vicmap Topographic Mapping Program)

Coordinate System:
GDA 1994 MGA Zone 55

Date: 22 May 2019

Aerial Imagery 1963

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



Legend

Site Boundary

Buffer 150m

Scale:
0 150 300 600
Meters

Data Source Aerial Imagery:
© Department of Environment, Land, Water and Planning
(Vicmap Topographic Mapping Program)

Coordinate System:
GDA 1994 MGA Zone 55

Date: 28 May 2019

Aerial Imagery 1963

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Scale:
0 150 300 600
Meters

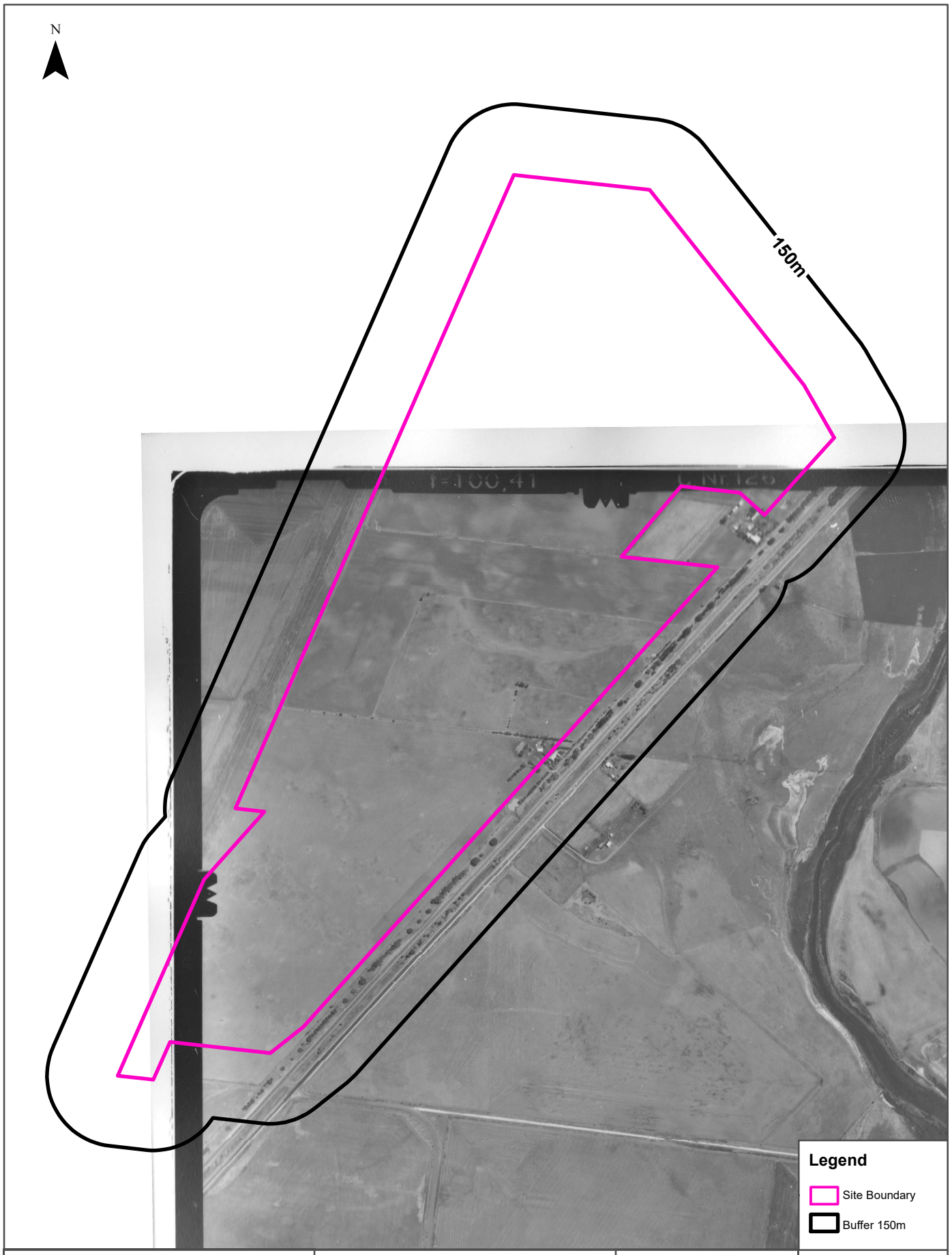
Data Source Aerial Imagery:
© Department of Environment, Land, Water and Planning
(Vicmap Topographic Mapping Program)

Coordinate System:
GDA 1994 MGA Zone 55

Date: 28 May 2019

Aerial Imagery 1963

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



Scale:
0 150 300 600
Meters

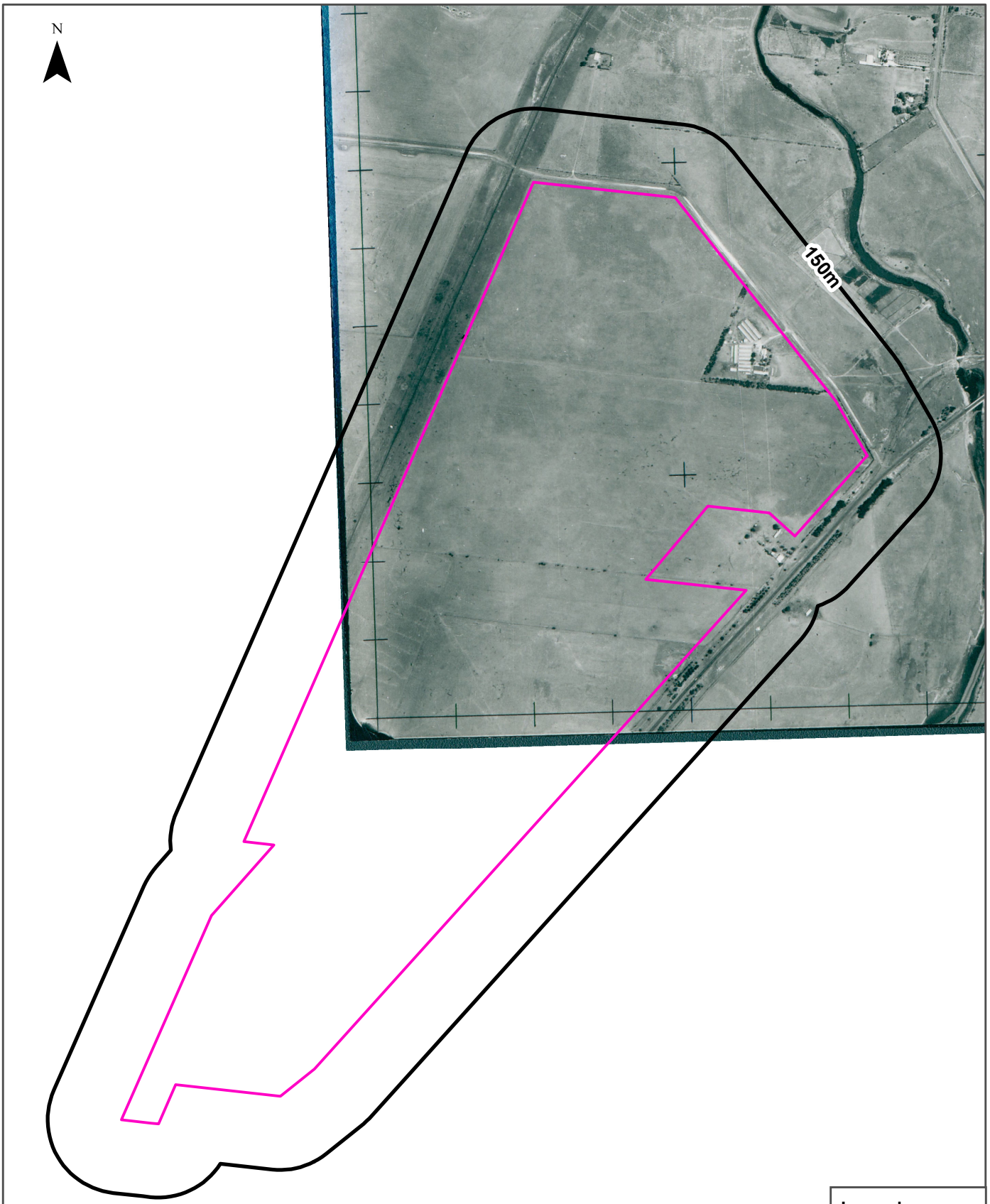
Data Source Aerial Imagery:
© Department of Environment, Land, Water and Planning
(Vicmap Topographic Mapping Program)

Coordinate System:
GDA 1994 MGA Zone 55

Date: 28 May 2019

Aerial Imagery 1947

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



Legend

Site Boundary

Buffer 150m

Scale:

0 150 300 600
Meters

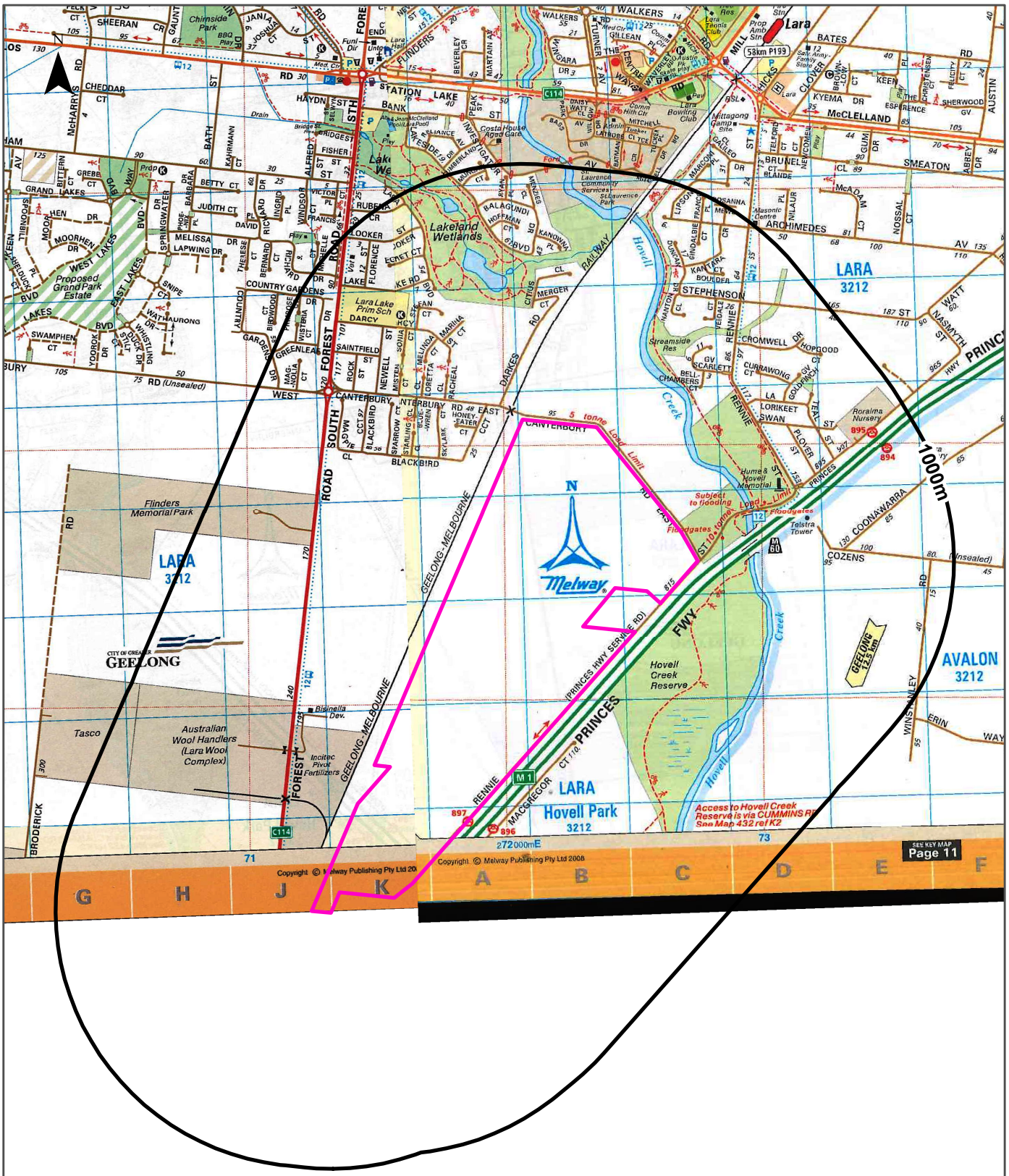
Data Source Aerial Imagery:
© Department of Environment, Land, Water and Planning
(Vicmap Topographic Mapping Program)

Coordinate System:
GDA 1994 MGA Zone 55

Date: 22 May 2019

Historical Map 2009

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



Legend

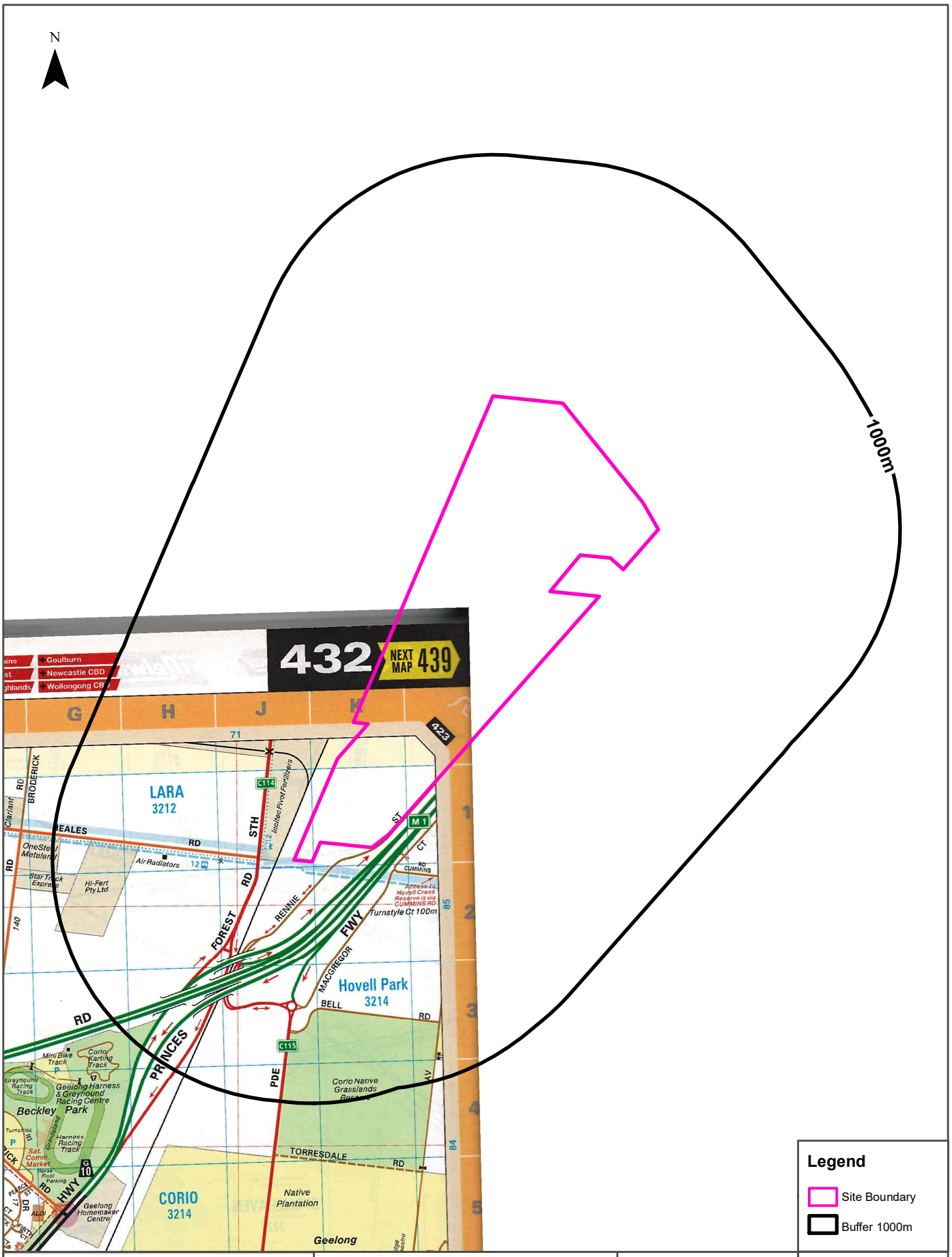
- Site Boundary
- Buffer 1000m

Scale:	Data Sources: Maps reproduced from 2009, Edition 36 of the Melway Street Directory	Coordinate System: GDA 1994 MGA Zone 55	Date: 22 May 2019

0 100 200 400 600 800 1,000 Meters

Historical Map 2009

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



Legend

- Site Boundary
- Buffer 1000m

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

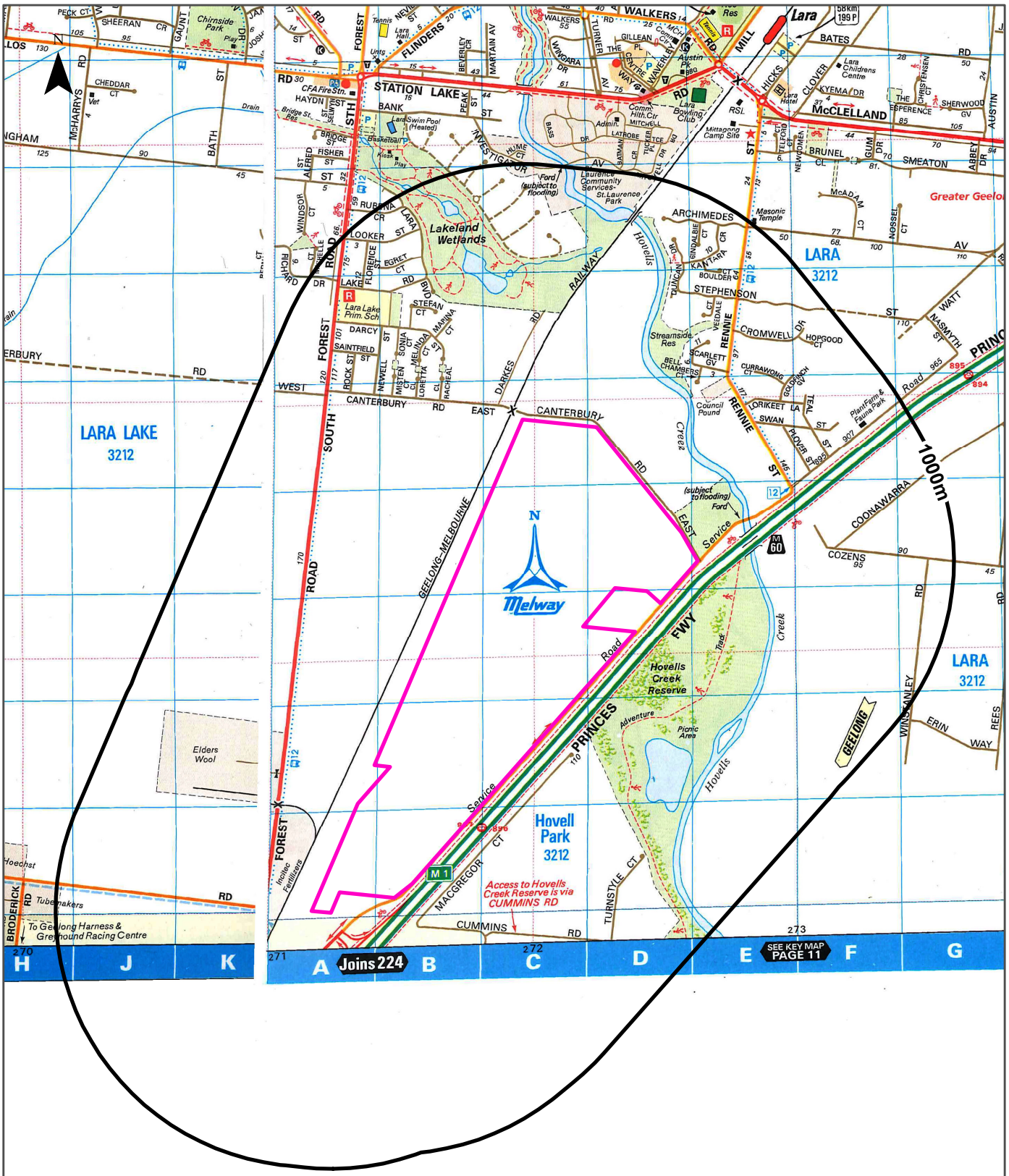
Data Sources: Maps reproduced from 2009, Edition 36 of the Melway Street Directory

Coordinate System: GDA 1994 MGA Zone 55

Date: 22 May 2019

Historical Map 1998

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



Legend

- Site Boundary
- Buffer 1000m

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

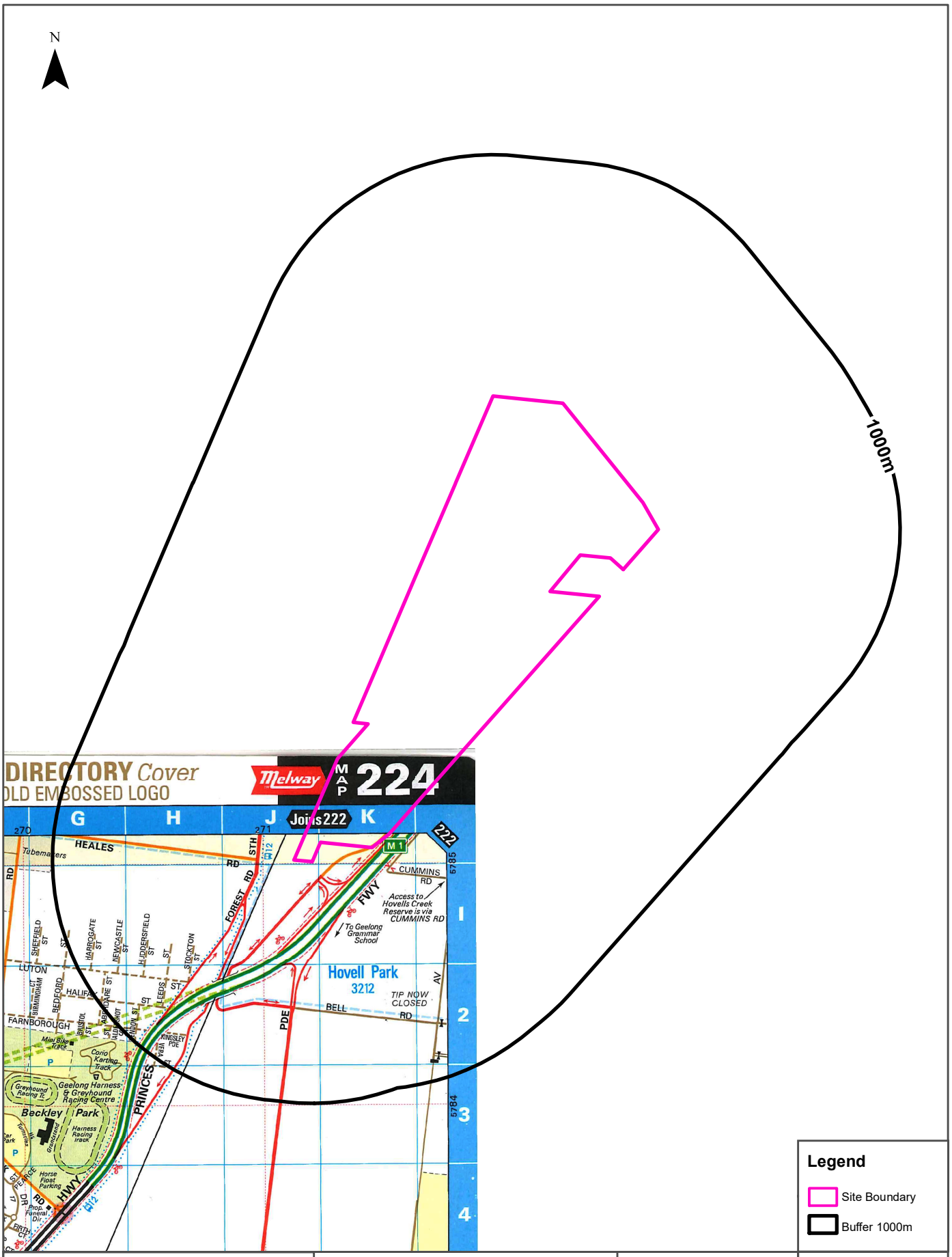
Data Sources: Maps reproduced from 1998, Edition 26 of the Melway Street Directory

Coordinate System: GDA 1994 MGA Zone 55

Date: 22 May 2019

Historical Map 1998

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



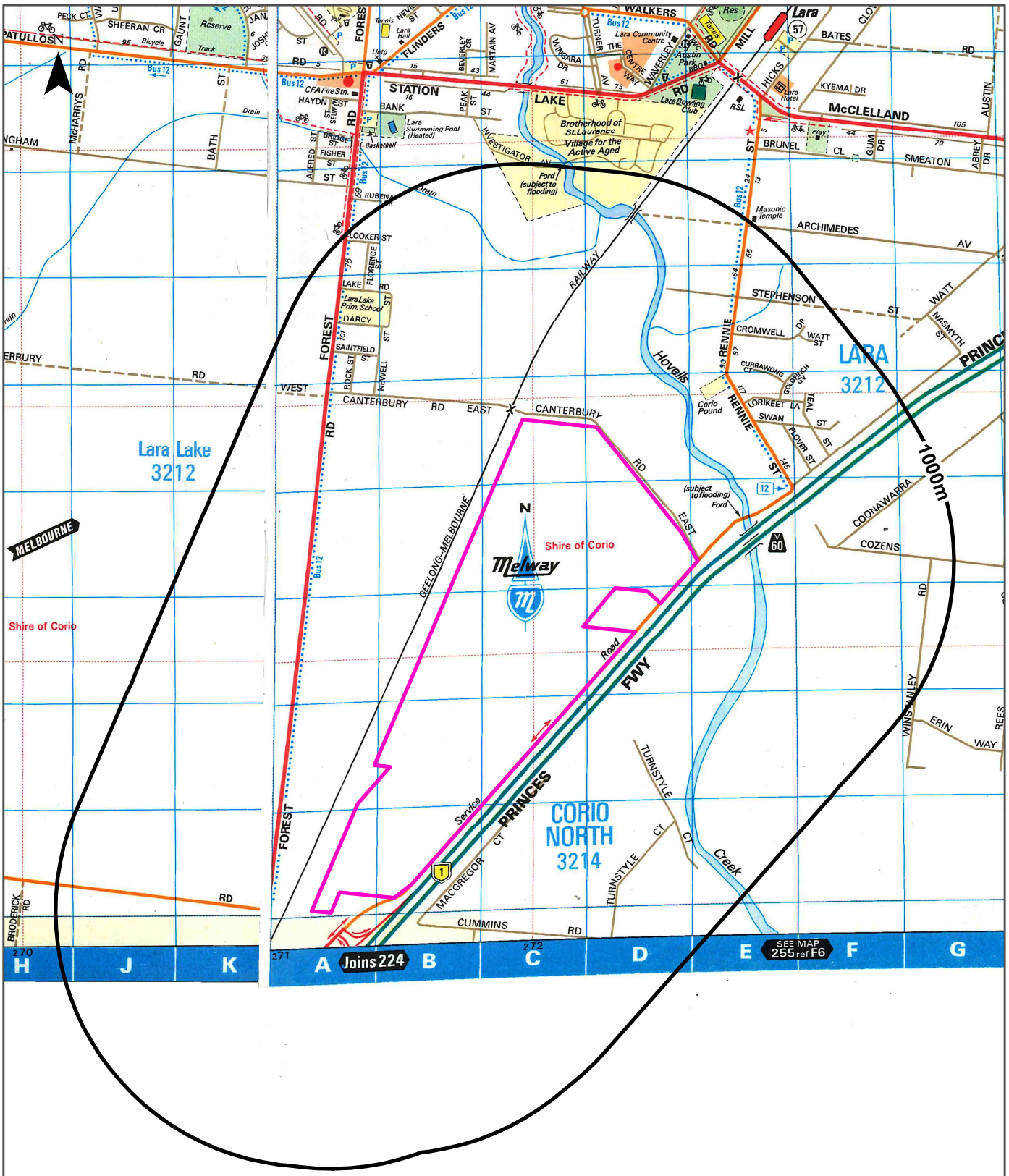
Legend

- Site Boundary
- Buffer 1000m

Scale:	Data Sources: Maps reproduced from 1998, Edition 26 of the Melway Street Directory	Coordinate System: GDA 1994 MGA Zone 55	Date: 22 May 2019
0 100 200 400 600 800 1,000 Meters			

Historical Map 1986

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



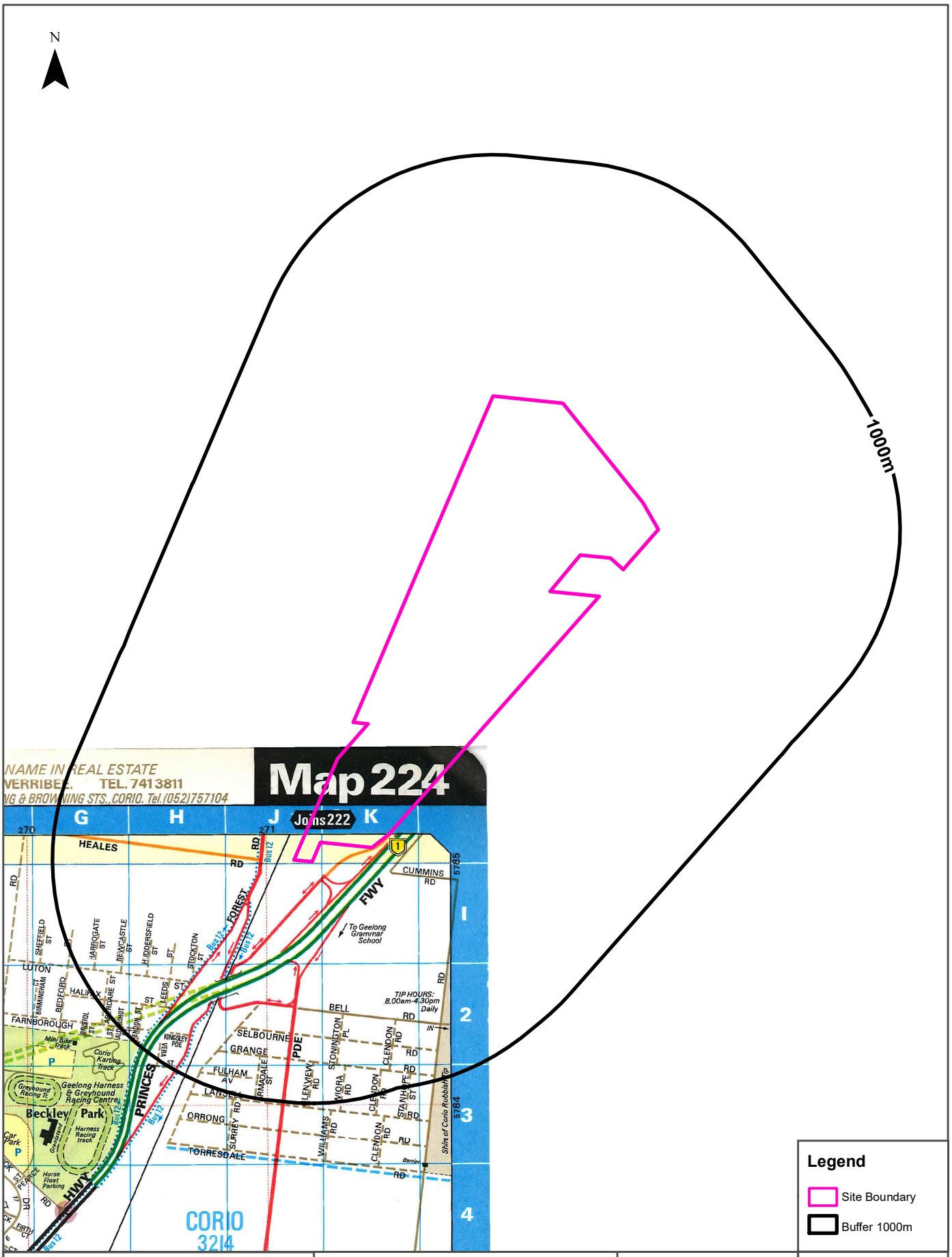
Legend

- Site Boundary
- Buffer 1000m

Scale:	Data Sources: Maps reproduced from 1986, Edition 16 of the Melway Street Directory	Coordinate System: GDA 1994 MGA Zone 55	Date: 22 May 2019
0 100 200 400 600 800 1,000 Meters			

Historical Map 1986

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



Legend

- Site Boundary
- Buffer 1000m

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

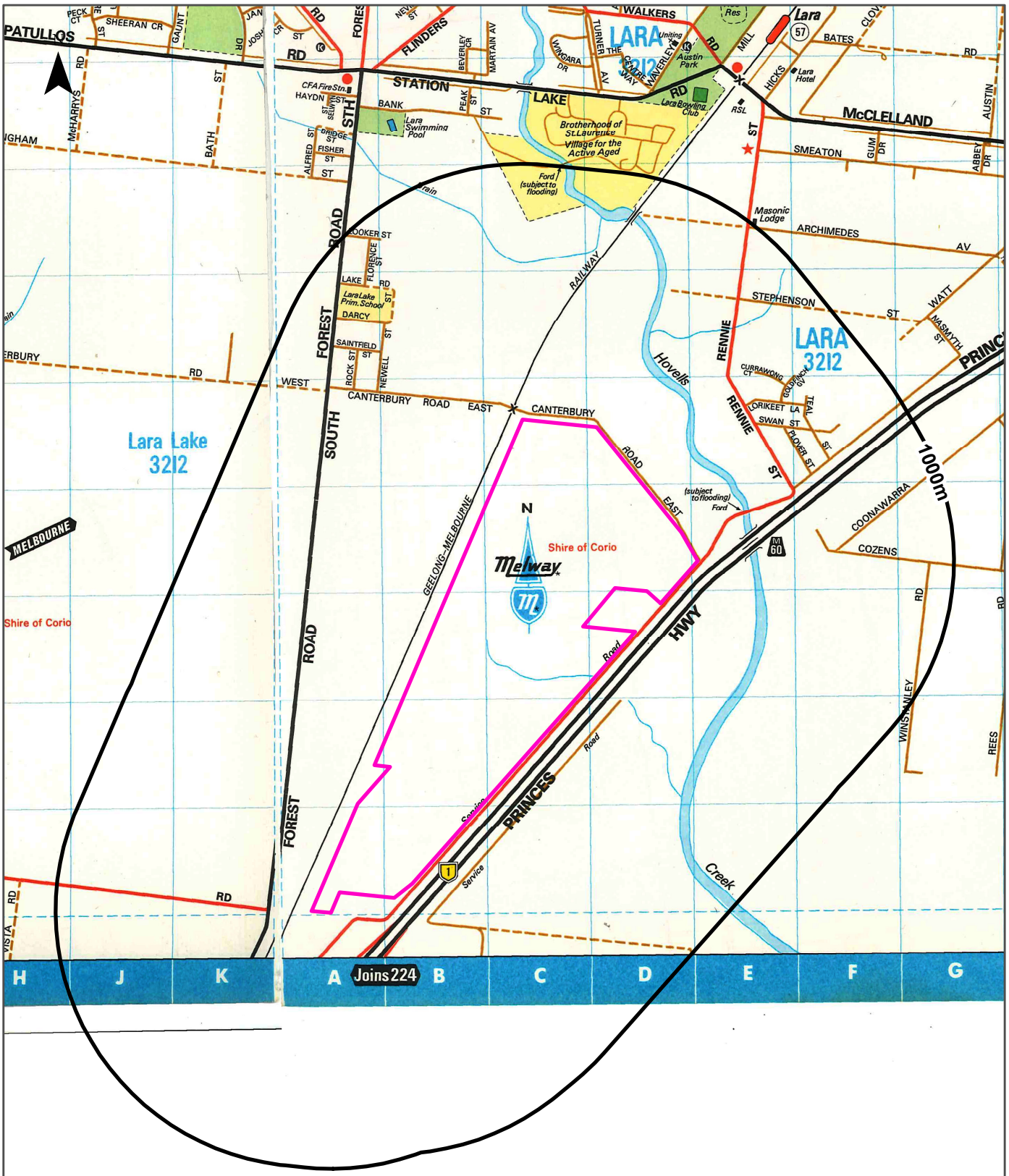
Data Sources: Maps reproduced from 1986, Edition 16 of the Melway Street Directory

Coordinate System: GDA 1994 MGA Zone 55

Date: 22 May 2019

Historical Map 1978

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



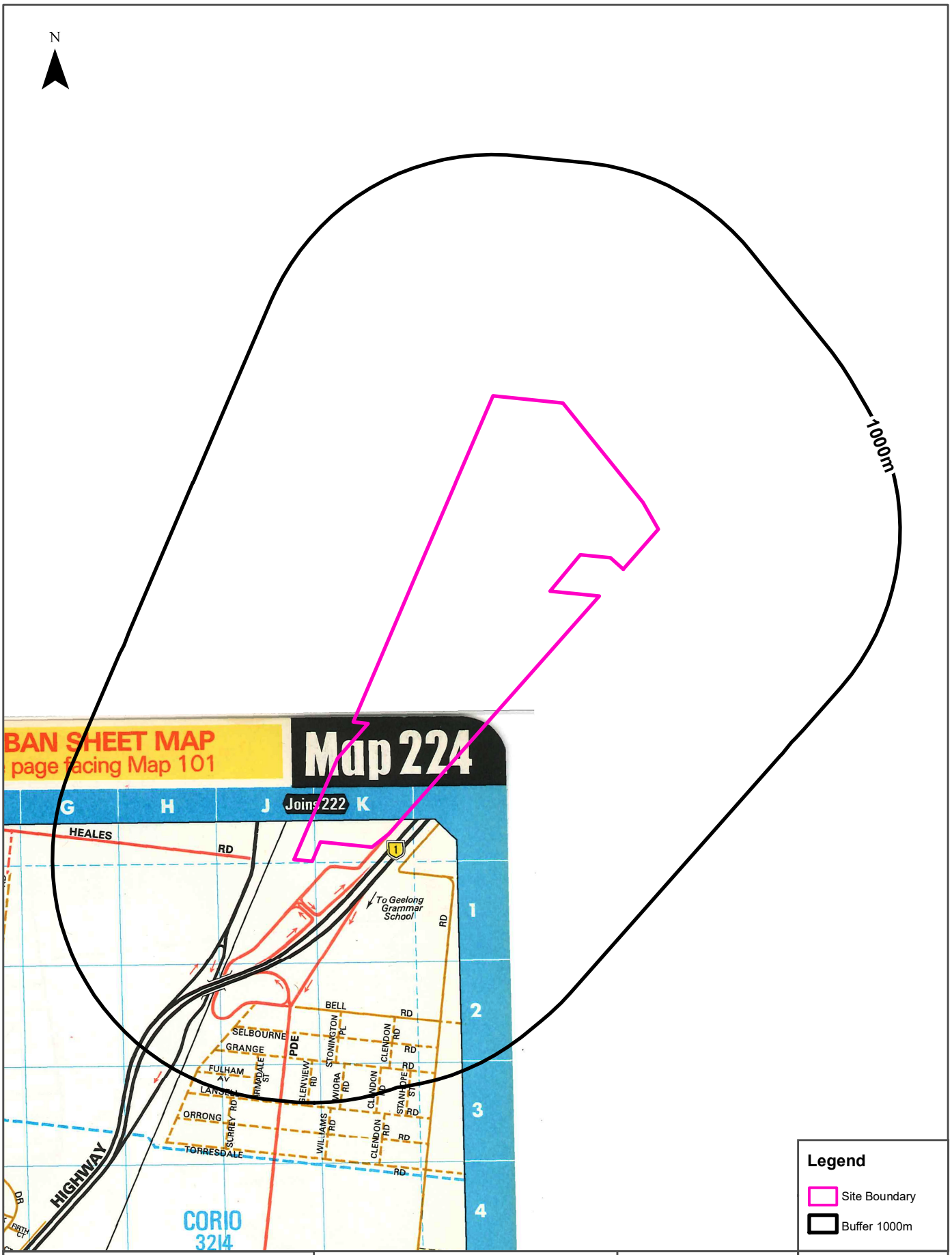
Legend

- Site Boundary
- Buffer 1000m

Scale:	Data Sources: Maps reproduced from 1978, Edition 11 of the Melway Street Directory	Coordinate System: GDA 1994 MGA Zone 55	Date: 22 May 2019
0 100 200 400 600 800 1,000 Meters			

Historical Map 1978

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



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

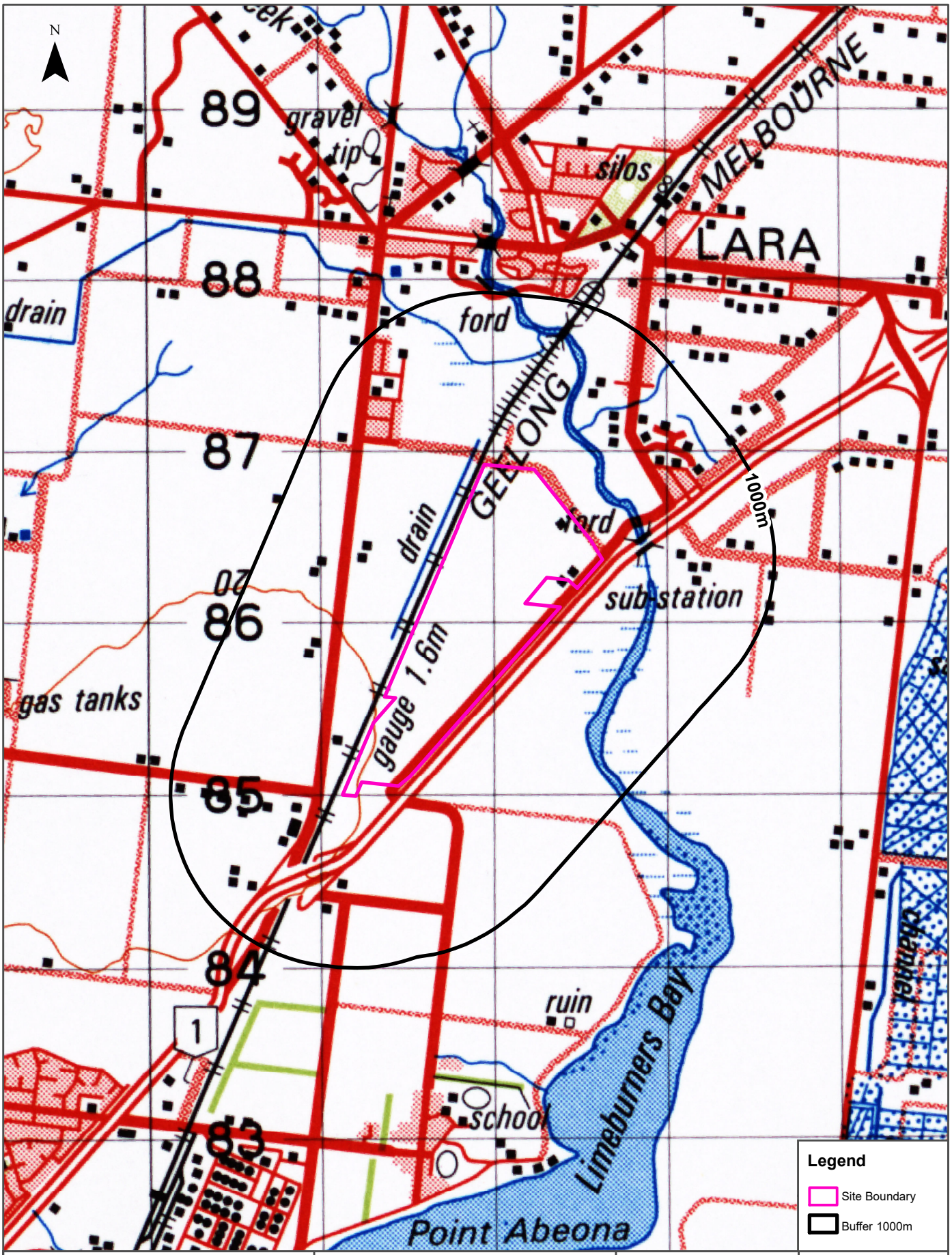
Data Sources: Maps reproduced from 1978, Edition 11 of the Melway Street Directory

Coordinate System: GDA 1994 MGA Zone 55

Date: 22 May 2019

Historical Map 1975

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



Scale: 0 250 500 1,000 1,500 Meters

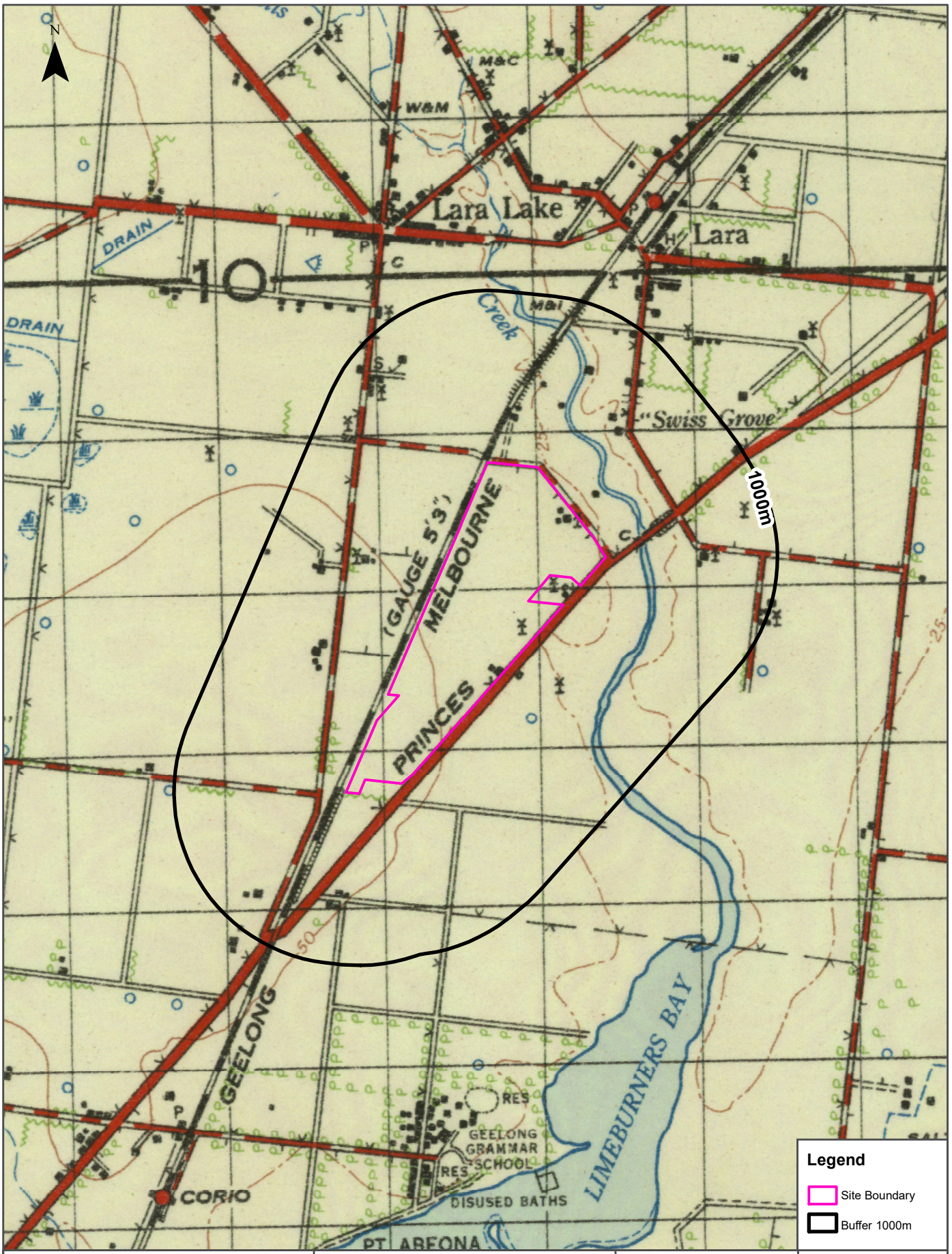
Data Sources: NATMAP 1:100,000 Topographic Maps
Geoscience Australia

Coordinate System:
GDA 1994 MGA Zone 55

Date: 22 May 2019

Historical Map c.1955

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



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

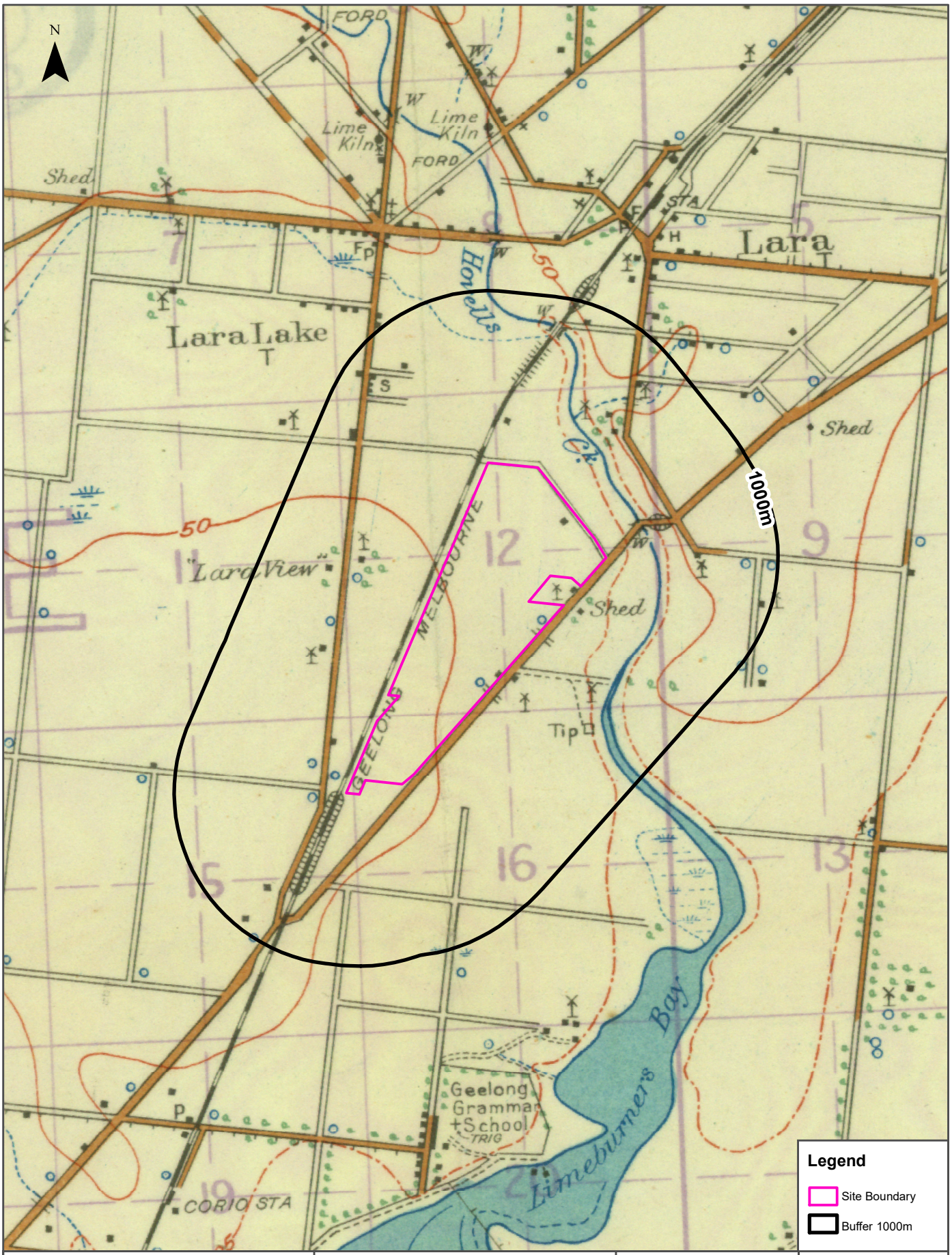
Data Sources: Australia 1:63360
Prepared by Commonwealth Section Imperial General Staff

Coordinate System:
GDA 1994 MGA Zone 55

Date: 22 May 2019

Historical Map c.1928

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



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

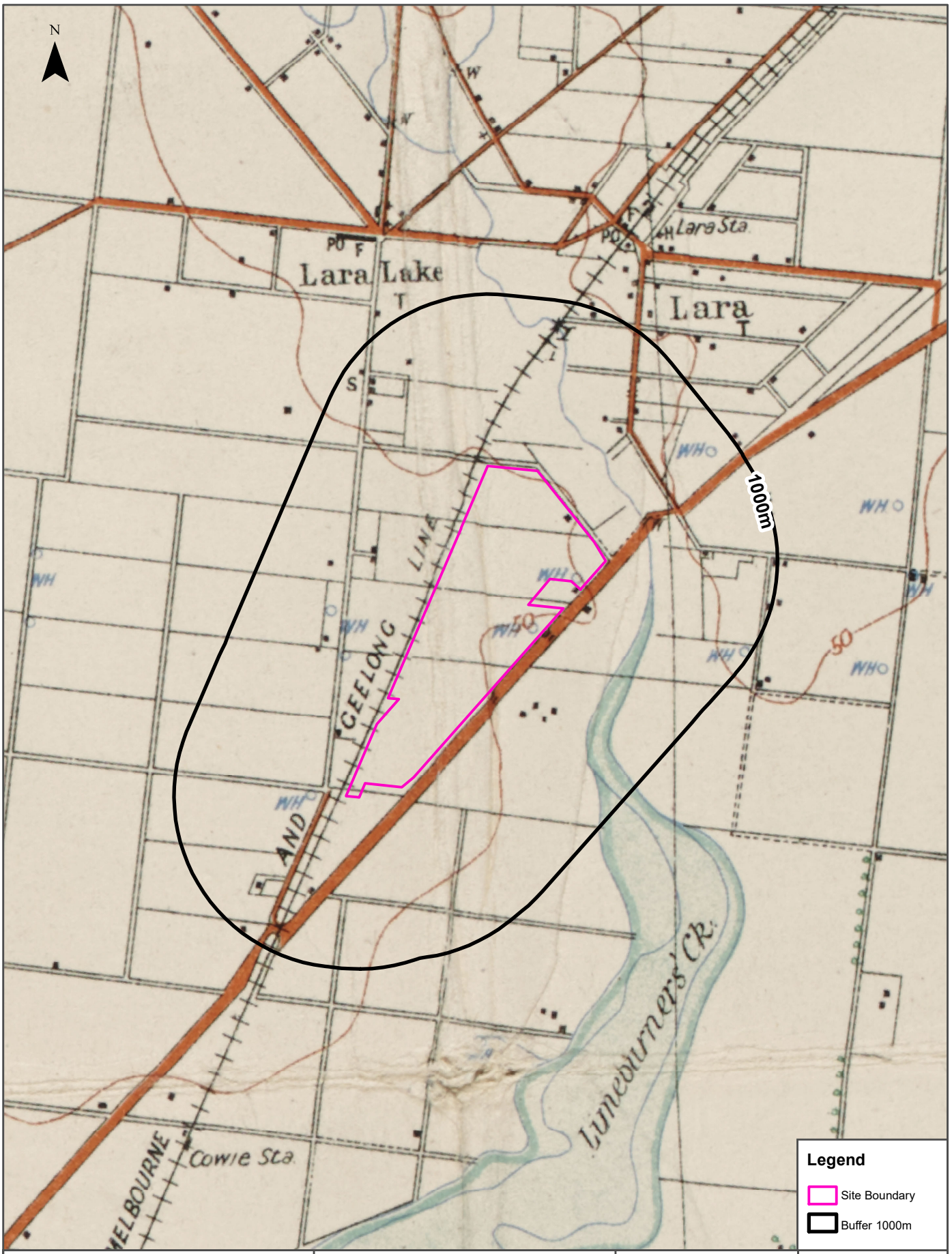
Data Sources: Australia 1:63360
Prepared by Commonwealth Section Imperial General Staff

Coordinate System:
GDA 1994 MGA Zone 55

Date: 22 May 2019

Historical Map c.1914

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



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

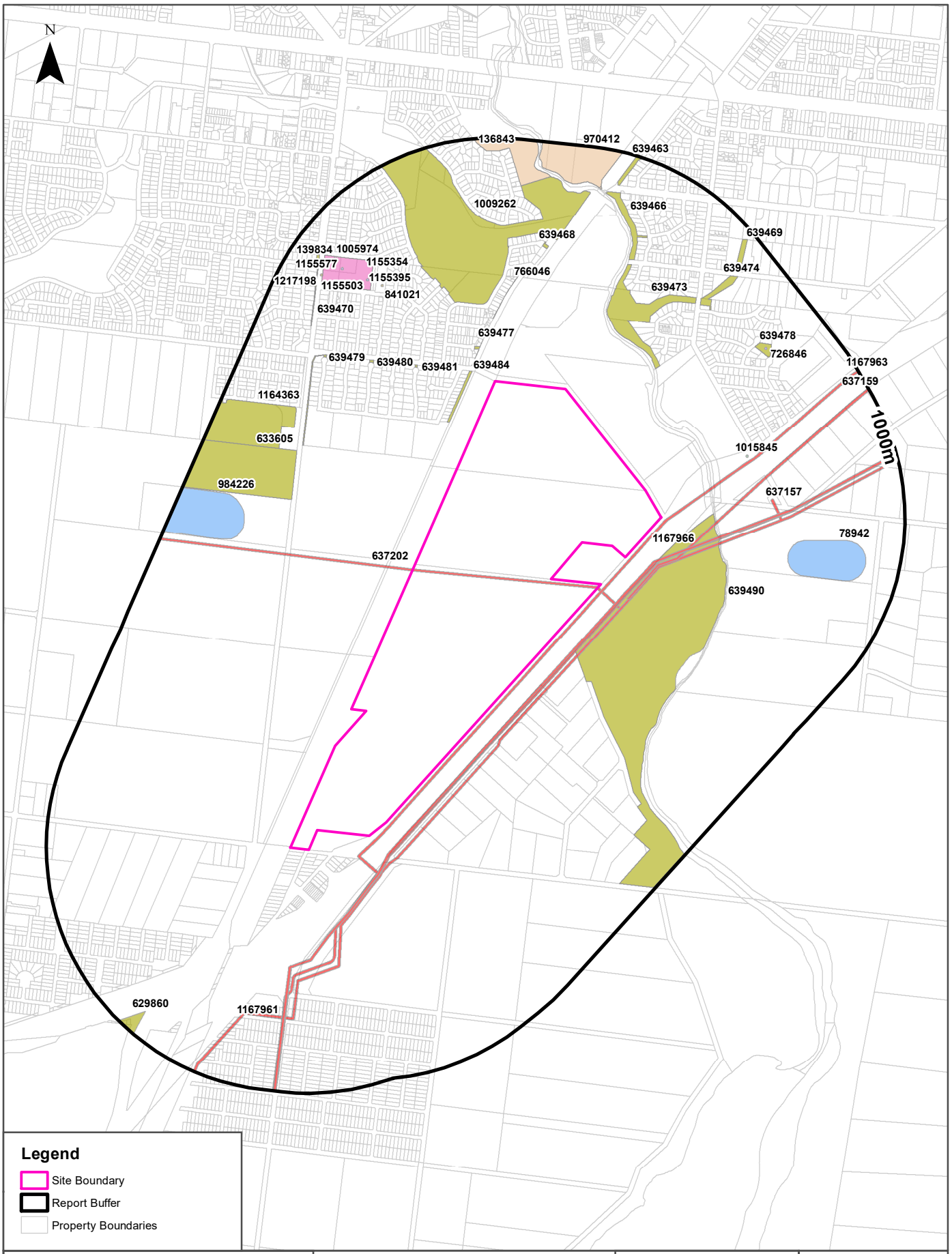
Data Sources: Australia 1:63360
Prepared by Commonwealth Section Imperial General Staff

Coordinate System:
GDA 1994 MGA Zone 55

Date: 22 May 2019

Features of Interest

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



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

Data Sources: Property Boundaries - State Government Victoria - Department of Environment, Land, Water & Planning

Coordinate System: GDA 1994 MGA Zone 55

Date: 22 May 2019

Features of Interest

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Features of Interest

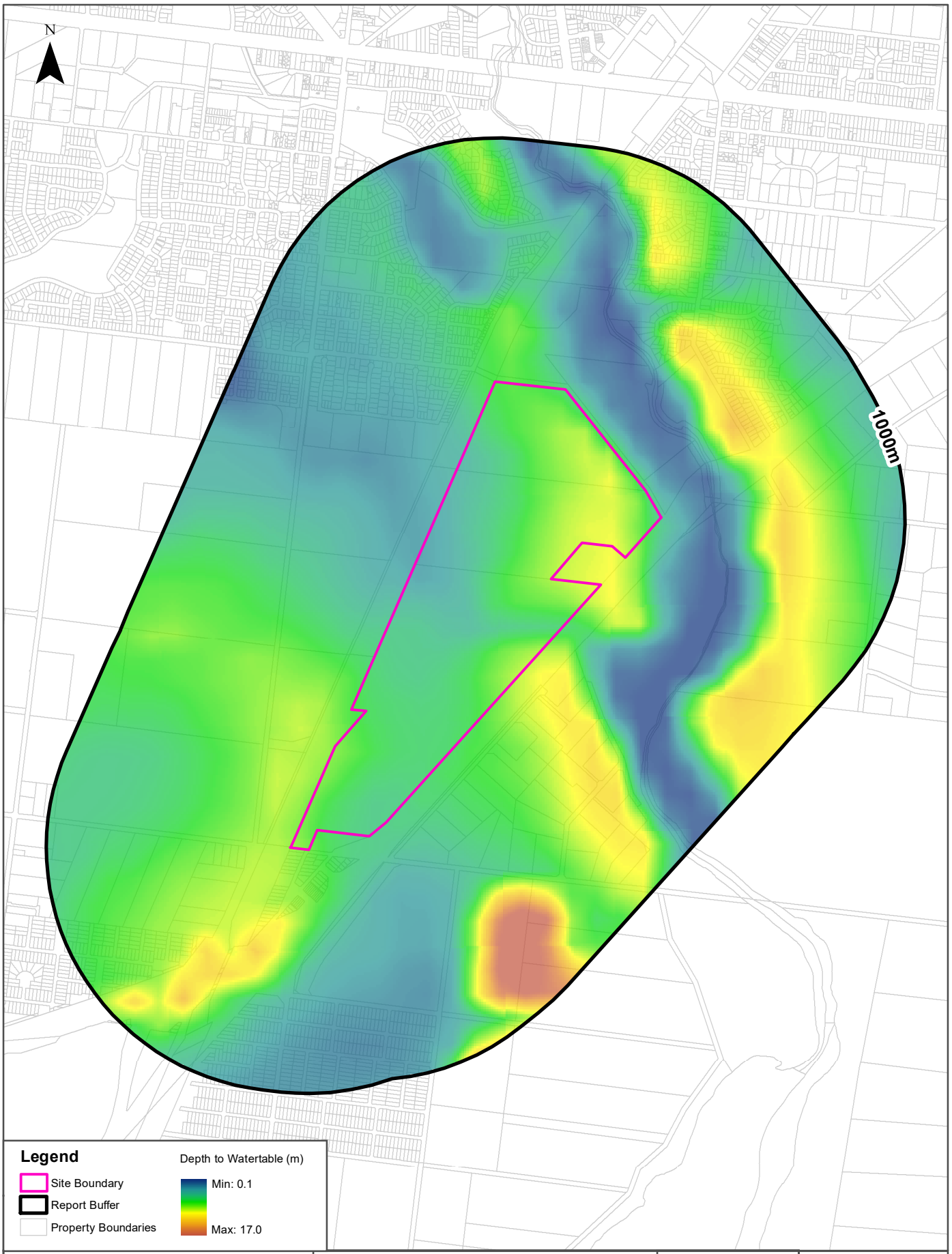
Features of Interest within the dataset buffer:

Feature Id	Feature Type	Feature Sub Type	Name	Distance	Direction
637202	pipeline	gas pipeline	Lara - Iona	0m	Onsite
1167963	pipeline	oil pipeline	Wopl	13m	North East
1167966	pipeline	oil pipeline	Bopl	89m	North East
1167961	pipeline	oil pipeline	Wag16	95m	North East
639490	reserve	park		102m	East
639484	reserve	park		105m	North
637157	pipeline	gas pipeline	Brooklyn - Corio	114m	North East
637159	pipeline	gas pipeline	Brooklyn - Lara	116m	North East
639477	reserve	park		117m	North
766046	reserve	park		260m	North
639473	reserve	park		315m	North East
639481	reserve	park		316m	North
1009262	reserve	park	Lara Lake Reserve	322m	North
1015845	landmark	monument	Hume And Hovell Monument	425m	North East
639480	reserve	park		489m	North West
78942	sport facility	training track		542m	East
639468	reserve	park		563m	North
633605	reserve	cemetery	Flinders Memorial Park Public Cemetery	572m	West
639466	reserve	park		592m	North
841021	care facility	child care	Lara Lake Community Preschool	604m	North
639479	reserve	park		615m	North West
1005974	education centre	education complex		636m	North
639474	reserve	park		648m	North East
1155503	recreational resource	playground		665m	North
1155354	sport facility	sports ground		667m	North
1155395	sport facility	sports ground		672m	North
1164363	reserve	park		680m	North West
984226	sport facility	training track		707m	West
639478	reserve	park	Goldfinch Reserve	717m	North East
726846	recreational resource	playground		742m	North East
1155577	recreational resource	playground		775m	North West

Feature Id	Feature Type	Feature Sub Type	Name	Distance	Direction
639470	reserve	park		782m	North West
970412	residential building	retirement village	St Laurence Park Retirement Village Lara	810m	North
139834	education centre	primary school	Lara Lake Primary School	824m	North West
1217198	care facility	child care	Lara Lake Ps Theircare	831m	North West
639469	reserve	park		844m	North East
639463	reserve	park		865m	North
629860	reserve	park	Beckley Park	896m	South West
136843	care facility	aged care	Costa House	955m	North

Depth to Watertable

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



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

Data Sources:- Property Boundaries: State Government Victoria - Department of Environment, Land, Water & Planning; Depth to Watertable: The State of Victoria, Department of Environment, Land, Water & Planning. Resampled (bilinear) to 10m.

Coordinate System: GDA 1994 MGA Zone 55

Date: 22 May 2019

Hydrogeology & Groundwater

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Hydrogeology

Description of aquifers within the dataset buffer:

Description	Distance	Direction
Fractured or fissured, extensive aquifers of low to moderate productivity	0m	Onsite

Hydrogeology Map of Australia: Commonwealth of Australia (Geoscience Australia)

Groundwater Salinity

On-site Groundwater Salinity:

Groundwater Salinity	Percent Of Site Area
3,500 - 7,000 mg/l	99
1,000 - 3,500 mg/l	1

Depth to Watertable

On-site Depth to Watertable:

Depth to Watertable	Percent Of Site Area
5 to 10 metres	67
Less than 5 metres	33

Surface Elevation

Approximate on-site Surface Elevation:

Surface Elevation
5 AHDm to 23 AHDm

Basement Elevation

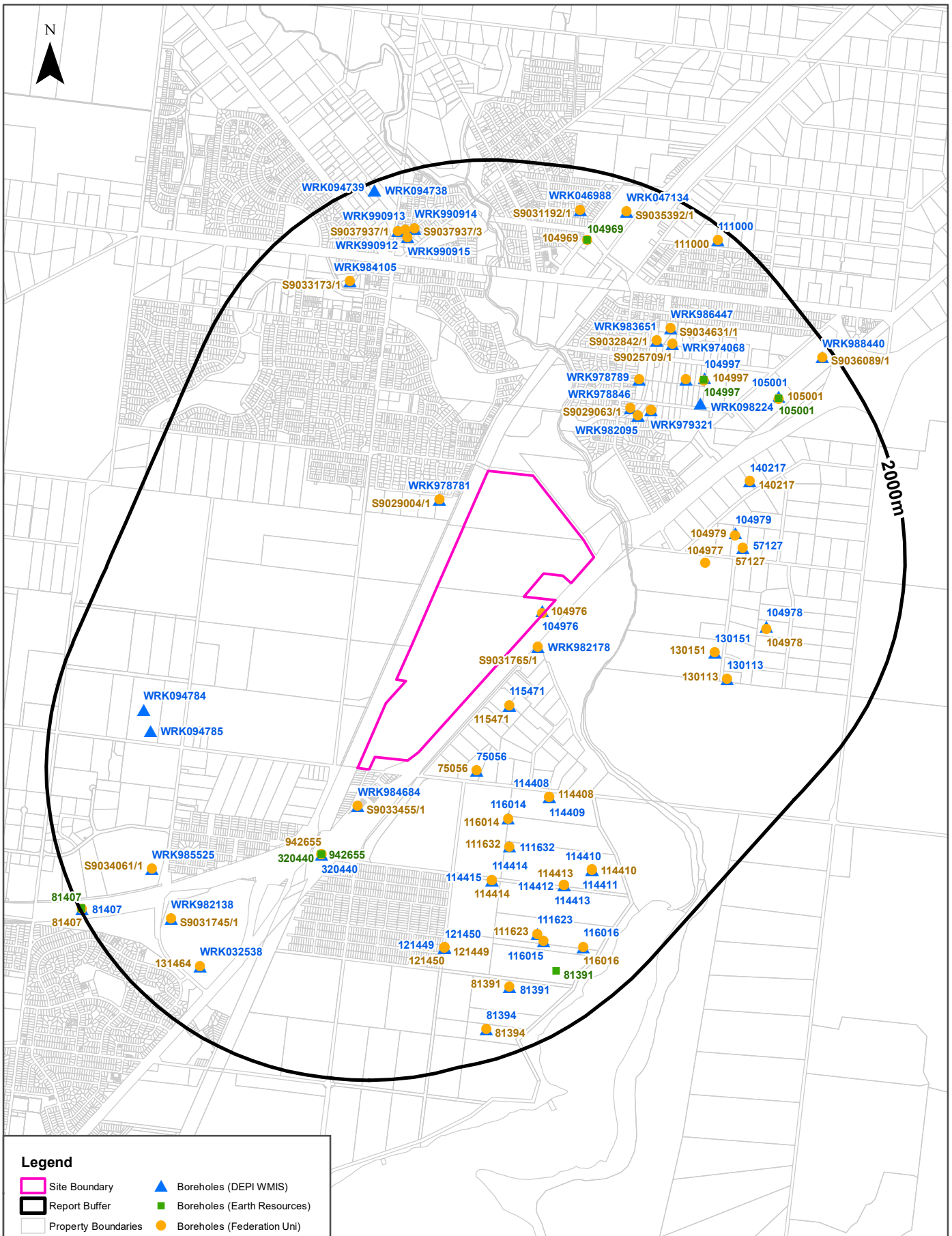
Approximate on-site Basement Elevation:

Basement Elevation - Basement Rocks comprise Lower Palaeozoic basement rocks that form the highlands and the crystalline basement; and Mesozoic rocks of the Otway and Gippsland basins both outcropping and subsurface
-230 AHDm to -212 AHDm

Groundwater Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning

Groundwater Boreholes

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



Legend

- Site Boundary
- Report Buffer
- Property Boundaries
- Boreholes (DEPI WMIS)
- Boreholes (Earth Resources)
- Boreholes (Federation Uni)

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

Data Sources: Property Boundaries - State Government Victoria - Department of Environment, Land, Water & Planning

Coordinate System: GDA 1994 MGA Zone 55

Date: 22 May 2019

Groundwater Boreholes

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Boreholes (DEPI WMIS)

Boreholes from the Department of Environment and Primary Industries' Water Measurement Information System, within the dataset buffer:

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
104976	Not Known					1956-03-21	0	Onsite
WRK982178							116	South East
WRK978781	Domestic & Stock		0.00m-0.50m OUTER LINING - GRAVEL = Cement			2007-03-09	210	North
115471	Domestic	0.00m-1.50m OVERBURDEN 1.50m-5.50m CLAY 5.50m-15.00m BASALT 15.00m-20.00m CLAY GREY 20.00m-27.50m CLAY BROAN 27.50m-35.00m FINE SAND	-0.30m-27.00m INNER LINING - CASING = Pvc 27.00m-35.00m INNER LINING - SCREEN = Pvc			1993-06-05	232	South
WRK984684							240	South West
75056	Domestic	0.00m-2.00m SOIL 2.00m-4.50m CLAY 4.50m-6.20m SOFT BASALT 6.20m-9.30m CLAY 9.30m-18.50m SAND 18.50m-19.00m CLAY	-0.30m-12.00m INNER LINING - CASING = Pvc 12.00m-19.00m INNER LINING - SCREEN = Pvc		12.00m-19.00m Sand	1991-01-19	357	South
320440	Non Groundwater					1981-10-14	600	South West
116014	Groundwater Investigation	0.00m-13.80m LAND FILL 13.80m-14.80m H W BASALT 14.80m-16.00m M W LENSES 16.00m-24.60m SILTY CLAYEY SANDS	-0.50m-15.00m INNER LINING - CASING = Pvc Class 9 -0.40m-24.60m INNER LINING - CASING = Pvc Class 18 15.00m-24.60m INNER LINING - SCREEN = Pvc Class 18 0.00m-15.00m OUTER LINING - GRAVEL = Cement 15.00m-16.80m OUTER LINING - GRAVEL = Bentonite 16.80m-24.60m OUTER LINING - GRAVEL = Gravel			1993-04-27	713	South
WRK978846	Domestic & Stock		0.50m-13.50m INNER LINING - CASING = Pvc 13.50m-17.00m INNER LINING - SLOT = Pvc 0.00m-0.50m OUTER LINING - GRAVEL = Cement			2007-03-06	761	North East
WRK982095	Domestic & Stock		0.00m-0.50m OUTER LINING - GRAVEL = Cement			2007-07-06	768	North East
114409	Groundwater Investigation	0.00m-2.50m GREY-BROWN MOTTLED CLAY 2.50m-6.00m GREY-BROWN BASALT	-0.50m-4.00m INNER LINING - CASING = Pvc Class 12 4.00m-6.00m INNER LINING - SCREEN = Pvc Class 12 0.00m-2.00m OUTER LINING - GRAVEL = Cement			1990-05-06	817	South
114408	Groundwater Investigation	0.00m-2.50m GREY-BROWN MOTTLED CLAY 2.50m-6.00m GREY-BROWN BASALT 6.00m-7.00m RED-GREY MOTTLED CLAY 7.00m-9.50m MEDIUM-FINE GREY BROWN YELLOW SANDY CLAY 9.50m-10.50m FINE-COARSE BROWN SAND 10.50m-13.50m BROWN-YELLOW FINE-COARSE SAND	-0.25m-9.50m INNER LINING - CASING = Pvc Class 12 9.50m-13.50m INNER LINING - SCREEN = Pvc Class 12 6.00m-7.00m OUTER LINING - GRAVEL = Cement			1990-05-06	817	South

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
111632	Groundwater Investigation	0.00m-1.50m DARK BROWN CLAY 1.50m-7.00m ORANGE WEATHERED BASALT 7.00m-8.00m GREY WHITE SILTY SAND 8.00m-8.75m ORANGE BROWN SILTY CLAY 8.75m-9.00m FINE GREY SILTY SAND 9.00m-14.00m YELLOW BROWN F-C SANDS	-0.75m-8.50m INNER LINING - CASING = Pvc Class 12 8.50m-15.00m INNER LINING - SCREEN = Pvc Class 12 7.00m-7.50m OUTER LINING - GRAVEL = Bentonite		8.50m-15.00m Sand	1991-01-16	842	South
WRK979321	Domestic & Stock		0.00m-0.50m OUTER LINING - GRAVEL = Cement			2007-03-07	855	North East
WRK975380	Domestic & Stock		0.00m-0.50m OUTER LINING - GRAVEL = Cement			2007-03-08	855	North East
WRK978789	Domestic & Stock		0.00m-0.50m OUTER LINING - GRAVEL = Cement			2007-03-07	920	North East
104979	Not Known					1956-12-31	921	East
114414	Groundwater Investigation	0.00m-1.50m MOTTLED GREY-BROWN CLAY 1.50m-8.50m GREY-BROWN BASALT 8.50m-9.75m GREY-BROWN SILTY SAND 9.75m-11.00m GREY-ORANGE SANDY CLAY 11.00m-12.25m BROWN-ORANGE SANDY CLAY 12.25m-16.00m LIGHT GREY-ORANGE FINE SILTY SAND 16.00m-18.00m YELLOW-BROWN TO LIGHT GREY GRAVELLY SAND	-0.25m-11.75m INNER LINING - CASING = Pvc Class 12 11.75m-17.75m INNER LINING - SCREEN = Pvc Class 12 8.50m-9.50m OUTER LINING - GRAVEL = Cement			1990-04-29	938	South
114415	Groundwater Investigation	0.00m-1.50m MOTTLED GREY-BROWN CLAY 1.50m-8.50m GREY-BROWN BASALT	-0.50m-5.50m INNER LINING - CASING = Pvc Class 12 5.50m-8.50m INNER LINING - SCREEN = Pvc Class 12 0.00m-2.00m OUTER LINING - GRAVEL = Cement			1990-04-29	939	South
57127	Domestic, Stock	0.00m-1.00m TOP SOIL & CLAY 1.00m-2.00m CLAY 2.00m-6.00m CLAY & SANDSTONE 6.00m-10.00m CLAY 10.00m-11.00m ROCK 11.00m-12.00m CLAY 12.00m-13.00m ROCK 13.00m-14.00m SILTY CLAY 14.00m-19.00m COARSE RIVER WASH 19.00m-31.00m BROWN CLAY	-0.30m-14.00m INNER LINING - CASING = Pvc 14.00m-19.00m INNER LINING - SCREEN = Pvc 19.00m-31.00m INNER LINING - CASING = Pvc		14.00m-19.00m Gravel	1990-06-10	958	East
130151	Irrigation	0.00m-1.00m HEAVY BLACK TOPSOIL 1.00m-3.00m BLACK CLAY 3.00m-12.00m BROWN CLAY 12.00m-21.00m GRANITE SAND & GREY CLAY 21.00m-27.00m GREY TIGHT CLAY 27.00m-30.00m LIMESTONE 30.00m-42.00m WHITE CLAY & GRANITE FLOATERS				1996-11-01	987	East
140217	Domestic	0.00m-0.50m OVERBURDEN 0.50m-2.50m GREY CLAY 2.50m-11.00m BASALT 11.00m-15.50m GREY CLAY 15.50m-24.00m BROWN CLAY 24.00m-26.50m BROWN SAND 26.50m-27.00m BLUE CLAY	-0.10m-24.00m INNER LINING - CASING = Pvc 24.00m-27.00m INNER LINING - SCREEN = Pvc 0.00m-0.50m OUTER LINING - GRAVEL = Cement			2000-02-06	1115	North East
WRK098224	Domestic & Stock	0.00m-4.00m BRown Clay 4.00m-10.00m BRown Sandy Clay 10.00m-16.50m DAmp Grey Clay 16.50m-17.50m Yellow Sandy Clay 17.50m-18.50m SAND 18.50m-21.50m GRAVEL	0.50m-16.50m INNER LINING - CASING = Pvc 16.50m-21.50m INNER LINING - SLOT = Pvc 0.00m-5.00m OUTER LINING - GRAVEL = Cement			2017-01-26	1131	North East
WRK976565	Domestic & Stock		0.50m-19.00m INNER LINING - CASING = Pvc 19.00m-21.00m INNER LINING - SLOT = Pvc 0.00m-0.50m OUTER LINING - GRAVEL = Cement			2006-12-12	1156	North East
130113	Irrigation	0.00m-4.00m GREY TOPSOIL 4.00m-7.00m BLACK CLAY 7.00m-20.00m BROWN SILTY CLAY 20.00m-25.00m GREY LIGHT BROWN CLAY 25.00m-28.00m BLOCKY LIMESTONE 28.00m-64.00m WEATHERED GRANITE AND GREY CLAY				1996-11-01	1158	East
WRK983651							1175	North East
104978	Not Known					1956-12-31	1194	East

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
121450	Groundwater Investigation, Observation, State Observation Network	0.00m-1.50m DARK BROWN SANDY CLAY 1.50m-6.00m VERY WEATHERED CLAYEY GREY BASALT 6.00m-9.00m GREY BASALT 9.00m-10.00m GREY WEATHERED BASALT 10.00m-11.50m GREY FINE CLAYEY SAND 11.50m-13.00m YELLOW BROWN MEDIUM TO FINE SAND	0.00m-10.00m INNER LINING - CASING = Pvc Class 9 10.00m-13.00m INNER LINING - SCREEN = Pvc Class 9 9.00m-9.50m OUTER LINING - GRAVEL = Bentonite 9.50m-13.00m OUTER LINING - GRAVEL = Gravel	Date/time: 2018-11-14 1208 Quality: 43 WLMP: 9.24m DBNS: 9.26m RWL: 1.92mAHD		1994-06-21	1225	South
121449	Groundwater Investigation, Observation, State Observation Network	0.00m-1.50m DARK BROWN SANDY CLAY 1.50m-6.00m GREY CLAYEY VERY WEATHERED BASALT 6.00m-9.50m GREY BASALT WEATHERED TOWARDS BASE	0.00m-6.50m INNER LINING - CASING = Pvc Class 9 6.50m-9.50m INNER LINING - SCREEN = Pvc Class 9 5.50m-6.00m OUTER LINING - GRAVEL = Bentonite 6.00m-9.50m OUTER LINING - GRAVEL = Gravel	Date/time: 2018-11-14 1205 Quality: 43 WLMP: 9.20m DBNS: 9.29m RWL: 1.89mAHD		1994-06-21	1226	South
WRK974068	Domestic & Stock		0.50m-15.00m INNER LINING - CASING = Pvc 15.00m-21.00m INNER LINING - SLOT = Pvc 0.00m-0.50m OUTER LINING - GRAVEL = Cement			2006-07-02	1233	North East
104997	Domestic, Stock	0.00m-18.00m CLAY 18.00m-24.00m SAND	0.00m-18.00m INNER LINING - CASING = Steel 18.00m-24.00m INNER LINING - SCREEN = Steel		18.00m-24.00m Sand	1983-01-20	1252	North East
114412	Groundwater Investigation	0.00m-1.25m GREY-BROWN MOTTLED CLAY 1.25m-5.50m GREY-BROWN BASALT 5.50m-6.75m LIGHT GREY SILTY SAND 6.75m-7.75m MOTTLED GREY BROWN CLAY 7.75m-9.00m GREY BROWN CLAYISH SANDS 9.00m-10.00m GREY BROWN SANDY CLAY 10.00m-11.00m GREY-BROWN SILTY SAND 11.00m-12.50m BROWN FINE-COARSE SAND 12.50m-24.00m BROWN-ORANGE SANDY CLAY	-0.25m-17.95m INNER LINING - CASING = Pvc Class 12 17.95m-24.00m INNER LINING - SCREEN = Pvc Class 12 8.25m-10.00m OUTER LINING - GRAVEL = Cement			1990-04-30	1268	South
114413	Groundwater Investigation	0.00m-1.25m GREY-BROWN MOTTLED CLAY 1.25m-5.50m GREY-BROWN BASALT	-0.50m-3.50m INNER LINING - CASING = Pvc Class 12 3.50m-5.50m INNER LINING - SCREEN = Pvc Class 12 0.00m-2.00m OUTER LINING - GRAVEL = Cement			1990-04-30	1269	South
WRK986447							1296	North East
114410	Groundwater Investigation	0.00m-1.00m GREY-BROWN MOTTLED CLAY 1.00m-6.50m GREY-BROWN BASALT 6.50m-7.75m FINE GREY-BROWN SAND 7.75m-9.00m GREY-ORANGE SANDY CLAY 9.00m-11.50m FINE-COARSE BROWN-ORANGE SAND 11.50m-13.50m MEDIUM-COARSE YELLOW BROWN SAND	-0.25m-9.50m INNER LINING - CASING = Pvc Class 12 9.50m-13.50m INNER LINING - SCREEN = Pvc Class 12 6.25m-7.25m OUTER LINING - GRAVEL = Cement			1990-05-04	1334	South East
114411	Groundwater Investigation	0.00m-1.00m GREY-BROWN MOTTLED CLAY 1.00m-6.25m GREY-BROWN BASALT	-0.50m-3.50m INNER LINING - CASING = Pvc Class 12 3.50m-6.25m INNER LINING - SCREEN = Pvc Class 12 0.00m-2.00m OUTER LINING - GRAVEL = Cement			1990-05-04	1335	South East
WRK094785	Observation	0.00m-2.40m FILL 2.40m-12.00m BASALT 12.00m-13.90m Werribee Formation	0.00m-10.90m INNER LINING - CASING = UPVC class 18 10.90m-13.90m INNER LINING - SCREEN = UPVC class 18 0.00m-9.50m OUTER LINING - GRAVEL = Cement 9.50m-10.50m OUTER LINING - GRAVEL = Bentonite 10.50m-13.90m OUTER LINING - GRAVEL = Gravel			2016-06-24	1351	West

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
111623	Groundwater Investigation	0.00m-0.75m GREY - BROWN CLAY 0.75m-1.50m WEATHERED BASALT 1.50m-3.75m WHITE CLAY 3.75m-5.00m WHITE - YELLOW FINE SILTY SAND 5.00m-6.00m ORANGE BROWN - GREY CLAY 6.00m-6.50m GREY SILTY CLAY 6.50m-10.00m FINE FAWN SILTY SAND 10.00m-10.50m F - C QUARTZ SAND 10.50m-11.50m F - C QUARTZ SAND 11.50m-14.00m BROWN SANDY CLAY	-0.75m-7.25m INNER LINING - CASING = Pvc Class 12 7.25m-14.00m INNER LINING - SCREEN = Pvc Class 12 4.50m-5.50m OUTER LINING - GRAVEL = Bentonite 5.50m-14.00m OUTER LINING - GRAVEL = Gravel		7.25m-14.00m Sand	1991-01-15	1390	South
WRK094784	Observation	0.00m-2.40m FILL 2.40m-14.00m BASALT 14.00m-15.00m WERRIBEE FORMATION	0.00m-12.90m INNER LINING - CASING = Pvc 12.90m-15.00m INNER LINING - SCREEN = Pvc 0.50m-9.50m OUTER LINING - GRAVEL = Cement 9.50m-10.50m OUTER LINING - GRAVEL = Bentonite 10.50m-15.00m OUTER LINING - GRAVEL = Gravel			2016-06-24	1425	West
116015	Groundwater Investigation	0.00m-1.00m DARK BROWN TOP SOIL 1.00m-1.50m GREY CLAY 1.50m-3.50m BROWN BASALT 3.50m-5.00m WHITE-TAN SANDY CLAY 5.00m-7.50m CLAY 7.50m-8.00m BLUE-GREY LIMESTONE 8.00m-9.75m TAN CLAY 9.75m-10.50m SANDY CLAY 10.50m-14.00m TAN TO ORANGE SAND				1993-04-21	1453	South
WRK985525							1469	South West
WRK984105							1507	North
WRK982138	Domestic & Stock					2007-07-05	1538	South West
105001	Domestic, Stock	0.00m-6.00m CLAY 6.00m-7.50m BASALT AND CLAY 7.50m-9.10m BASALT 9.10m-22.25m SAND	0.00m-10.00m INNER LINING - CASING = Steel 10.00m-22.25m INNER LINING - SCREEN = Steel 0.00m-22.25m OUTER LINING - GRAVEL = Gravel		10.00m-22.25m Sand	1986-12-18	1554	North East
WRK990915							1589	North
81391	Domestic, Stock		0.00m-167.33m INNER LINING - CASING = Not Known 167.33m-189.58m INNER LINING - SCREEN = Not Known			1963-12-31	1593	South
WRK032538	Industrial, Irrigation, Miscellaneous	0.00m-2.00m CLAY 2.00m-7.50m SOFT BASALT 7.50m-10.50m BROWN CLAY 10.50m-22.00m FINE YELLOW SABD 22.00m-29.00m FINE GREY SANND 29.00m-30.00m GREY CLAY	1.00m-10.50m INNER LINING - CASING = Pvc 10.50m-22.00m INNER LINING - SCREEN = Pvc 22.00m-30.00m INNER LINING - SCREEN = Not Known			1997-08-29	1626	South West
WRK990914							1629	North
WRK990913							1636	North
116016	Groundwater Investigation	0.00m-0.50m BROWN TOP SOIL 0.50m-2.50m CREAM-BROWN CLAY 2.50m-3.00m BROWN BASALT 3.00m-4.00m WHITE-TAN CLAYEY SAND 4.00m-8.00m WHITE-TAN LIMESTONE 8.00m-14.00m BROWN CLAYEY SAND	-0.20m-2.00m INNER LINING - CASING = Pvc Class 12 2.00m-5.00m INNER LINING - SCREEN = Pvc Class 12			1993-04-21	1640	South
WRK990912	Groundwater Investigation	0.00m-0.05m SOIL 0.05m-0.10m CLAY 0.10m-1.00m CLAY 1.00m-6.00m LIMESTONE 6.00m-6.20m LIMESTONE 6.20m-9.50m LIMESTONE 9.50m-16.00m CLAY	0.00m-7.00m INNER LINING - CASING = Pvc 7.00m-16.00m INNER LINING - SCREEN = Pvc 0.00m-0.50m OUTER LINING - GRAVEL = Cement 0.50m-1.00m OUTER LINING - GRAVEL = Bentonite 1.00m-4.50m OUTER LINING - GRAVEL = Bentonite 6.50m-10.00m OUTER LINING - GRAVEL = Gravel		0.00m-7.00m Limestone 7.00m-16.00m Clay	2009-04-24	1648	North

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
WRK046988	Domestic & Stock	0.00m-0.80m OVERBURDEN 0.80m-2.00m BROWN CLAY 2.00m-11.00m GREY CLAY & LIMESTONE 11.00m-14.50m FRACTURED LIMESTONE 14.50m-17.00m GREY CLAY 17.00m-18.50m WHITE SAND 18.50m-20.00m COARSE GRAVEL 20.00m-20.50m GREY CLAY	0.00m-0.50m OUTER LINING - GRAVEL = Cement			2007-05-31	1735	North
81394	Not Known					1950-12-31	1798	South
WRK047134	Irrigation	0.00m-0.80m OVERBURDEN 0.80m-2.00m BROWN CLAY 2.00m-9.00m GREY CLAY & LIMESTONE LAYERS 9.00m-11.00m LIMESTONE 11.00m-20.00m COARSE SAND & CLAY 20.00m-31.00m GREY CLAY 31.00m-35.00m VERY COARSE GRAVEL 35.00m-36.00m SAND	27.00m-29.00m OUTER LINING - GRAVEL = Bentonite			2008-09-06	1802	North
111000	Domestic, Stock	0.00m-1.00m TOP SOIL & CLAY 1.00m-2.00m CLAY 2.00m-24.00m DECOMPOSED GRANITE	-0.30m-17.00m INNER LINING - CASING = Pvc 17.00m-18.00m INNER LINING - SCREEN = Pvc 18.00m-24.00m INNER LINING - CASING = Pvc		17.00m-18.00m Granite	1991-11-13	1923	North East
WRK988440							1931	North East
WRK094739	Observation	0.00m-0.50m TOPSOIL 0.50m-1.50m SANDY LIMESTONE 1.50m-5.00m INCREASED PALENESS SANDY LIMESTONE 5.00m-6.00m INCREASING PALE GREY CLAY INCLUSIONS 6.00m-7.50m DECREASED SAND CONTENT 7.50m-7.80m PALE GREY OFF WHITE INCLUSIONS LARGER	0.00m-0.00m OUTER LINING - GRAVEL = Not Known			2016-06-20	1945	North
WRK094738	Observation	0.00m-0.50m TOPSOIL 0.50m-1.50m SANDY LIMESTONE 1.50m-5.00m SANDY LIMESTONE PALE 5.00m-6.00m SANDY LIMESTONE CLAY AND GRAVEL 6.00m-7.50m DECREASED SAND CONTEND 7.50m-7.80m LARGER CLAY INCLUSIONS PALE GREY	0.00m-0.00m OUTER LINING - GRAVEL = Not Known			2016-06-20	1945	North
81407	Not Known	0.00m-9.00m TOPSOIL 9.00m-11.00m DECOMPOSED BASALT 11.00m-15.24m CLAY AND SAND 15.24m-32.00m SILTY CLAY				1982-12-09	1988	South West

Groundwater Boreholes

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Boreholes (Earth Resources Database)

Boreholes from the Earth Resources dataset, within the dataset buffer:

Bore Id	Bore Type	Company	Usage	Method	Status	Drill Date	Depth	Elevation	Accuracy (m)	Dist (m)	Direct
320440		Private Individual/Corporation		Rotary (diamond/drag bit)		14/10/1981	140.00	20.00	300	600	South West
942655		CRA Exploration Pty Ltd		Rotary mud drilling	Completed	14/10/1981	140.00		25	600	South West
104997		Private Individual/Corporation	Domestic & Stock water supply	Percussion (cable)		20/01/1983	24.00	10.00	100	1242	North East
105001		Private Individual/Corporation	Domestic & Stock water supply	Percussion (cable)		18/12/1986	22.25	14.00	10	1545	North East
104969		Department of Manufacturing & Industry Development		Mechanical Auger		30/09/1885	114.71	14.00	100	1553	North
81391		Department of Manufacturing & Industry Development	Domestic water supply			31/12/1963	211.84	5.48	100	1654	South
81407		Private Individual/Corporation		Air Percussion/Air Rotary	Abandoned	09/12/1982	32.00		100	1989	South West

Boreholes (Federation University)

Boreholes from the Federation University Australia dataset, within the dataset buffer:

Bore Id	Authority	Type	Uses	Initial TD	Log	Dist (m)	Direct
104976	Private Landholders Bore					0	Onsite
S9031765/1	Private Landholders Bore	Groundwater				116	South East
S9029004/1		Groundwater	Domestic and Stock			210	North
115471		Groundwater	Domestic	6834.00	D: 0.000m-1.500m Overburden D: 1.500m-5.500m Clay D: 5.500m-15.000m Basalt D: 15.000m-20.000m Clay Grey D: 20.000m-27.500m Clay Broan D: 27.500m-35.000m Fine Sand	232	South
S9033455/1		Groundwater				240	South West
75056	Private Landholders Bore	Groundwater	Domestic	3401.00	D: 0.000m-2.000m Soil D: 2.000m-4.500m Clay D: 4.500m-6.200m Soft Basalt D: 6.200m-9.300m Clay D: 9.300m-18.500m Sand D: 18.500m-19.000m Clay	357	South

Bore Id	Authority	Type	Uses	Initial TD	Log	Dist (m)	Direct
320440	Department of Mines (1860 - 1895)		Non Groundwater			600	South West
942655	Exploration Company - Minerals and Petroleum	Coal	Non Groundwater		g: 0.000m-9.000m Basalt g: 9.000m-12.000m Fine Qtz Sand g: 12.000m-24.000m Clay And Sand g: 24.000m-80.000m Brown/Grey Clay With Shelly Fragments g: 80.000m-86.000m Sand Clay With Shelly Fragments g: 86.000m-118.000m Grey Brown Silty Clay g: 118.000m-138.000m Grey Clay With Shell Fragments, Abundant Lst Chips	600	South West
116014		Groundwater	Investigation		D: 0.000m-13.800m Land Fill D: 13.800m-14.800m H W Basalt D: 14.800m-16.000m M W Lenses D: 16.000m-24.600m Silty Clayey Sands	713	South
104977						715	East
S9029063/1	Private Landholders Bore	Groundwater				761	North East
S9031701/1	Private Landholders Bore	Groundwater				768	North East
114408		Groundwater	Investigation		D: 0.000m-2.500m Grey-Brown Mottled Clay D: 2.500m-6.000m Grey-Brown Basalt D: 6.000m-7.000m Red-Grey Mottled Clay D: 7.000m-9.500m Medium-Fine Grey Brown Yellow Sandy Clay D: 9.500m-10.500m Fine-Coarse Brown Sand D: 10.500m-13.500m Brown-Yellow Fine-Coarse Sand	817	South
114409		Groundwater	Investigation		D: 0.000m-2.500m Grey-Brown Mottled Clay D: 2.500m-6.000m Grey-Brown Basalt	817	South
111632		Groundwater	Investigation		D: 0.000m-1.500m Dark Brown Clay D: 1.500m-7.000m Orange Weathered Basalt D: 7.000m-8.000m Grey White Silty Sand D: 8.000m-8.750m Orange Brown Silty Clay D: 8.750m-9.000m Fine Grey Silty Sand D: 9.000m-14.000m Yellow Brown F-C Sands	842	South
S9029523/1	Private Landholders Bore	Groundwater				855	North East
S9026670/1		Groundwater	Domestic and Stock			855	North East
104979	Private Landholders Bore	Groundwater				918	East
S9029010/1		Groundwater	Domestic and Stock			920	North East
114414		Groundwater	Investigation		D: 0.000m-1.500m Mottled Grey-Brown Clay D: 1.500m-8.500m Grey-Brown Basalt D: 8.500m-9.750m Grey-Brown Silty Sand D: 9.750m-11.000m Grey-Orange Sandy Clay D: 11.000m-12.250m Brown-Orange Sandy Clay D: 12.250m-16.000m Light Grey-Orange Fine Silty Sand D: 16.000m-18.000m Yellow-Brown To Light Grey Gravelly Sand	938	South
114415		Groundwater	Investigation		D: 0.000m-1.500m Mottled Grey-Brown Clay D: 1.500m-8.500m Grey-Brown Basalt	939	South
57127	Private Landholders Bore	Groundwater	Domestic Stock	2205.00	D: 0.000m-1.000m Top Soil & Clay D: 1.000m-2.000m Clay D: 2.000m-6.000m Clay & Sandstone D: 6.000m-10.000m Clay D: 10.000m-11.000m Rock D: 11.000m-12.000m Clay D: 12.000m-13.000m Rock D: 13.000m-14.000m Silty Clay D: 14.000m-19.000m Coarse River Wash D: 19.000m-31.000m Brown Clay	958	East
130151		Groundwater	Irrigation		D: 0.000m-1.000m Heavy Black Topsoil D: 1.000m-3.000m Black Clay D: 3.000m-12.000m Brown Clay D: 12.000m-21.000m Granite Sand & Grey Clay D: 21.000m-27.000m Grey Tight Clay D: 27.000m-30.000m Limestone D: 30.000m-42.000m White Clay & Granite Floaters	987	East

Bore Id	Authority	Type	Uses	Initial TD	Log	Dist (m)	Direct
140217		Groundwater	Domestic		D: 0.000m-0.500m Overburden D: 0.500m-2.500m Grey Clay D: 2.500m-11.000m Basalt D: 11.000m-15.500m Grey Clay D: 15.500m-24.000m Brown Clay D: 24.000m-26.500m Brown Sand D: 26.500m-27.000m Blue Clay	1115	North East
S9027533/1		Groundwater				1156	North East
130113		Groundwater	Irrigation		D: 0.000m-4.000m Grey Topsoil D: 4.000m-7.000m Black Clay D: 7.000m-20.000m Brown Silty Clay D: 20.000m-25.000m Grey Light Brown Clay D: 25.000m-28.000m Blocky Limestone D: 28.000m-64.000m Weathered Granite And Grey Clay	1158	East
S9032842/1		Groundwater				1175	North East
104978	Private Landholders Bore	Groundwater				1199	East
121450	Rural Water Commission / Corporation (1984 - 1995)	Groundwater	Observation State Observation Network		D: 0.000m-1.500m Dark Brown Sandy Clay D: 1.500m-6.000m Very Weathered Clayey Grey Basalt D: 6.000m-9.000m Grey Basalt D: 9.000m-10.000m Grey Weathered Basalt D: 10.000m-11.500m Grey Fine Clayey Sand D: 11.500m-13.000m Yellow Brown Medium To Fine Sand	1225	South
121449	Rural Water Commission / Corporation (1984 - 1995)	Groundwater	Observation State Observation Network		D: 0.000m-1.500m Dark Brown Sandy Clay D: 1.500m-6.000m Grey Clayey Very Weathered Basalt D: 6.000m-9.500m Grey Basalt Weathered Towards Base	1226	South
S9025709/1		Groundwater				1233	North East
104997	Private Landholders Bore	Groundwater	Domestic Stock		D: 0.000m-18.000m Clay D: 18.000m-24.000m Sand	1242	North East
114412		Groundwater	Investigation		D: 0.000m-1.250m Grey-Brown Mottled Clay D: 1.250m-5.500m Grey-Brown Basalt D: 5.500m-6.750m Light Grey Silty Sand D: 6.750m-7.750m Mottled Grey Brown Clay D: 7.750m-9.000m Grey Brown Clayish Sands D: 9.000m-10.000m Grey Brown Sandy Clay D: 10.000m-11.000m Grey-Brown Silty Sand D: 11.000m-12.500m Brown Fine-Coarse Sand D: 12.500m-24.000m Brown-Orange Sandy Clay	1268	South
114413		Groundwater	Investigation		D: 0.000m-1.250m Grey-Brown Mottled Clay D: 1.250m-5.500m Grey-Brown Basalt	1269	South
S9034631/1		Groundwater				1296	North East
114410		Groundwater	Investigation		D: 0.000m-1.000m Grey-Brown Mottled Clay D: 1.000m-6.500m Grey-Brown Basalt D: 6.500m-7.750m Fine Grey-Brown Sand D: 7.750m-9.000m Grey-Orange Sandy Clay D: 9.000m-11.500m Fine-Coarse Brown-Orange Sand D: 11.500m-13.500m Medium-Coarse Yellow Brown Sand	1334	South East
114411		Groundwater	Investigation		D: 0.000m-1.000m Grey-Brown Mottled Clay D: 1.000m-6.250m Grey-Brown Basalt	1335	South East
111623		Groundwater	Investigation		D: 0.000m-0.750m Grey - Brown Clay D: 0.750m-1.500m Weathered Basalt D: 1.500m-3.750m White Clay D: 3.750m-5.000m White - Yellow Fine Silty Sand D: 5.000m-6.000m Orange Brown - Grey Clay D: 6.000m-6.500m Grey Silty Clay D: 6.500m-10.000m Fine Fawn Silty Sand D: 10.000m-10.500m F - C Quartz Sand D: 10.500m-11.500m F - C Quartz Sand D: 11.500m-14.000m Brown Sandy Clay	1390	South
116015		Groundwater	Investigation		D: 0.000m-1.000m Dark Brown Top Soil D: 1.000m-1.500m Grey Clay D: 1.500m-3.500m Brown Basalt D: 3.500m-5.000m White-Tan Sandy Clay D: 5.000m-7.500m Clay D: 7.500m-8.000m Blue-Grey Limestone D: 8.000m-9.800m Tan Clay D: 9.800m-10.500m Sandy Clay D: 10.500m-14.000m Tan To Orange Sand	1453	South

Bore Id	Authority	Type	Uses	Initial TD	Log	Dist (m)	Direct
S9034061/1		Groundwater				1469	South West
S9033173/1		Groundwater				1506	North
S9031745/1	Private Landholders Bore	Groundwater				1538	South West
105001	Private Landholders Bore	Groundwater	Domestic Stock	5781.90	D: 0.000m-6.000m Clay D: 6.000m-7.500m Basalt And Clay D: 7.500m-9.100m Basalt D: 9.100m-22.250m Sand	1545	North East
104969	Department of Manufacturing and Industry Development (1990 - 1992)				D: 0.000m-2.740m Clay D: 2.740m-2.900m Gravel D: 2.900m-3.350m Clay D: 3.350m-5.490m Limestone And Sand D: 5.490m-5.790m Flinty Stone D: 5.790m-6.710m Limestone D: 6.710m-10.670m Clay D: 10.670m-18.590m Flinty Limestone D: 18.590m-22.200m Sandstone And Clay D: 22.200m-26.920m Clay D: 26.920m-27.530m Limestone D: 27.530m-27.840m Clay D: 27.840m-28.750m Sandstone And Clay D: 28.750m-34.700m Clay D: 34.700m-50.090m Grey Clay D: 50.090m-55.420m Grey Sandy Drift D: 55.420m-55.880m Pipeclay D: 55.880m-56.340m Grey Rock D: 56.340m-57.100m Limestone D: 57.100m-62.590m Grey Sandy Drift D: 62.590m-69.290m Grey Sand D: 69.290m-83.920m Drift D: 83.920m-84.680m Grey Drift D: 84.680m-87.430m Sandy Gravel D: 87.430m-94.440m Grey Sandy Drift D: 94.440m-97.180m Yellow Sandy Drift D: 97.180m-100.990m Yellow Sandstone D: 100.990m-103.510m Grey Drift D: 103.510m-104.720m Yellow Sandstone And Pipeclay D: 104.720m-105.940m Grey Drift And Pipeclay D: 105.940m-111.660m Yellow Sandstone D: 111.660m-114.710m Pipeclay And Yellow Sandstone	1552	North
S9037937/4		Groundwater				1589	North

Bore Id	Authority	Type	Uses	Initial TD	Log	Dist (m)	Direct
81391	Department of Mines (1860 - 1895)	Groundwater	Domestic Stock		G: 0.000m-0.610m Clay: Sandy Fossiliferous, Dark Grey Sa Grains Fine-Medium Grained Rounded G: 0.610m-3.658m Clay: Marly, 10% Skeletal Carbonate Content, Some Fine Sand And Limonitic Grains, Greyish Brown G: 3.658m-4.267m Basalt: Fine Grained, Vesicular, Partially Decomposed And Ferruginized G: 4.267m-10.363m Sand: Calcareous Very Fine Grained, Som Medium To Coarse Grains Sub Rounded, Becoming More Rounded In Coarser Particles Light Grey G: 10.363m-10.973m Sand: Non Calcareous Fine To Medium Grained, Poorly Sorted Sub Angular To Rounded Yellow With Dark Brown Nodules Sandy Clay And Some Rounded Granules G: 10.973m-31.699m Clay: Silty Sandy Very Fine, Yellow To Pale Brown, Calcareous In Part, Probabl In Excess Of 5% In Very Fine Particles. Some Mica Is Noted But No Fossils G: 31.699m-35.052m Limestone: With Small Percent Fine Silt And Sand, Pale Brown Autochthonous, Wit Up To 20% Fossil Content G: 35.052m-42.672m Marl: Limey, Greyish Brown To Yellow, 1 Fossil Content, 60% Approx. Calcareous Content, Fine Silt Size G: 42.672m-60.960m Marl: Limey As Above, Richly Fossiliferous G: 60.960m-69.495m Marl: Higher Clay Content Than Above, Richly Grey, Some Fine Sand Content, Mi Etc. Up To 30% Foraminiferra Noted G: 69.495m-80.163m Marl: Clayey, Very Fine Grained Some Si Content, Grey, Macrofossil Remains Note G: 80.163m-82.601m Limestone: Polyzoal Largely, 60% Skelet Small Non Calcerous Content, Most Skeletons Ar Broken And Eroded, Light Brownish Grey (Batesfordian) G: 82.601m-94.793m Marl: Limey, 50% Skeletal Calcareous Content, 20% Detrial, Light Brownish Gr Macrofossil And Microfossil Fragments G: 94.793m-101.499m Limestone: Sandy Medium To Coarse Grain With Polyzoal And Macrofossil Remains. Sand Grey Transluscent Quartz, Subangul High Porosity, Poorly Sorted G: 101.499m-156.363m Marl: At Least 50% Detrial Calcareous Content, With Polyzoal And Macrofossil Remains, Light Brownish Grey G: 156.363m-160.020m Marl: Dark Grey, Highly Fossiliferous, Low Silt Content G: 160.020m-164.897m Marl: Limey, Light Brownish Grey, Calcareous Content As Fragmental, Very Fine Grained Shell And Microfossils 40- % Mica Noted, Also Calcareous Reorystallized Sandy Limestone Nodules G: 164.897m-167.336m Marl: Limey, Light Olive Brown, 20% Fossil Content And Calcareous Fragments Forams, Gasteropods Commonest Fossils, Elastic Silica Very Fine Grained Clear, Sub Angular Approx. 5% Recrystallized Calcareous, Ferruginized (Dolomitized) Sandy Limestone Nodules G: 167.336m-189.586m Limestone: White (8/2) Sandy, With Very Fine Grained, Rounded White Opaque. Limestone Chalky Detrial (Calciclutite) High Porosity, Well Sorted, Cemented G: 189.586m-200.559m Marl Limestone: Grey (6/1) Friable, Ver Very High Calcareous Content As Very Fine Sand Size Fragments Some Nodules O Coarse Size (Phosphate)?, With 15-20% Very Fine Sand Content, Some Clay Size. Main Recognizable Fossils Are Forams. Fossils G: 200.559m-207.569m Marl: Dark Grey (4/1) Friable, Calcareo Content In Clay To Silt Size Fragments, And In Coarse Gasterpod Fragments, Dontallium Being Common. Silt Content Varies Up To 30%. Glanconite Is Common. Some Medium Grained, Sand Particles Are Seen, As Rounded Clear G: 207.569m-211.836m Siltstone: Calcareous, Light Grey (7/2) Very Friable, Poorly Up To Fine Sand. Sand Content 40%, Calcareous Content Is As Cement Approx. 30-40%. Fossil Remain Present	1593	South
131464		Groundwater	Industrial (IN) Miscellaneous (MI) Irrigation (IR)		D: 0.000m-2.000m Clay D: 2.000m-7.500m Soft Basalt D: 7.500m-10.500m Brown Clay D: 10.500m-22.000m Fine Yellow Sabd D: 22.000m-29.000m Fine Grey Sannd D: 29.000m-30.000m Grey Clay	1626	South West
S9037937/3		Groundwater				1629	North
S9037937/2		Groundwater				1636	North

Bore Id	Authority	Type	Uses	Initial TD	Log	Dist (m)	Direct
116016		Groundwater	Investigation		D: 0.000m-0.500m Brown Top Soil D: 0.500m-2.500m Cream-Brown Clay D: 2.500m-3.000m Brown Basalt D: 3.000m-4.000m White-Tan Clayey Sand D: 4.000m-8.000m White-Tan Limestone D: 8.000m-14.000m Brown Clayey Sand	1640	South
S9037937/1		Groundwater				1644	North
S9031192/1	Private Landholders Bore	Groundwater			D: 0.000m-0.800m Overburden D: 0.800m-2.000m Brown Clay D: 2.000m-11.000m Grey Clay & Limestone D: 11.000m-14.500m Fractured Limestone D: 14.500m-17.000m Grey Clay D: 17.000m-18.500m White Sand D: 18.500m-20.000m Coarse Gravel D: 20.000m-20.500m Grey Clay	1735	North
81394	Private Landholders Bore	Groundwater				1798	South
S9035392/1		Groundwater	Irrigation		D: 0.000m-0.800m Overburden D: 0.800m-2.000m Brown Clay D: 2.000m-9.000m Grey Clay & Limestone Layers D: 9.000m-11.000m Limestone D: 11.000m-20.000m Coarse Sand & Clay D: 20.000m-31.000m Grey Clay D: 31.000m-35.000m Very Coarse Gravel D: 35.000m-36.000m Sand	1802	North
111000		Groundwater	Domestic Stock		D: 0.000m-1.000m Top Soil & Clay D: 1.000m-2.000m Clay D: 2.000m-24.000m Decomposed Granite	1923	North East
S9036089/1		Groundwater				1931	North East
81407	Private Landholders Bore	Groundwater			D: 0.000m-9.000m Topsoil D: 9.000m-11.000m Decomposed Basalt D: 11.000m-15.240m Clay And Sand D: 15.240m-32.000m Silty Clay	1988	South West

Historical Mining Activity - Shafts

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Historical Mining Activity - Shafts

Mine Shaft Locations were collected by a variety of methods from 1869 in some areas of the state, mainly concentrating in Ballarat and Bendigo. In places a shaft may be recorded multiple times with a different source. In cases where several shaft locations are shown close together (generally with separations less than stated position errors) and they have different sources, it is possible that one shaft has been mapped several times. In cases where several shaft locations are shown close together but they have the same information source, it is possible that each shaft location represents a different shaft on the ground.

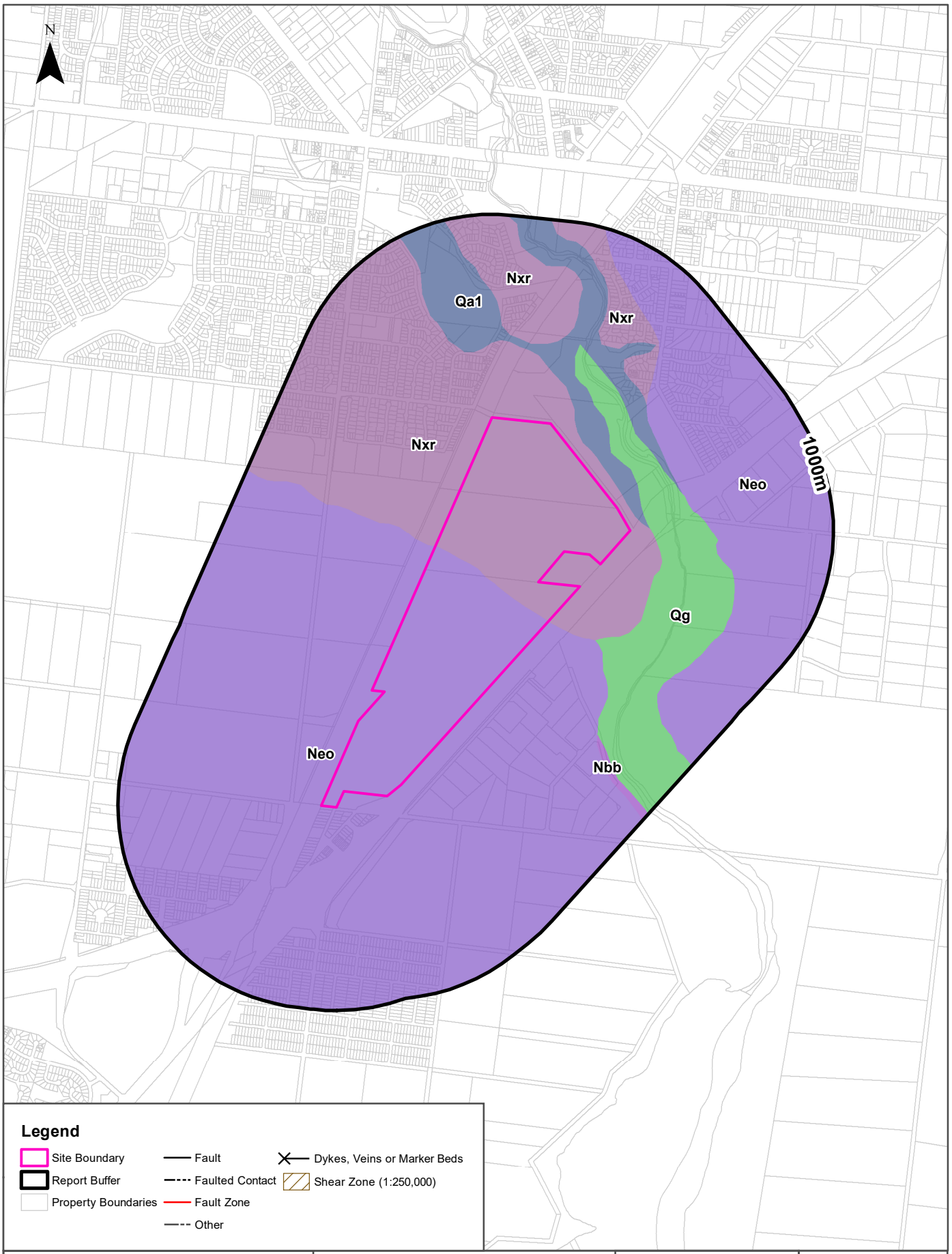
Historical Mine Shafts within the dataset buffer:

Map Id	Name	Source	Depth (m)	Collar (ft)	Fill/Cap Method	Location Desc	Location Accuracy	Distance	Direction
N/A	No records in buffer								

Historical Mining Activity Data Custodian: State Government Victoria - Dept of Economic Development, Jobs, Transport & Resources

Geology 1:50,000

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



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

Data Sources: Property Boundaries - State Government Victoria - Department of Environment, Land, Water & Planning

Coordinate System: GDA 1994 MGA Zone 55

Date: 22 May 2019

Geology

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Geological Units

What are the Geological Units onsite?

Symbol	Name	Description	Geological Age	Lithology	Dataset
Neo	Newer Volcanic Group - basalt flows (Neo): generic	Olivine tholeiite, quartz tholeiite, basanite, basaltic icelandite, hawaiite, mugearite, minor scoria and ash, fluvial sediments: tholeiitic to alkaline; includes sheet flows and valley flows and intercalated gravel, sand, clay	Miocene to Holocene	alkali basalt (major proportion); tholeiitic basalt (major proportion); alluvium (minor proportion); tuff (minor proportion)	1:50,000
Nxr	Darley Gravel (Nxr): generic	Gravel, sand, silt: gravel red to pale colours; rounding and sorting moderate to good; moderately consolidated; massive to trough cross-bedded; gravel clasts of vein quartz, sandstone, basalt, ironstone in proportions that reflect the local source	Neogene to Pleistocene	gravel material (significant); sand (significant); silt material (significant)	1:50,000

What are the Geological Units within the dataset buffer?

Symbol	Name	Description	Geological Age	Lithology	Dataset
Nbb	Black Rock Sandstone (Nbb): generic	Sand, sandstone, conglomerate, minor sandy limestone, local ironstone: pale to dark brown, reddish brown; generally very well sorted, variably cemented; horizontally laminated to low-angle cross-laminated; glauconitic; contains shelly fossils and burrows	Miocene to Pliocene	conglomerate (significant); sandstone (significant); sand (significant); limestone (minor proportion)	1:50,000
Neo	Newer Volcanic Group - basalt flows (Neo): generic	Olivine tholeiite, quartz tholeiite, basanite, basaltic icelandite, hawaiite, mugearite, minor scoria and ash, fluvial sediments: tholeiitic to alkaline; includes sheet flows and valley flows and intercalated gravel, sand, clay	Miocene to Holocene	alkali basalt (major proportion); tholeiitic basalt (major proportion); alluvium (minor proportion); tuff (minor proportion)	1:50,000
Nxr	Darley Gravel (Nxr): generic	Gravel, sand, silt: gravel red to pale colours; rounding and sorting moderate to good; moderately consolidated; massive to trough cross-bedded; gravel clasts of vein quartz, sandstone, basalt, ironstone in proportions that reflect the local source	Neogene to Pleistocene	gravel material (significant); sand (significant); silt material (significant)	1:50,000
Qa1	alluvium(Qa1): generic	Gravel, sand, silt: variably sorted and rounded; generally unconsolidated; includes deposits of low terraces; alluvial floodplain deposits	Pleistocene to Holocene	gravel material (significant); sand (significant); silt material (significant)	1:50,000
Qg	coastal lagoon deposits (Qg): generic	Silt, clay: dark grey to black; variably consolidated	Holocene to Holocene	silt material (significant); clay lithology (significant)	1:50,000

Geology

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Geological Structures

What are the Geological Faults or Faulted Contacts onsite?

Map Id	Type	Name	Contact	Positional Accuracy	Dataset
No features					1:50,000

What are the Dykes, Marker Beds and Veins onsite?

Map Id	Type	Name	Description	Positional Accuracy	Dataset
No features					1:50,000

What are the Shear Zones onsite (1:250,000 scale)?

Map Id	Type	Name	Description	Positional Accuracy	Dataset
No features					1:250,000

What are the Geological Faults or Faulted Contacts within the dataset buffer?

Map Id	Type	Name	Contact	Positional Accuracy	Dataset
No features					1:50,000

What are the Dykes, Marker Beds and Veins within the dataset buffer?

Map Id	Type	Name	Description	Positional Accuracy	Dataset
No features					1:50,000

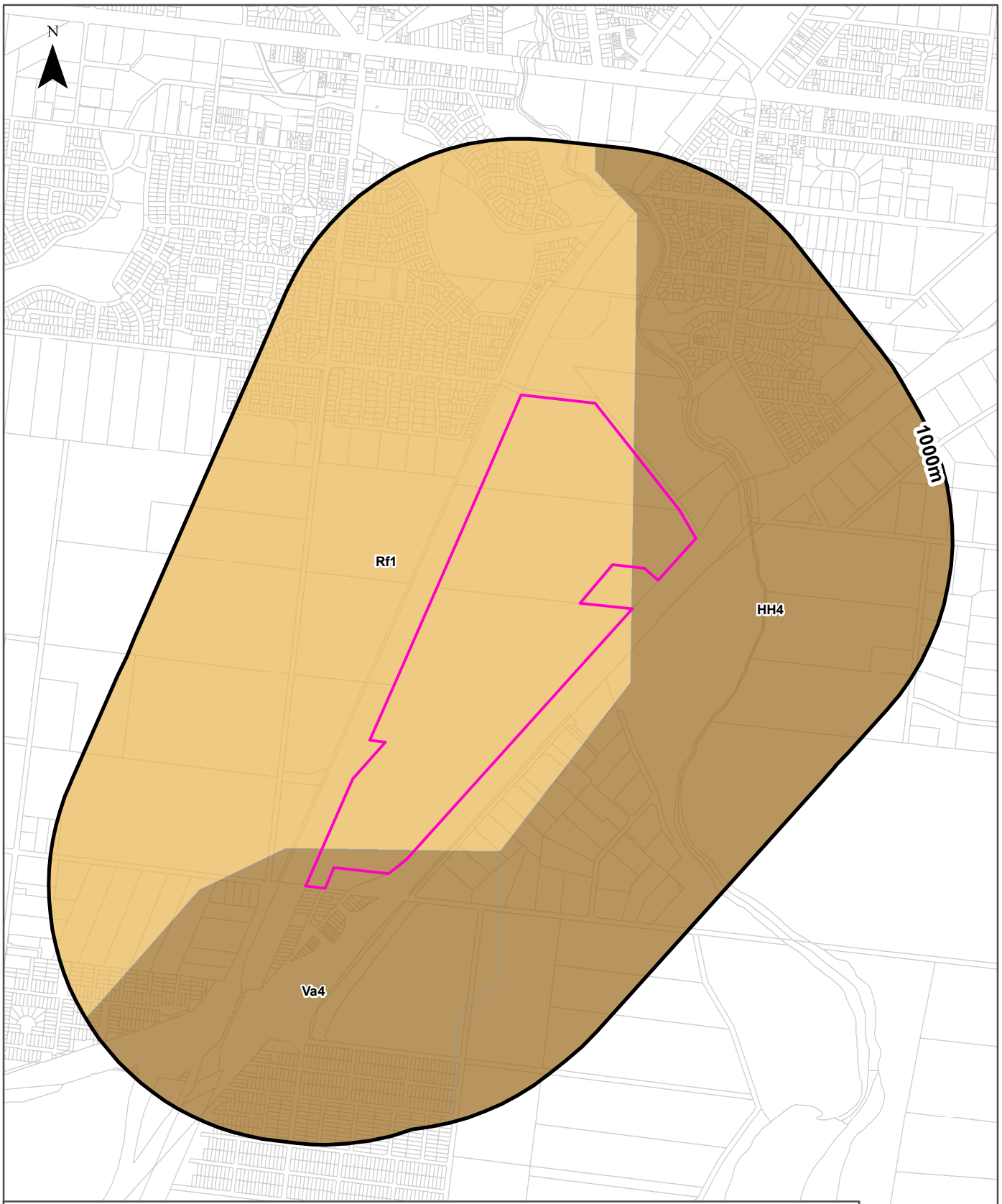
What are the Shear Zones within the dataset buffer (1:250,000 scale)?

Map Id	Type	Name	Description	Positional Accuracy	Dataset
No features					1:250,000

Geology Data Custodian: State Government Victoria - Dept of Economic Development, Jobs, Transport & Resources

Atlas of Australian Soils

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



Legend

- Site Boundary
- Report Buffer
- Property Boundary

Australian Soil Classification Orders

Anthroposol	Dermosol	Kandosol	Podosol	Tenosol	No Data
Calcarosol	Ferrosol	Kurosol	Rudosol	Vertosol	
Chromosol	Hydrosol	Organosol	Sodosol	Lake	

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

Data Sources: Property Boundaries - State Government Victoria - Department of Environment, Land, Water & Planning

Coordinate System: GDA 1994 MGA Zone 55

Date: 22 May 2019

Soil Landscapes

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

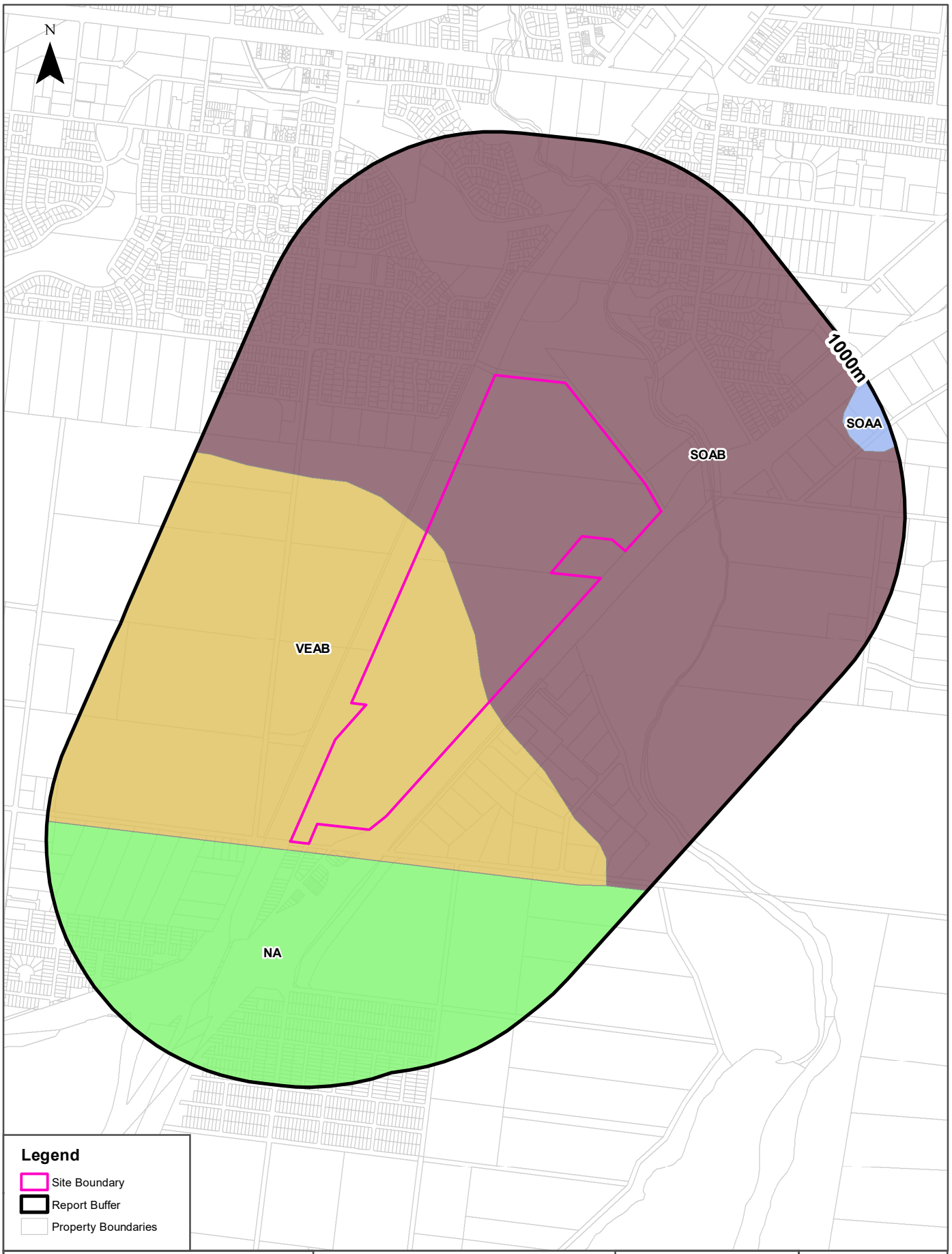
Atlas of Australian Soils

Australian soil types within the dataset buffer:

Symbol	Soil Order	Map Unit Description	Distance
HH4	Sodosol	Plains of hard alkaline dark mottled soils (Dd2.43) and hard alkaline red mottled soils (Dr3.43) and other undescribed soils on colluvium, and in association with friable alkaline dark soils (Dd3. 13) and dark shallow porous loamy soils (Um6.21) on the limestone areas of the plain.	0m
Rf1	Chromosol	Undulating plateaux with major steps in them: plains of hard alkaline brown soils (Db1.13) with hard alkaline dark soils (Dd1.13), and also hard alkaline yellow mottled soils (Dy3.13) with cracking clays (Ug5.2) in gilgai microassociation; hard alkaline red soils (Dr2.13) on the slopes (steps) between the different plateau levels.	0m
Va4	Sodosol	Undulating outwash plains: hard alkaline yellow mottled soils (Dy3.43) and (Dy5.43) with smaller areas of (Dr2.33) shallow forms (Um6), (Uc6.11), and (Gc1.12).	0m

Victorian Soil Type Mapping

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



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

Data Sources: Property Boundaries - State Government Victoria - Department of Environment, Land, Water & Planning

Coordinate System: GDA 1994 MGA Zone 55

Date: 22 May 2019

Soil Landscapes

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Victorian Soil Type Mapping

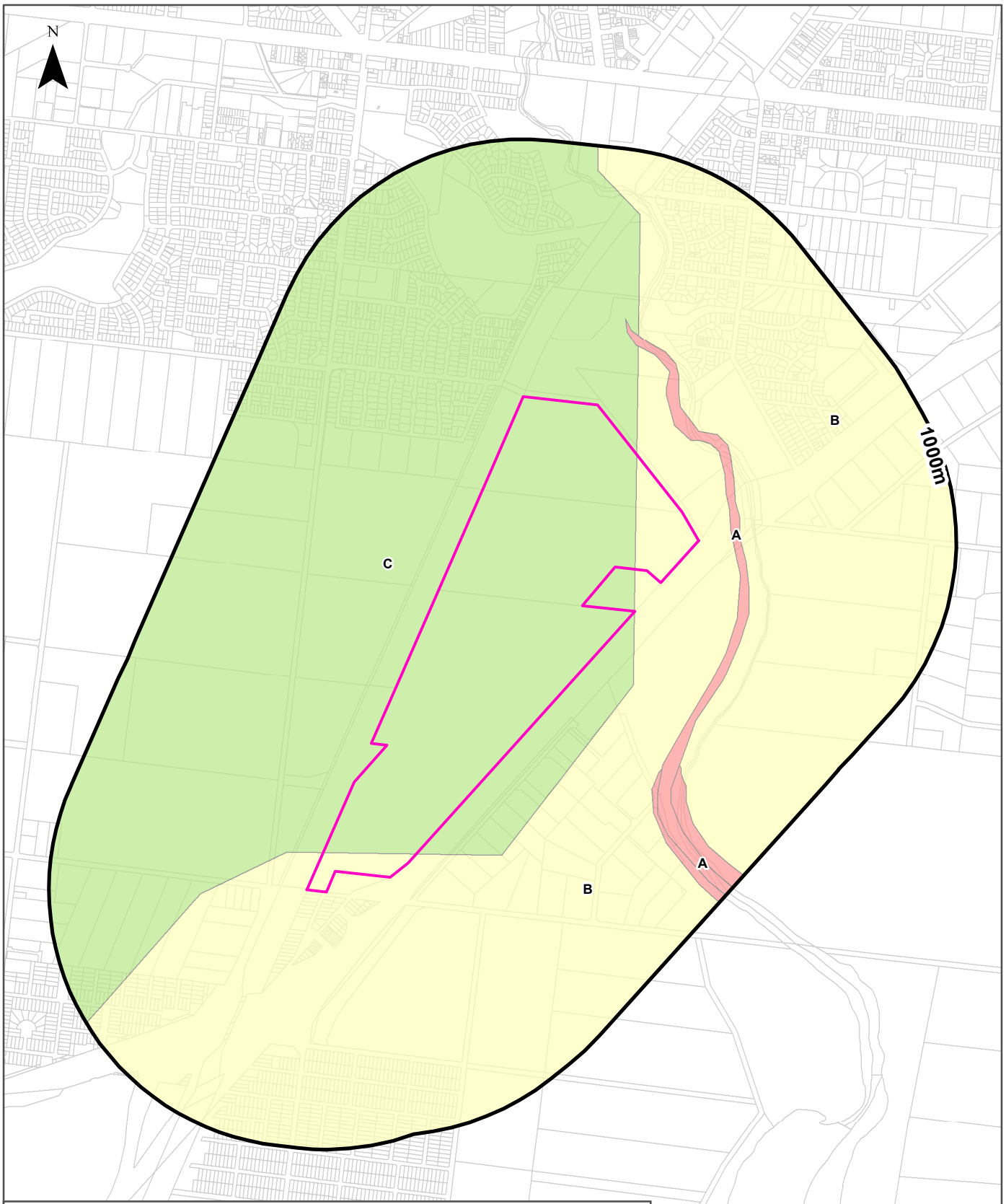
Victorian Soil Types within the dataset buffer:

Symbol	Description	Distance
SOAB	Brown Sodosols	0m
VEAB	Brown Vertosols	0m
NA	Unassigned	35m
SOAA	Red Sodosols	827m

Victorian Soil Type Mapping Data Source: Department of Economic Development, Jobs, Transport and Resources

Atlas of Australian Acid Sulfate Soils

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



Legend

- Site Boundary
- Report Buffer
- Property Boundary

Probability of occurrence of Acid Sulfate Soils

- A. High (>70%)
- B. Low (6-70%)
- C. Extremely Low (1-5%)
- D. No Chance (0%)
- No Data

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

Data Sources: Property Boundaries & Topographic Data: State of Victoria - Department of Environment and Primary Industries

Coordinate System: GDA 1994 MGA Zone 55

Date: 22 May 2019

Acid Sulfate Soils

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Atlas of Australian Acid Sulfate Soils

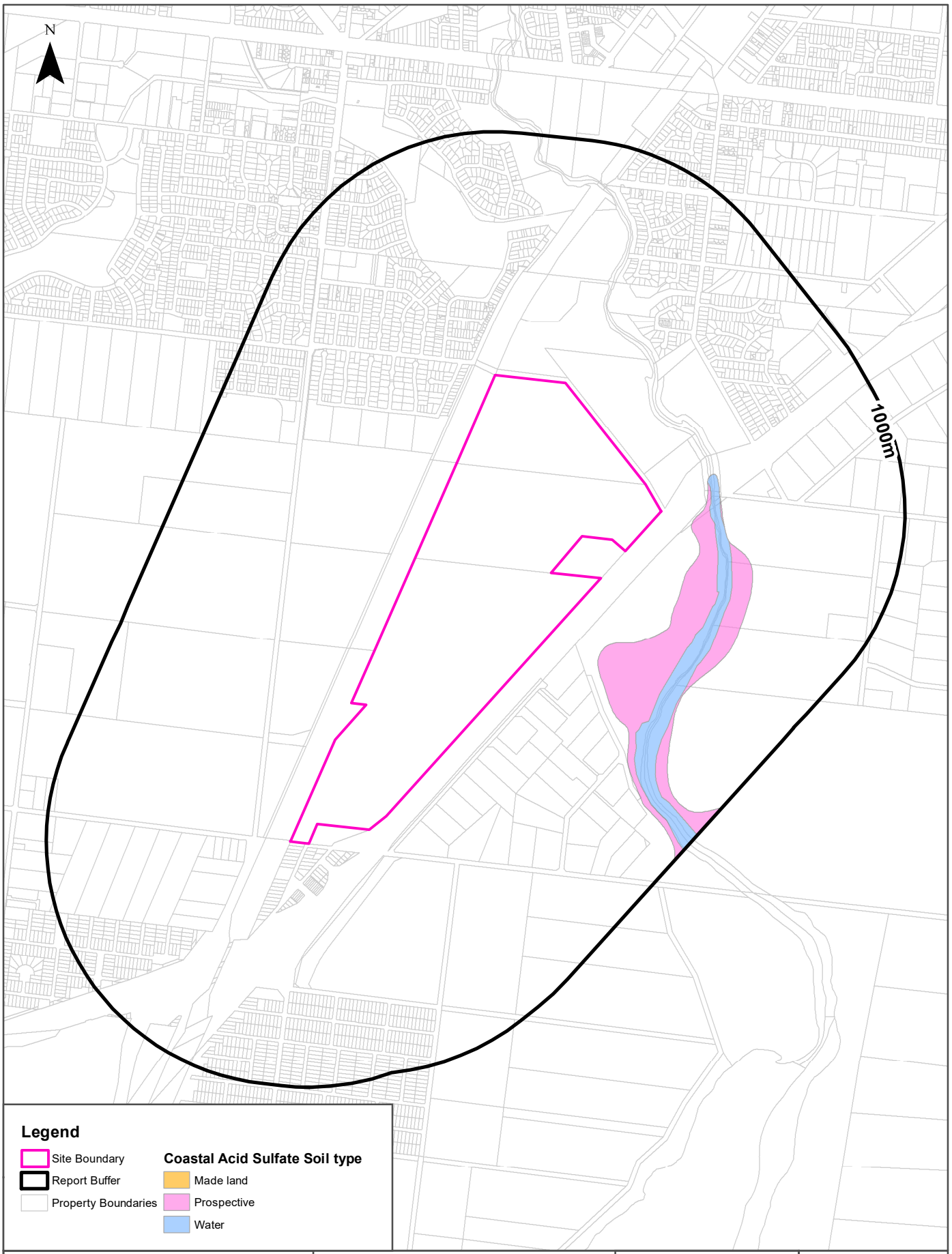
Atlas of Australian Acid Sulfate Soil categories within the dataset buffer:

PROBCLASS	Description	Distance
B	Low Probability of occurrence. 6-70% chance of occurrence.	0m
C	Extremely low probability of occurrence. 1-5% chance of occurrence with occurrences in small localised areas.	0m
A	High Probability of occurrence. >70% chance of occurrence.	130m

Atlas of Australian Acid Sulfate Soils Data Source: CSIRO

Coastal Acid Sulfate Soils

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



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

Data Sources: Property Boundaries & Topographic Data: State of Victoria - Department of Environment and Primary Industries

Coordinate System: GDA 1994 MGA Zone 55

Date: 22 May 2019

Coastal Acid Sulfate Soils

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Coastal Acid Sulfate Soils

What are the on-site Coastal Acid Sulfate Soil types?

Coastal Acid Sulfate Soil Types
There are no Acid Sulfate areas onsite

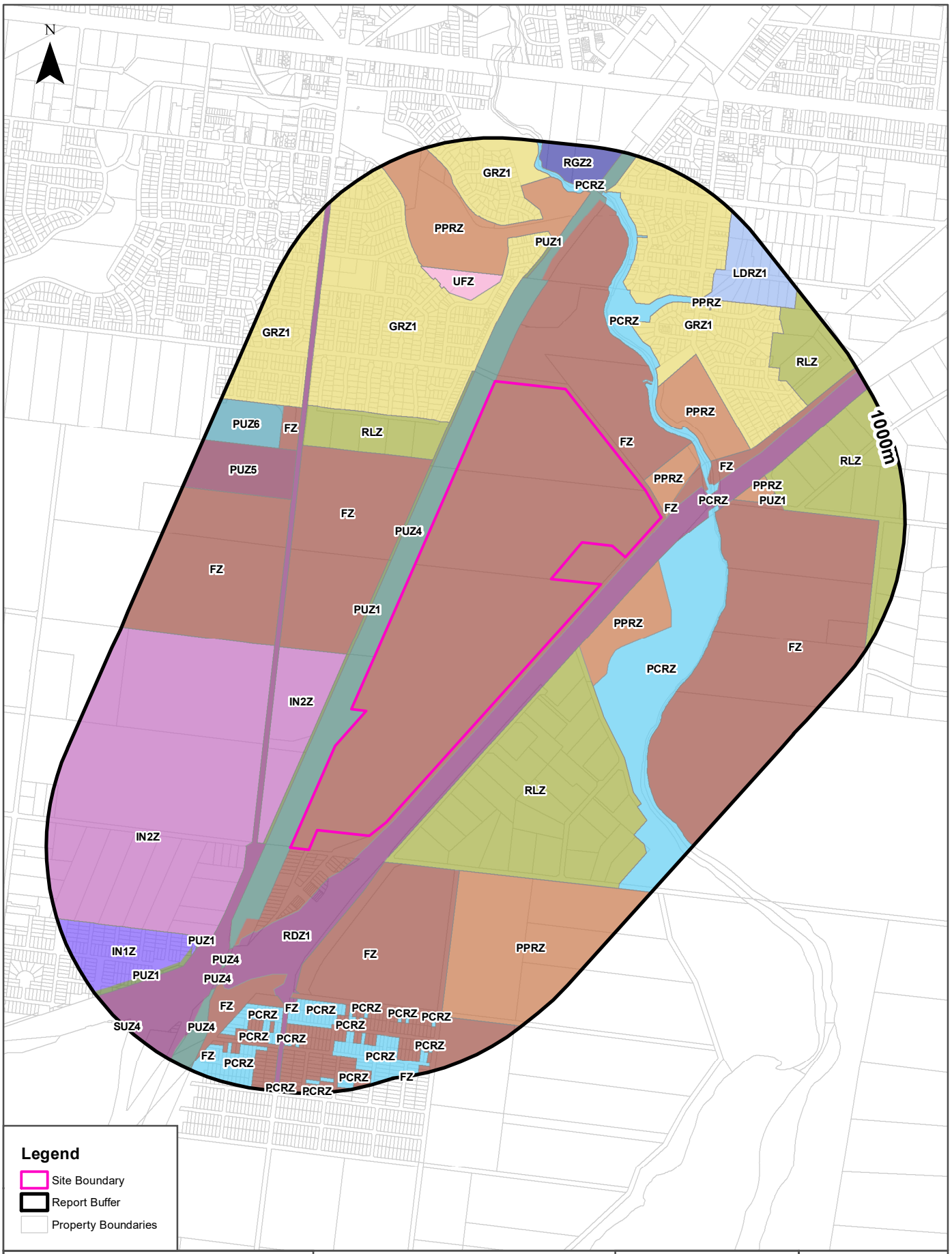
What are the Coastal Acid Sulfate Soil types within the dataset buffer?

Coastal Acid Sulfate Soil Types	Distance	Direction
Prospective	134m	South East
Water	199m	South East

Coastal Acid Sulfate Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning

Planning Zones

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



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

Data Sources: Property Boundaries - State Government Victoria - Department of Environment, Land, Water & Planning

Coordinate System: GDA 1994 MGA Zone 55

Date: 22 May 2019

Planning Zones

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Planning Zones

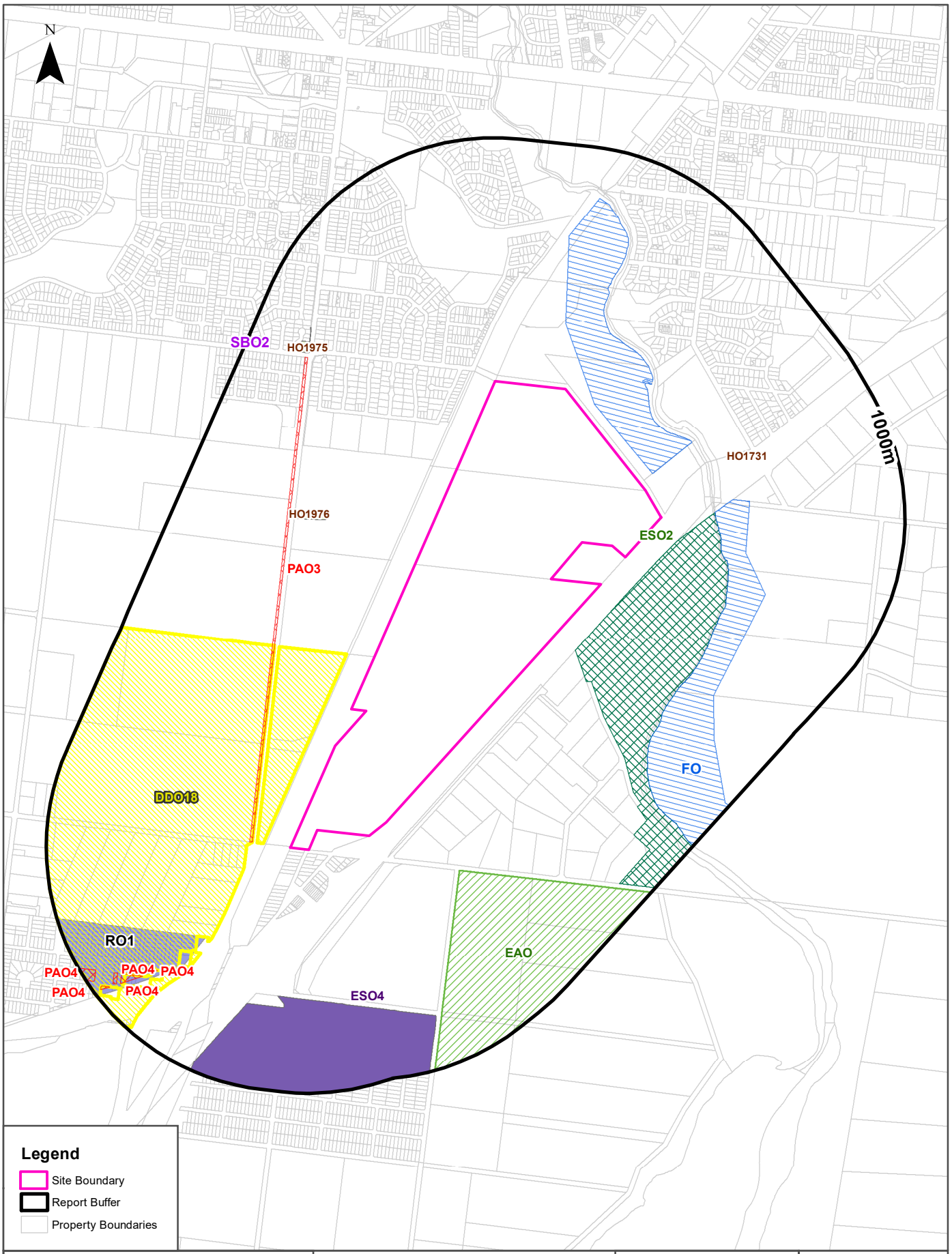
Planning zones within the dataset buffer:

Zone Code	Description	Distance	Direction
FZ	FARMING ZONE	0m	Onsite
PUZ4	PUBLIC USE ZONE - TRANSPORT	0m	North West
RDZ1	ROAD ZONE - CATEGORY 1	15m	South
PPRZ	PUBLIC PARK AND RECREATION ZONE	20m	North East
FZ	FARMING ZONE	22m	North East
GRZ1	GENERAL RESIDENTIAL ZONE - SCHEDULE 1	95m	North
PUZ1	PUBLIC USE ZONE - SERVICE AND UTILITY	95m	West
RLZ	RURAL LIVING ZONE	99m	South
PPRZ	PUBLIC PARK AND RECREATION ZONE	102m	East
RLZ	RURAL LIVING ZONE	105m	North West
FZ	FARMING ZONE	106m	West
PCRZ	PUBLIC CONSERVATION AND RESOURCE ZONE	107m	East
IN2Z	INDUSTRIAL 2 ZONE	108m	South West
FZ	FARMING ZONE	123m	South
IN2Z	INDUSTRIAL 2 ZONE	159m	West
PCRZ	PUBLIC CONSERVATION AND RESOURCE ZONE	197m	North East
PCRZ	PUBLIC CONSERVATION AND RESOURCE ZONE	205m	North East
FZ	FARMING ZONE	221m	South East
PPRZ	PUBLIC PARK AND RECREATION ZONE	234m	North East
FZ	FARMING ZONE	238m	North East
GRZ1	GENERAL RESIDENTIAL ZONE - SCHEDULE 1	303m	North East
PPRZ	PUBLIC PARK AND RECREATION ZONE	303m	East
UFZ	URBAN FLOODWAY ZONE	350m	North
PPRZ	PUBLIC PARK AND RECREATION ZONE	354m	South
FZ	FARMING ZONE	393m	West
PUZ1	PUBLIC USE ZONE - SERVICE AND UTILITY	436m	North
PPRZ	PUBLIC PARK AND RECREATION ZONE	437m	North
PUZ1	PUBLIC USE ZONE - SERVICE AND UTILITY	442m	East
RLZ	RURAL LIVING ZONE	458m	East
PUZ4	PUBLIC USE ZONE - TRANSPORT	494m	South West
PUZ1	PUBLIC USE ZONE - SERVICE AND UTILITY	504m	South West

Zone Code	Description	Distance	Direction
FZ	FARMING ZONE	516m	South West
IN1Z	INDUSTRIAL 1 ZONE	518m	South West
PUZ1	PUBLIC USE ZONE - SERVICE AND UTILITY	572m	South West
PUZ5	PUBLIC USE ZONE - CEMETERY/CREMATORIUM	572m	West
PUZ4	PUBLIC USE ZONE - TRANSPORT	584m	South West
PCRZ	PUBLIC CONSERVATION AND RESOURCE ZONE	611m	South
FZ	FARMING ZONE	631m	North West
GRZ1	GENERAL RESIDENTIAL ZONE - SCHEDULE 1	639m	North
FZ	FARMING ZONE	643m	South West
PPRZ	PUBLIC PARK AND RECREATION ZONE	648m	North East
PUZ4	PUBLIC USE ZONE - TRANSPORT	653m	South West
PCRZ	PUBLIC CONSERVATION AND RESOURCE ZONE	655m	South West
PCRZ	PUBLIC CONSERVATION AND RESOURCE ZONE	658m	South
LDRZ1	LOW DENSITY RESIDENTIAL ZONE - SCHEDULE 1	669m	North East
GRZ1	GENERAL RESIDENTIAL ZONE - SCHEDULE 1	683m	North West
PCRZ	PUBLIC CONSERVATION AND RESOURCE ZONE	684m	South
PUZ6	PUBLIC USE ZONE - LOCAL GOVERNMENT	702m	North West
RLZ	RURAL LIVING ZONE	708m	North East
FZ	FARMING ZONE	716m	South West
PCRZ	PUBLIC CONSERVATION AND RESOURCE ZONE	719m	South
PCRZ	PUBLIC CONSERVATION AND RESOURCE ZONE	728m	South
PCRZ	PUBLIC CONSERVATION AND RESOURCE ZONE	737m	South
PCRZ	PUBLIC CONSERVATION AND RESOURCE ZONE	758m	South
PCRZ	PUBLIC CONSERVATION AND RESOURCE ZONE	763m	South West
PCRZ	PUBLIC CONSERVATION AND RESOURCE ZONE	764m	South
PCRZ	PUBLIC CONSERVATION AND RESOURCE ZONE	780m	South
PCRZ	PUBLIC CONSERVATION AND RESOURCE ZONE	805m	North
PCRZ	PUBLIC CONSERVATION AND RESOURCE ZONE	823m	South West
RGZ2	RESIDENTIAL GROWTH ZONE - SCHEDULE 2	834m	North
PCRZ	PUBLIC CONSERVATION AND RESOURCE ZONE	876m	South
FZ	FARMING ZONE	898m	South West
PCRZ	PUBLIC CONSERVATION AND RESOURCE ZONE	919m	South
PCRZ	PUBLIC CONSERVATION AND RESOURCE ZONE	935m	South
PCRZ	PUBLIC CONSERVATION AND RESOURCE ZONE	943m	South
PCRZ	PUBLIC CONSERVATION AND RESOURCE ZONE	969m	South
PCRZ	PUBLIC CONSERVATION AND RESOURCE ZONE	975m	South
SUZ4	SPECIAL USE ZONE - SCHEDULE 4	976m	South West

Planning Overlays

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



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

Data Sources: Property Boundaries - State Government Victoria - Department of Environment, Land, Water & Planning

Coordinate System: GDA 1994 MGA Zone 55

Date: 22 May 2019

Planning Overlays

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Planning Overlays

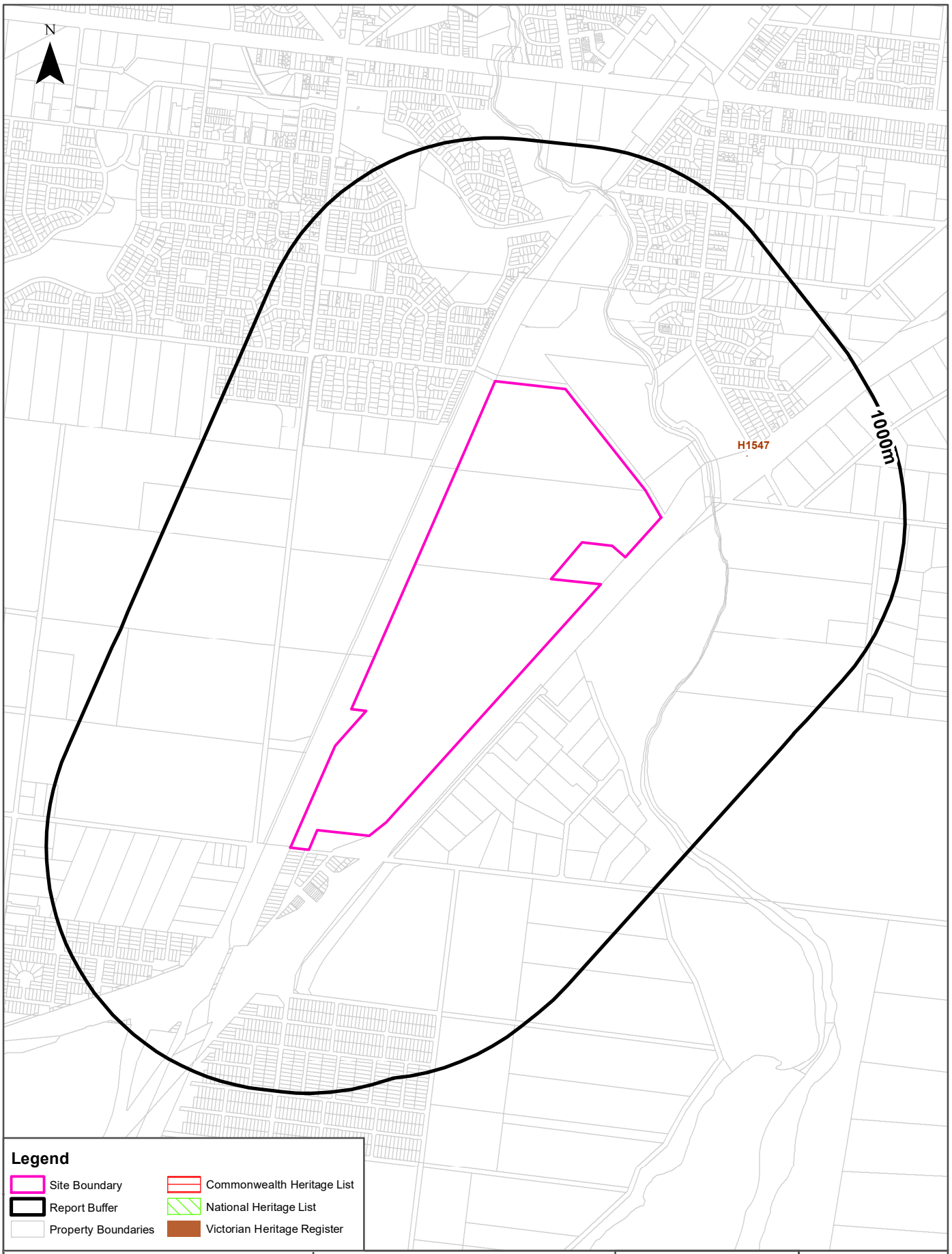
Planning overlays within the dataset buffer:

Zone Code	Description	Distance	Direction
FO	FLOODWAY OVERLAY	55m	North East
ESO2	ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 2	102m	South East
DDO18	DESIGN AND DEVELOPMENT OVERLAY - SCHEDULE 18	108m	South West
DDO18	DESIGN AND DEVELOPMENT OVERLAY - SCHEDULE 18	159m	West
PAO3	PUBLIC ACQUISITION OVERLAY 3	159m	West
FO	FLOODWAY OVERLAY	221m	South East
EAO	ENVIRONMENTAL AUDIT OVERLAY	354m	South
HO1976	HERITAGE OVERLAY (HO1976)	409m	North West
HO1731	HERITAGE OVERLAY (HO1731)	428m	North East
RO1	RESTRUCTURE OVERLAY - SCHEDULE 1	504m	South West
ESO4	ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 4	610m	South
PAO4	PUBLIC ACQUISITION OVERLAY 4	742m	South West
HO1975	HERITAGE OVERLAY (HO1975)	747m	North West
PAO4	PUBLIC ACQUISITION OVERLAY 4	804m	South West
PAO4	PUBLIC ACQUISITION OVERLAY 4	875m	South West
PAO4	PUBLIC ACQUISITION OVERLAY 4	936m	South West
PAO4	PUBLIC ACQUISITION OVERLAY 4	944m	South West
SBO2	SPECIAL BUILDING OVERLAY - SCHEDULE 2	963m	North West
PAO4	PUBLIC ACQUISITION OVERLAY 4	995m	South West

Planning Overlay Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning

Victorian Heritage Register

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



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

Data Sources: Property Boundaries & Topographic Data: State of Victoria - Department of Environment and Primary Industries

Coordinate System: GDA 1994 MGA Zone 55

Date: 22May 2019

Heritage

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Commonwealth Heritage List

What are the Commonwealth Heritage List Items located within the dataset buffer?

Place Id	Name	Address	Place File No	Class	Status	Register Date	Distance	Direction
N/A	No records in buffer							

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch

National Heritage List

What are the National Heritage List Items located within the dataset buffer?
Note. Please click on Place Id to activate a hyperlink to online website.

Place Id	Name	Address	Place File No	Class	Status	Register Date	Distance	Direction
N/A	No records in buffer							

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch

Victorian Heritage Register

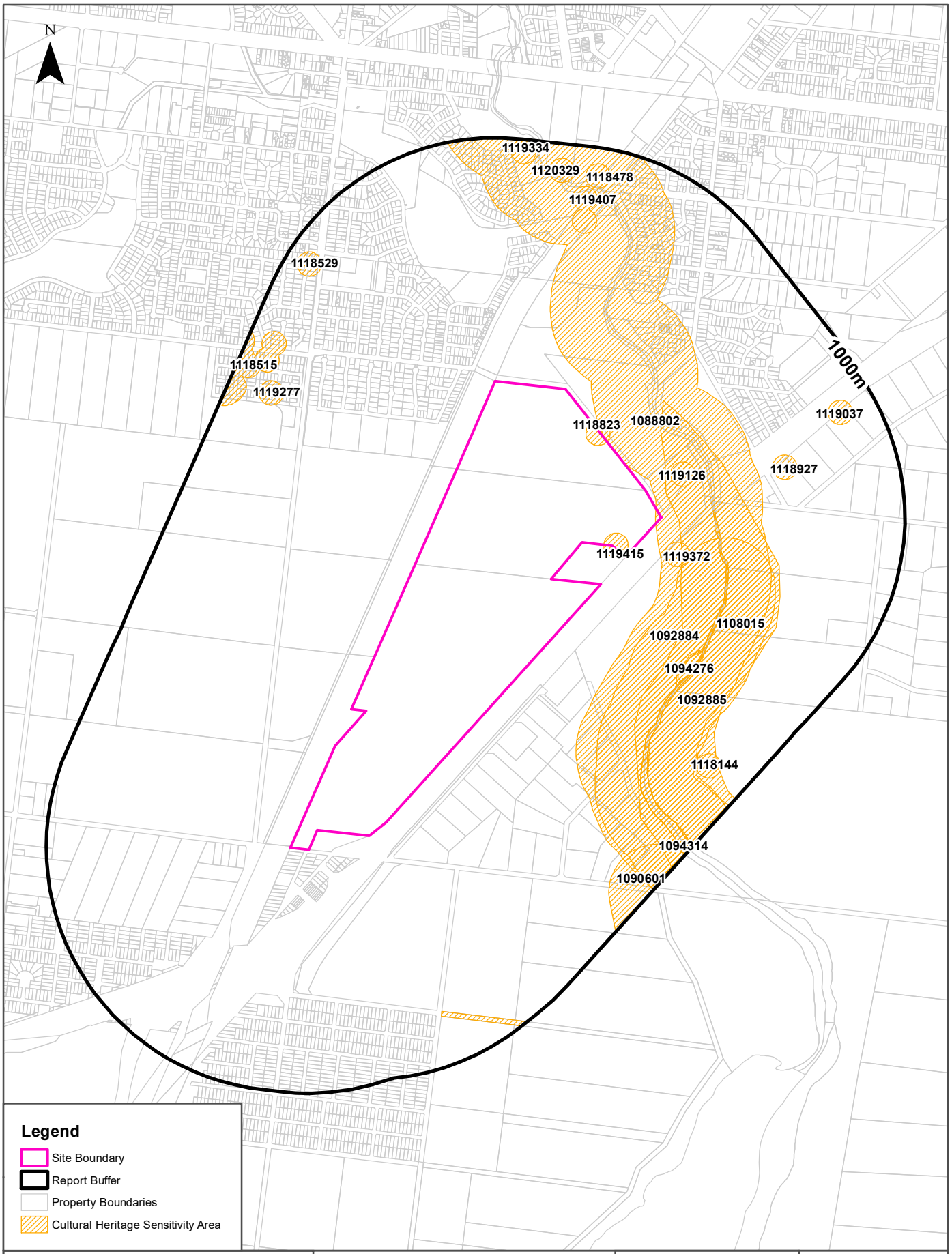
What are the Victorian Heritage Register items located within the dataset buffer?:

VHR Number	Description	Distance	Direction
H1547	HUME & HOVELL MONUMENT LARA	427m	North East

Victorian Heritage Register Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning

Cultural Heritage Sensitivity

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



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

Data Sources: Property Boundaries - State Government Victoria - Department of Environment, Land, Water & Planning

Coordinate System: GDA 1994 MGA Zone 55

Date: 22 May 2019

Heritage

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Cultural Heritage Sensitivity

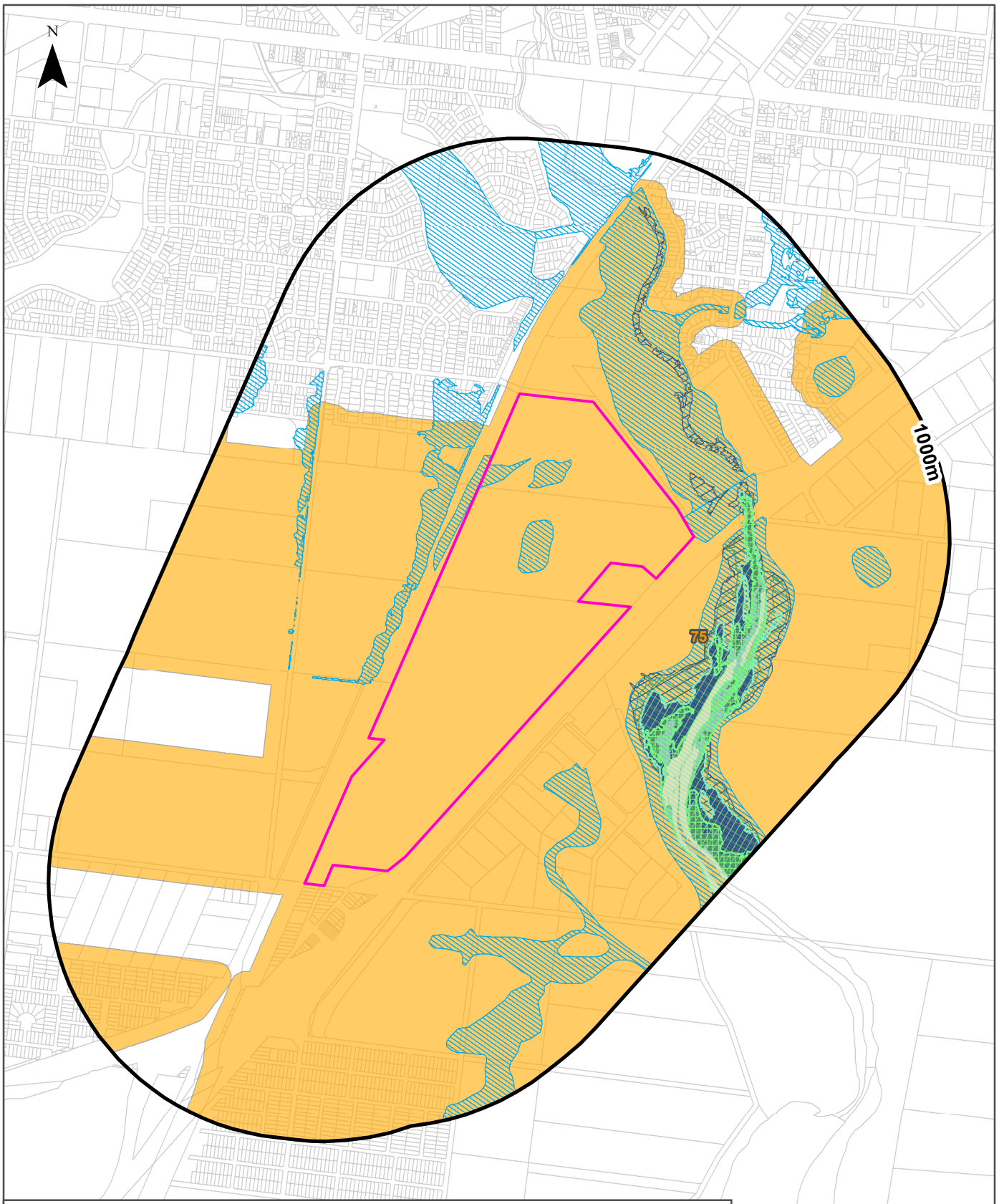
Areas of Cultural Heritage Sensitivity as specified in Division 3 of Part 2 in the Victorian Aboriginal Heritage Regulations 2007, within the dataset buffer:

Map Id	Distance	Direction
1119415	0m	Onsite
1118823	0m	Onsite
1088802	0m	Onsite
1108015	61m	South East
1119372	100m	East
1119126	115m	North East
1092884	187m	South East
1094314	215m	South East
1092885	260m	South East
1094276	473m	East
1118927	497m	North East
1119407	644m	North
1119277	772m	North West
1118144	778m	South East
1119037	802m	North East
1090601	820m	South East
1118478	834m	North
1120329	840m	North
1118515	843m	North West
1118529	852m	North West
1119334	900m	North

Cultural Heritage Sensitivity Data Custodian: State Government Victoria - Dept of Planning and Community Development

Natural Hazards

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



Legend

- Site Boundary
- Report Buffer
- Property Boundaries
- Flood 1 in 100 Year Extent
- Fire History Records
- Designated Bushfire Prone Area
- Sea Level 0cm (2009)
- 1 in 100 Year Storm Tide (2009)
- Sea Level 20cm (2040)
- 1 in 100 Year Storm Tide (2040)
- Sea Level 47cm (2070)
- 1 in 100 Year Storm Tide (2070)
- Sea Level 82cm (2100)
- 1 in 100 Year Storm Tide (2100)

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

Data Sources: Property Boundaries - State Government Victoria - Department of Environment, Land, Water & Planning

Coordinate System: GDA 1994 MGA Zone 55

Date: 22 May 2019

Natural Hazards

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Bushfire Prone Areas

What are the designated bushfire prone areas within the dataset buffer?

Map ID	Feature	Plan No	LGA	Gazetted Date	Distance	Direction
75	Designated Bushfire Prone Area	LEGL./19-146	GREATER GEELONG	04/04/2019	0m	Onsite

Bushfire Prone Area Data Custodian: State Government Victoria - Dept of Transport, Planning & Local Infrastructure

Fire History

What are the fire history records of fires primarily on public land, within the dataset buffer?

Map Id	Fire Type	Fire Key	Season	Fire No	Fire Name	Treatment	Fire Cover	Start Date	Dist (m)	Direction
N/A	No records within buffer									

Fire History Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning

Flood - 1 in 100 year modelled flood extent

What 1 in 100 year flood extent features exist within the dataset buffer?

Feature	Source	Method	Scale	Modified Date	Distance	Direction
100 Year Flood Outline	DNRE	No contours & some flood info	10000	01/01/2000	0m	Onsite
100 Year Flood Outline	Unknown	No contours & some flood info		01/01/2000	0m	Onsite
100 Year Flood Outline	Consultants	Modelled		31/07/2006	30m	North East
100 Year Flood Outline	Unknown	Little info available		01/01/2000	117m	South
100 Year Flood Outline	DNRE	No contour info and detailed flood info	10000	01/01/2000	166m	North

Flood Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning

Natural Hazards

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Victorian Coastal Inundation Sea Level Rise

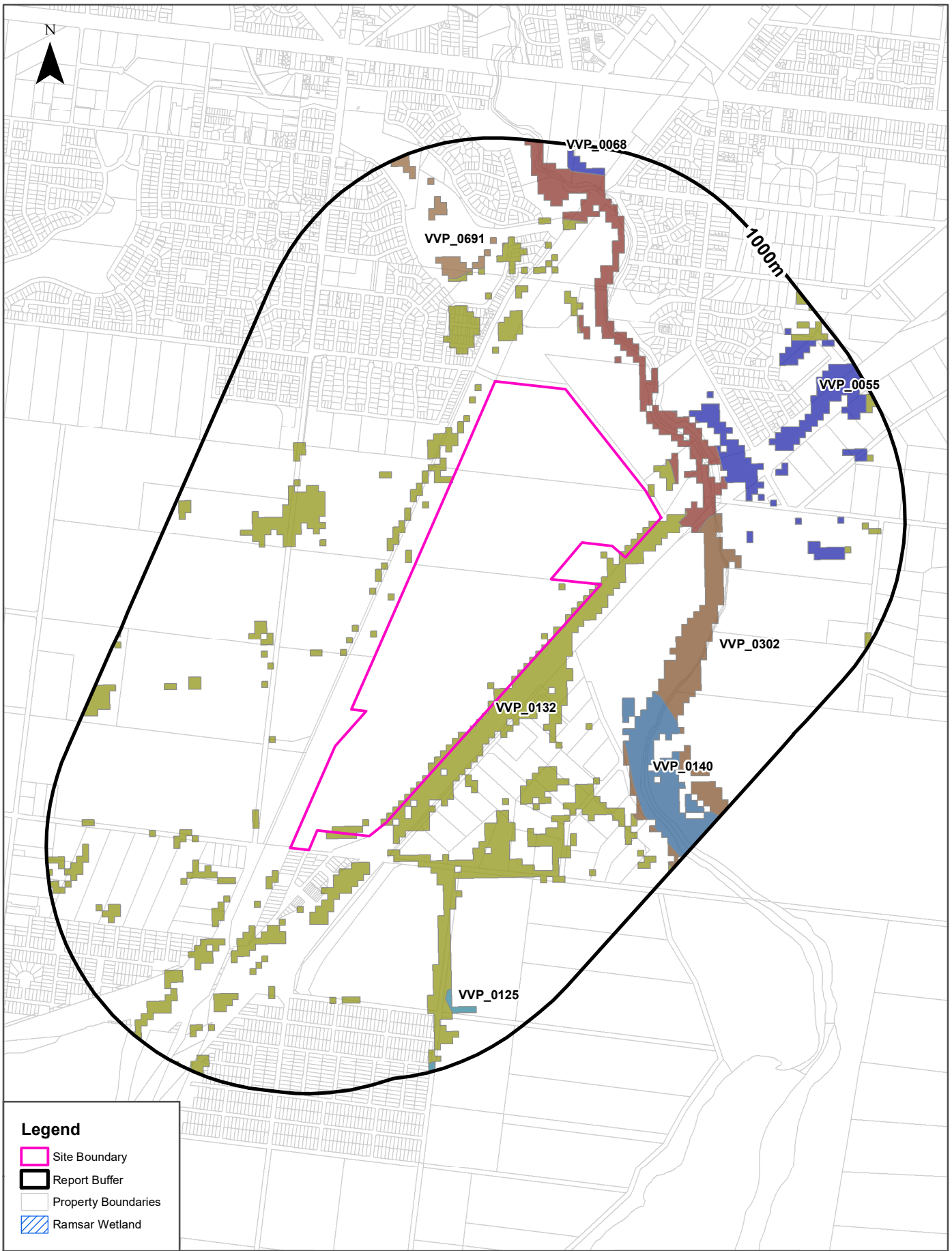
What coastal inundation sea level rise features exist within the dataset buffer?

Description	Distance	Direction
Inundation to 1-in-100 year storm tide level with storm surge increased by 19% plus 82 cm sea level rise (2100)	93m	North East
Inundation to 1-in-100 year storm tide level with storm surge increased by 13% plus 47 cm sea level rise (2070)	133m	South East
Inundation to 1-in-100 year storm tide level with storm surge increased by 6% plus 20 cm sea level rise (2040)	194m	South East
Projected 82cm sea level rise by 2100	195m	South East
Current (2009) inundation to 1-in-100 year storm tide level	198m	South East
Projected 47cm sea level rise by 2070	198m	South East
Projected 20cm sea level rise by 2040	293m	South East
Current (2009) sea level	344m	East

Victorian Coastal Inundation Sea Level Rise Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning

Ecological Constraints - Native Vegetation 2005 & Ramsar Wetlands

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



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

Data Sources: Property Boundaries - State Government Victoria - Department of Environment, Land, Water & Planning

Coordinate System: GDA 1994 MGA Zone 55

Date: 22 May 2019

Ecological Constraints

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Native Vegetation (Modelled 2005 Ecological Vegetation Classes)

What native vegetation exists within the dataset buffer?

Veg Code	EVC Name	EVCCode	Group	Subgroup	Bioregion	Conservation Status	Geographic Occurance	Distance
VVP_0132	Plains Grassland	0132	Plains Grasslands and Chenopod Shrublands	Clay soils	Victorian Volcanic Plain	Endangered	Common	0m
VVP_0068	Creekline Grassy Woodland	0068	Riverine Grassy Woodlands or Forests	Creekline and/or swampy	Victorian Volcanic Plain	Endangered	Common	72m
VVP_0302	Coastal Saltmarsh/Mangrove Shrubland Mosaic	0302	Salt-tolerant and/or succulent Shrublands	Coastal	Victorian Volcanic Plain	Endangered	not applicable	157m
VVP_0055	Plains Grassy Woodland	0055	Plains Woodlands or Forests	Freely-draining	Victorian Volcanic Plain	Endangered	Common	283m
VVP_0140	Mangrove Shrubland	0140	Salt-tolerant and/or succulent Shrublands	Coastal	Victorian Volcanic Plain	Vulnerable	Minor	376m
VVP_0691	Aquatic Herbland/Plains Sedgy Wetland Mosaic	0691	Wetlands	Freshwater	Victorian Volcanic Plain	Endangered	not applicable	452m
VVP_0125	Plains Grassy Wetland	0125	Wetlands	Freshwater	Victorian Volcanic Plain	Endangered	Common	706m

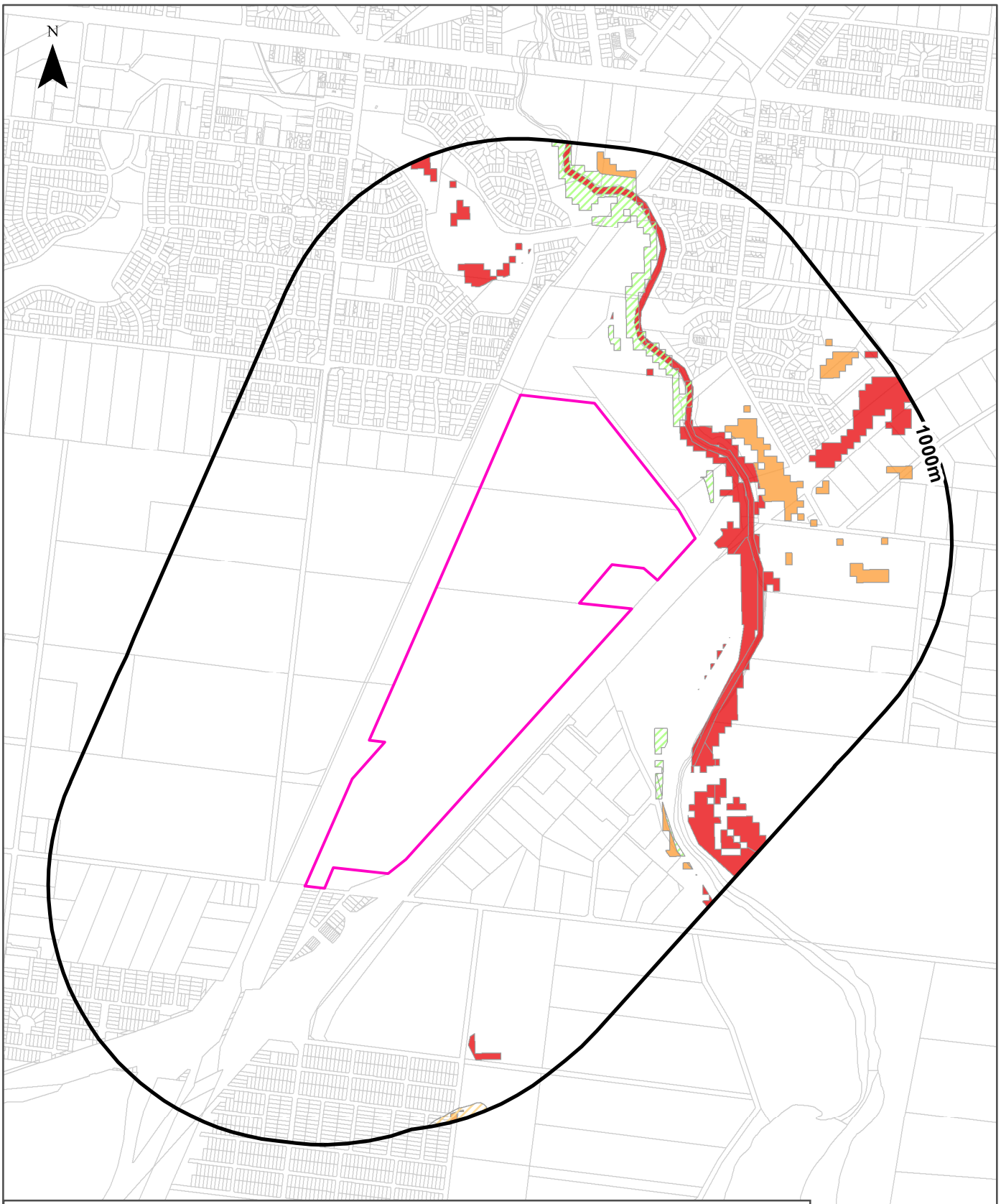
Ramsar Wetlands

What Ramsar wetland areas exist within the dataset buffer?

Map ID	Site Name	Lake Name	Distance	Direction
N/A	No records within buffer			

Ecological Constraints - Groundwater Dependent Ecosystems Atlas

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



Legend

- Site Boundary
- Report Buffer
- Property Boundaries
- High potential GDE - from national assessment
- High potential GDE - from regional studies
- Moderate potential GDE - from national assessment
- Moderate potential GDE - from regional studies
- Low potential GDE - from national assessment
- Low potential GDE - from regional studies
- Known GDE - from regional studies
- Unclassified potential GDE - from regional studies

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

Data Sources: Property Boundaries - State Government Victoria - Department of Environment, Land, Water & Planning

Coordinate System: GDA 1994 MGA Zone 55

Date: 22 May 2019

Ecological Constraints

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Groundwater Dependent Ecosystems Atlas

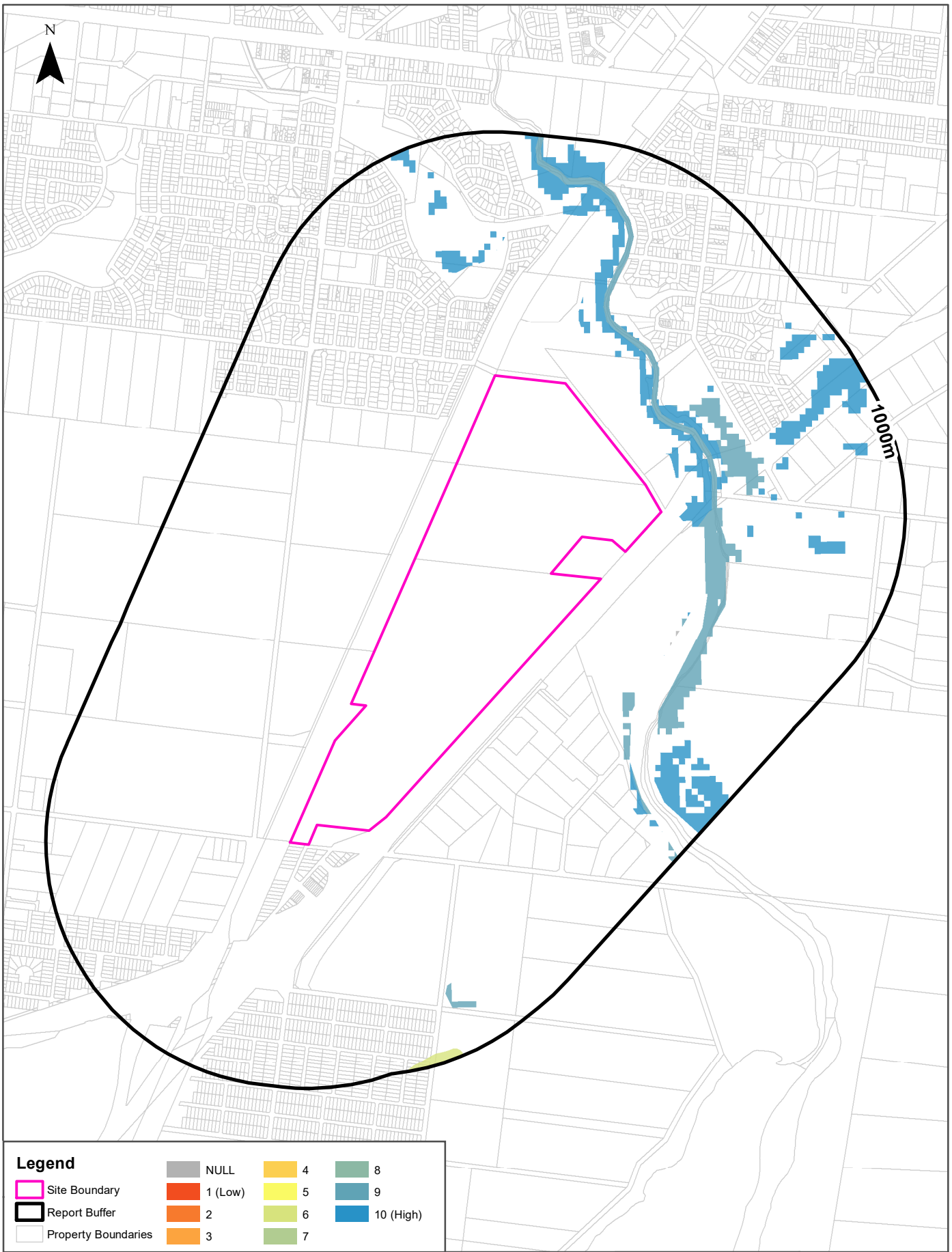
What GDEs exist within the dataset buffer?

GDE Type	Name	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial		High potential GDE - from national assessment	Plains mainly on basalt lavas with many volcanic forms and lakes, partly on weak sedimentary rocks.	Vegetation	Unconsolidated sedimentary	72m
Terrestrial		Known GDE - from regional studies	Plains mainly on basalt lavas with many volcanic forms and lakes, partly on weak sedimentary rocks.	Vegetation	Unconsolidated sedimentary	119m
Aquatic	HOVELLS CREEK	High potential GDE - from national assessment	Plains mainly on basalt lavas with many volcanic forms and lakes, partly on weak sedimentary rocks.	River	Unconsolidated sedimentary	204m
Terrestrial		Moderate potential GDE - from national assessment	Plains mainly on basalt lavas with many volcanic forms and lakes, partly on weak sedimentary rocks.	Vegetation	Unconsolidated sedimentary	283m
Aquatic		Moderate potential GDE - from regional studies	Plains mainly on basalt lavas with many volcanic forms and lakes, partly on weak sedimentary rocks.	Wetland		951m

Groundwater Dependent Ecosystems Atlas Data Source: The Bureau of Meteorology

Inflow Dependent Ecosystems Likelihood

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212



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

Data Sources: Property Boundaries - State Government Victoria - Department of Environment, Land, Water & Planning

Coordinate System: GDA 1994 MGA Zone 55

Date: 22 May 2019

Ecological Constraints

76-156 Canterbury Road & 705-805 Princes Highway, Lara, VIC 3212

Inflow Dependent Ecosystems Likelihood

What IDEs exist within the dataset buffer?

GDE Type	Name	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial		10	Plains mainly on basalt lavas with many volcanic forms and lakes, partly on weak sedimentary rocks.	Vegetation	Unconsolidated sedimentary	72m
Terrestrial		9	Plains mainly on basalt lavas with many volcanic forms and lakes, partly on weak sedimentary rocks.	Vegetation	Unconsolidated sedimentary	157m
Aquatic	HOVELLS CREEK	9	Plains mainly on basalt lavas with many volcanic forms and lakes, partly on weak sedimentary rocks.	River	Unconsolidated sedimentary	204m
Terrestrial		0	Plains mainly on basalt lavas with many volcanic forms and lakes, partly on weak sedimentary rocks.	Vegetation	Unconsolidated sedimentary	354m
Aquatic		6	Plains mainly on basalt lavas with many volcanic forms and lakes, partly on weak sedimentary rocks.	Wetland		951m
Terrestrial		6	Plains mainly on basalt lavas with many volcanic forms and lakes, partly on weak sedimentary rocks.	Vegetation	Fractured rock	963m

Inflow Dependent Ecosystems Likelihood Data Source: The Bureau of Meteorology

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Appendix 2: Title History

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 09002 FOLIO 660

Security no : 124077608170W
Produced 24/05/2019 10:34 AM

LAND DESCRIPTION

Lot 2 on Plan of Subdivision 098249.
PARENT TITLE Volume 08986 Folio 529
Created by instrument LP098249 18/12/1973

REGISTERED PROPRIETOR

Estate Fee Simple
TENANTS IN COMMON
As to 1 of a total of 2 equal undivided shares
Sole Proprietor
    DONALD NASH of 602/100 WESTERN BEACH ROAD GEELONG VIC 3022
    AE164898V 07/02/2006
As to 1 of a total of 2 equal undivided shares
Joint Proprietors
    DAVID JAMES NASH of 63 RHINDS ROAD WALLINGTON VIC 3221
    TREVOR CLARENCE NASH of 815 PRINCES HIGHWAY LARA VIC 3212
    JOHN ALBERT NASH of FLAT 2814 TUNG HING HOUSE LEI TUNG ESTATE AP LEI CHAU HONG KONG Legal Personal Representative(s) of JAMES SAMPSON NASH deceased
    AF494671A 27/11/2007

ENCUMBRANCES, CAVEATS AND NOTICES

COVENANT as to part V953535R 21/11/2001

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan or imaged folio set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE TP485710V FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NUMBER		STATUS	DATE
AR892232E	AMEND ADDRESS ON FOLIO	Registered	01/02/2019

----------END OF REGISTER SEARCH STATEMENT----------

Additional information: (not part of the Register Search Statement)

Street Address: 705-775 PRINCES HIGHWAY LARA VIC 3212

DOCUMENT END

Imaged Document Cover Sheet

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Document Type	**Plan**
Document Identification	**TP485710V**
Number of Pages (excluding this cover sheet)	**2**
Document Assembled	**24/05/2019 10:38**

TITLE PLAN	EDITION 1	TP 485710V

Location of Land

Parish : MORANGHURK
Township : -
Section: -
Crown Allotment: -
Crown Portion: -

Last Plan Reference : LOT 2 ON LP98249
Derived From : VOL. 9002 FOL. 660
Depth Limitation : NIL.

Notations

ANY REFERENCE TO MAP IN THE TEXT MEANS THE DIAGRAM SHOWN ON THIS TITLE PLAN

Description of Land/ Easement Information

ENCUMBRANCES

AS TO THE LAND MARKED E-1
THE PIPELINE EASEMENT TO
TRANSMISSION PIPELINES
AUST. CREATED BY
INSTRUMENT No V953535R

THIS PLAN HAS BEEN PREPARED BY LAND REGISTRY, LAND VICTORIA FOR TITLE DIAGRAM PURPOSES

COMPILED: Date 6/06/07

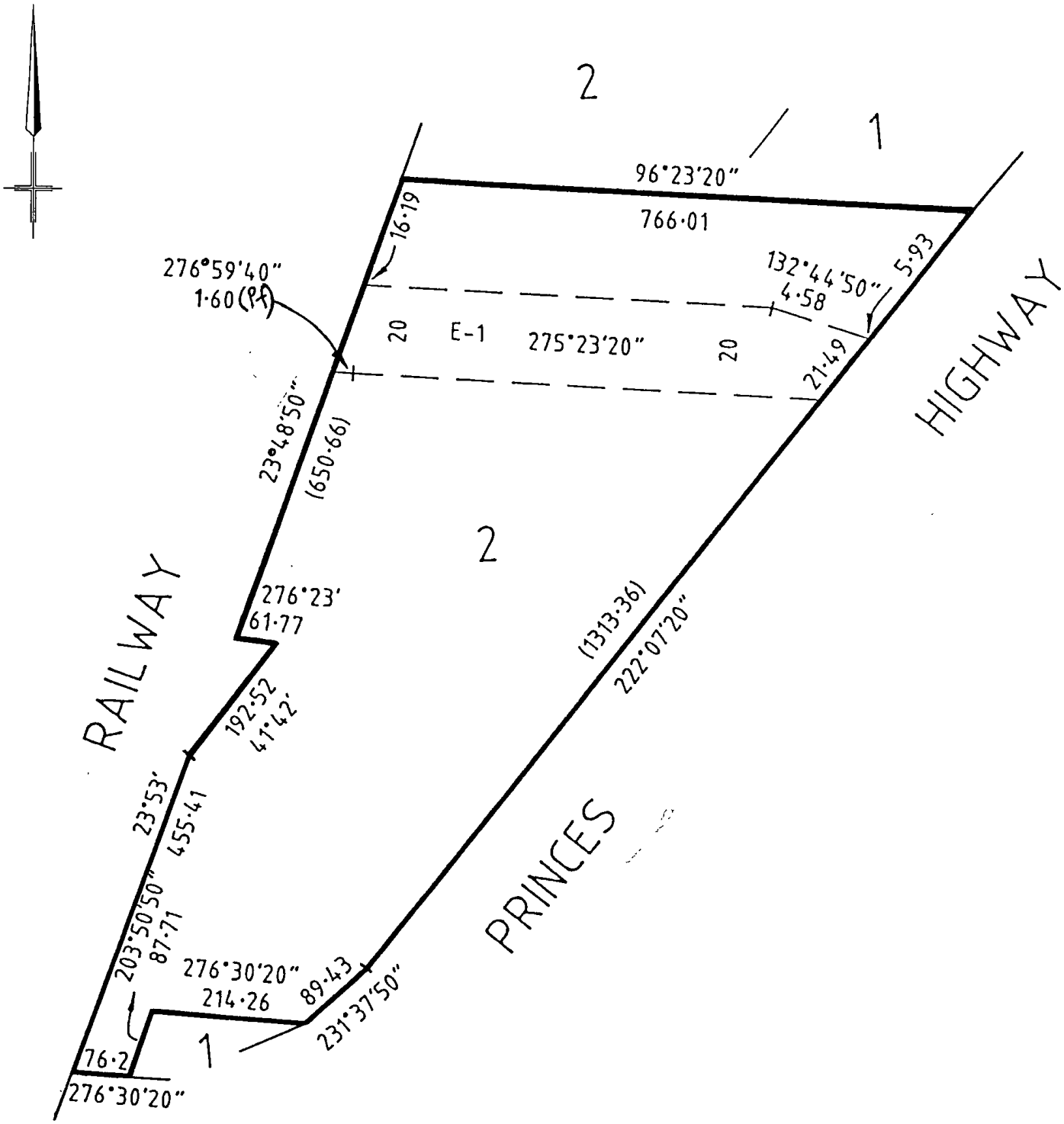
VERIFIED: A. DALLAS
Assistant Registrar of Titles

FOR DIAGRAM SEE SHEET 2

LENGTHS ARE IN METRES	Metres = 0.3048 x Feet Metres = 0.201168 x Links	Sheet 1 of 2 Sheets

TITLE PLAN

TP 485710V



LENGTHS ARE IN METRES	Metres = 0.3048 x Feet Metres = 0.201168 x Links	Sheet 2 of 2 Sheets

Produced 24/05/2019 10:38 AM

Volume 9329 Folio 313
Folio Creation: Created as paper folio continued as computer folio
Parent title Volume 08743 Folio 077

THE IMAGE OF THE FOLIO CEASED TO BE THE DIAGRAM LOCATION ON 03/09/2002 05:01:26 AM

RECORD OF HISTORICAL DEALINGS

Date Lodged for Registration	Date Recorded on Register	Dealing	Imaged	Dealing Type and Details

RECORD OF VOTS DEALINGS

Date Lodged for Registration	Date Recorded on Register	Dealing	Imaged
21/08/2006	21/08/2006	AE555572Y	Y

CAVEAT
CAVEAT AE555572Y 21/08/2006
Caveator
AMY JOYCE NASH
Capacity SEE CAVEAT
Lodged by
FAULKNER E
Notices to
FAULKNER E of 12 ABERDEEN STREET GEELONG VIC 3220

09/08/2007	09/08/2007	AF261319R	Y

TRANSMISSION APPLICATION
FROM:
JAMES SAMSON NASH
TO:
DAVID JAMES NASH
TREVOR CLARENCE NASH
JOHN ALBERT NASH

RESULTING PROPRIETORSHIP:
Estate Fee Simple
TENANTS IN COMMON
As to 1 of a total of 2 equal undivided shares
Joint Proprietors
DAVID JAMES NASH of 63 RHINDS ROAD WALLINGTON VIC 3221
TREVOR CLARENCE NASH of 815 PRINCES HIGHWAY LARA VIC 3212
JOHN ALBERT NASH of FLAT 2814, TUNG HING HOUSE, LEI TUNG ESTATE,
AP LEI CHAU HONG KONG Legal Personal Representative(s) of JAMES
SAMSON NASH who died on 22/06/2006
AF261319R 09/08/2007
As to 1 of a total of 2 equal undivided shares
Sole Proprietor
DONALD NASH of 100 WILSONS ROAD NEWCOMB
H438589 09/03/1979

05/08/2014	16/09/2014	AL273707M	Y

APPLICATION TO REMOVE CAVEAT
CAVEAT AE555572Y REMOVED

01/02/2019 01/02/2019 AR892232E N

AMENDMENT OF ADDRESS ON FOLIO
RESULTING PROPRIETORSHIP:
Estate Fee Simple
TENANTS IN COMMON
As to 1 of a total of 2 equal undivided shares
Joint Proprietors
DAVID JAMES NASH of 63 RHINDS ROAD WALLINGTON VIC 3221
TREVOR CLARENCE NASH of 815 PRINCES HIGHWAY LARA VIC 3212
JOHN ALBERT NASH of FLAT 2814, TUNG HING HOUSE, LEI TUNG ESTATE, AP LEI CHAU
HONG KONG Legal Personal Representative(s) of JAMES SAMSON NASH deceased
AF261319R 09/08/2007
As to 1 of a total of 2 equal undivided shares
Sole Proprietor
DONALD NASH of 602/100 WESTERN BEACH ROAD GEELONG VIC 3022
H438589 09/03/1979

STATEMENT END

VOTS Snapshot

Volume 09329 Folio 313
124018836549T
Produced 21/08/2006 10:46 am

LAND DESCRIPTION

Lot 1 on Title Plan 191059G (formerly known as part of Lot 1 on Plan of Subdivision 081458).
PARENT TITLE Volume 08743 Folio 077
Created by instrument H438589 09/03/1979

REGISTERED PROPRIETOR

Estate Fee Simple
TENANTS IN COMMON
As to 1 of a total of 2 equal undivided shares
Sole Proprietor
JAMES SAMSON NASH of 100 WILSONS ROAD NEWCOMB
As to 1 of a total of 2 equal undivided shares
Sole Proprietor
DONALD NASH of 100 WILSONS ROAD NEWCOMB
H438589 09/03/1979

ENCUMBRANCES, CAVEATS AND NOTICES

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE TP191059G FOR FURTHER DETAILS AND BOUNDARIES

Paper Title Images

9329/313 - Version 0, Date 23/09/1999

H 438 589

ORIGINAL

NOT TO BE TAKEN FROM THE OFFICE OF TITLES

Roads and/or Reserves Only Now Remain Therein.

REGISTER BOOK

VOL. 9329 FOL. 313

VICTORIA

Certificate of Title

INDEX PLAN No. 242

PARCEL No. 500

UNDER THE "TRANSFER OF LAND ACT"

JAMES SAMSON NASH and DONALD NASH both of 100 Wilsons Road Newcomb Carriers are-proprietors as TENANTS IN COMMON IN EQUAL SHARES of an estate in fee simple - -- subject to the encumbrances notified hereunder in all that piece of land in the-Parish of Moranghurk County of Grant being part of Lot One on Plan of - - - - -- Subdivision No.81458 which land is shown enclosed by continuous lines on the map hereon -

FOL.

VOL.

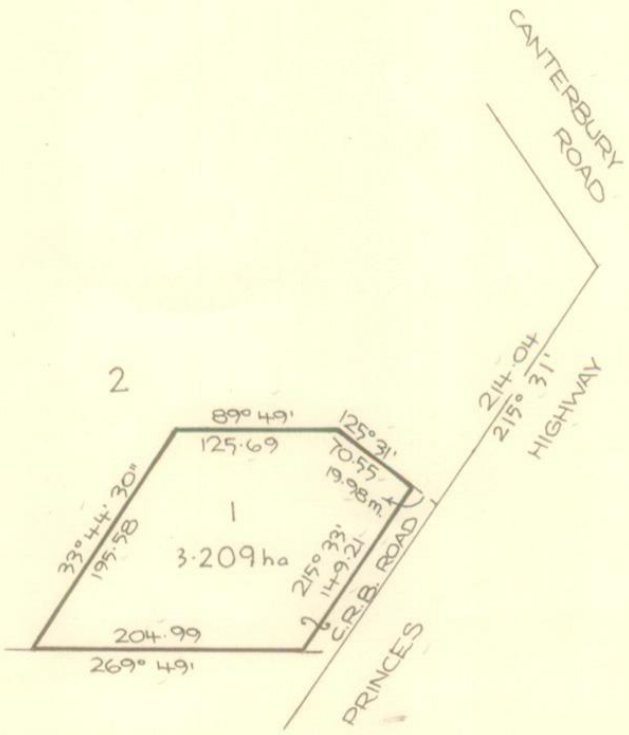
DATED the 9th day of March 1979

R. Meehan

Assistant Registrar of Titles

OFFICE OF TITLES VICTORIA

ENCUMBRANCES REFERRED TO



AREA IS IN HECTARES (ha.)

MEASUREMENTS ARE IN METRES

Derived from Vol.8743 Fol.077

H438589

T09329-313-1-2

F. D. Atkinson, Government Printer, Melbourne.

Produced 24/05/2019 11:35 AM

Volume 8743 Folio 077
Folio Creation: Details Unknown
Parent title Volume 04327 Folio 349

STATEMENT END

VOTS Snapshot

NIL

Paper Title Images

8743/077 - Version 0, Date 03/02/2000

ORIGINAL

NOT TO BE TAKEN FROM THE OFFICE OF TITLES

CANCELLED

REGISTER BOOK

VOL. 8743 FOL. 077

VICTORIA

Certificate of Title

UNDER THE "TRANSFER OF LAND ACT"

VOL. 8743 FOL. 077

MOYA LORRAINE WYLD of Princes Highway Lara Married Woman is the - - - -- - proprietor of an estate in fee simple subject to the encumbrances notified- - hereunder in ALL THAT piece of land coloured on the map hereon being - - -- - Lot 1 on Plan of Subdivision No.81458 Parish of Moranghurk County of Grant

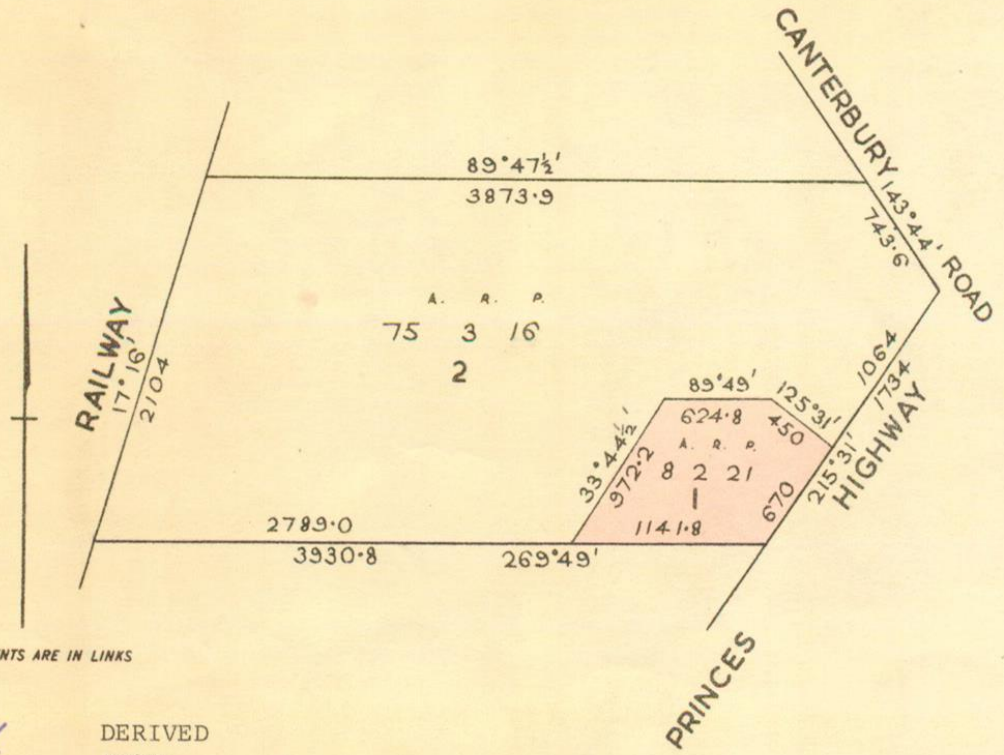
Issued under Regulation 12 on the approval of the above Plan of Subdivision -

L. G. McDonald

OFFICE OF TITLES VICTORIA

Assistant Registrar of Titles

ENCUMBRANCES REFERRED TO



MEASUREMENTS ARE IN LINKS

DERIVED
FROM
VOL. 4327
FOL. 349
14/10/'68.

COUNTRY ROADS BOARD

has pursuant to section 57 of Transfer of Land Act served a Notification relating to the compulsory acquisition of land comprised herein.

Dated 15 OCT 1971

Entered 22 OCT 1971

No. E 192210 *(Plan with letter)*

OFFICE OF TITLES H.I.N. VICTORIA

TRANSFER AS TO PART No. E. 398231.

registered 23rd MAY 1972

CANCELLED AS TO PART

See Vol. 8930 Fol. 877

~~Pt Lot~~

OFFICE OF TITLES R.R. VICTORIA

TRANSFER AS TO BALANCE No. H438589.

registered 9th March, 1979.

CANCELLED See Vol. 9329 Fol. 313

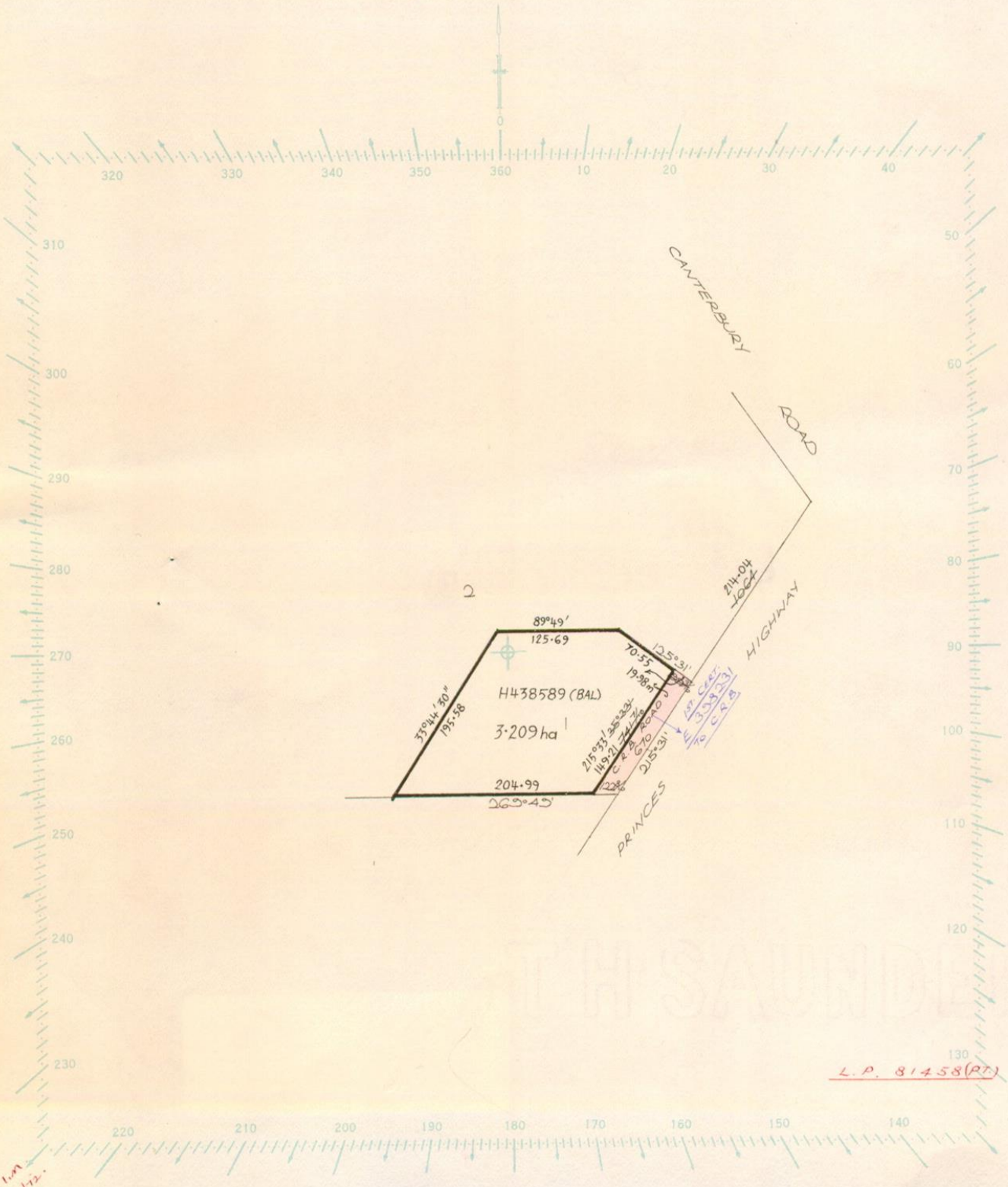
OFFICE OF TITLES R. L. VICTORIA

CANCELLED

SCALE: 600 LINKS. to one inch

Volume 8743. Folio 077.

METRIC MEASUREMENTS
SHOWN IN H438589



SK. 1.m
27/6/12.

Natural Resources and Environment

AGRICULTURE • RESOURCES • CONSERVATION • LAND MANAGEMENT

INTENTIONALLY BLANK

Produced 24/05/2019 11:45 AM

Volume 4327 Folio 349
Folio Creation: Created as paper folio continued as computer folio
Parent title Volume 02296 Folio 169A

STATEMENT END

VOTS Snapshot

NIL

Paper Title Images

4327/349 - Version 1, Date 22/02/2002

CANCELLED

Entered in the Register

Vol. 4327 *Fol.*

Vol 4327 Fol 349

PARCELS INDEX
SECONDARY STORAGE

VICTORIA.

Certificate of Title,

UNDER THE "TRANSFER OF LAND ACT 1915."

ORIGINAL CERTIFICATE.
Not to be dealt with outside the Titles Office.

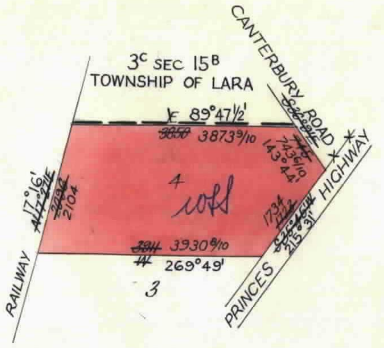
George William Thomas Morriss of Lara Farmer is - - - - - - - - - - - - - - - - *now the proprietor of an Estate in Fee-simple, subject to the Encumbrances notified hereunder in* All *that piece of Land, delineated and coloured* red on the map in the margin containing Eighty-four acres one rood and ~~Eighty-three acres two roods and~~ - - - - - - wsl thirty-seven perches ~~thirty-five perches~~ wsl or thereabouts being Crown Allotment Four Section Fourteen^A -- Parish of Moranghurk County of Grant -

Dated the Second *day of* June *One thousand nine hundred and* twenty.

Alfred Comport
Assistant Registrar of Titles.

ENCUMBRANCES REFERRED TO.

wsl
APPN. 6995 SEC 99
14 . 5 . 1968



THE WHOLE/OR PART OF THE WITHIN LAND HAS BEEN SUBDIVIDED SEE
Unregistered Plan 81458
Misc. Plan 81458
L.P. ....

The Measurements are in Links
2511

T04327-349-1-3

Vol. 2296 F 169A

Vol. 4 5916 9A Transfer. 943872 Application
2296

Amended No. W917437K
22 AUG 2000

OFFICE OF TITLES F.M. VICTORIA

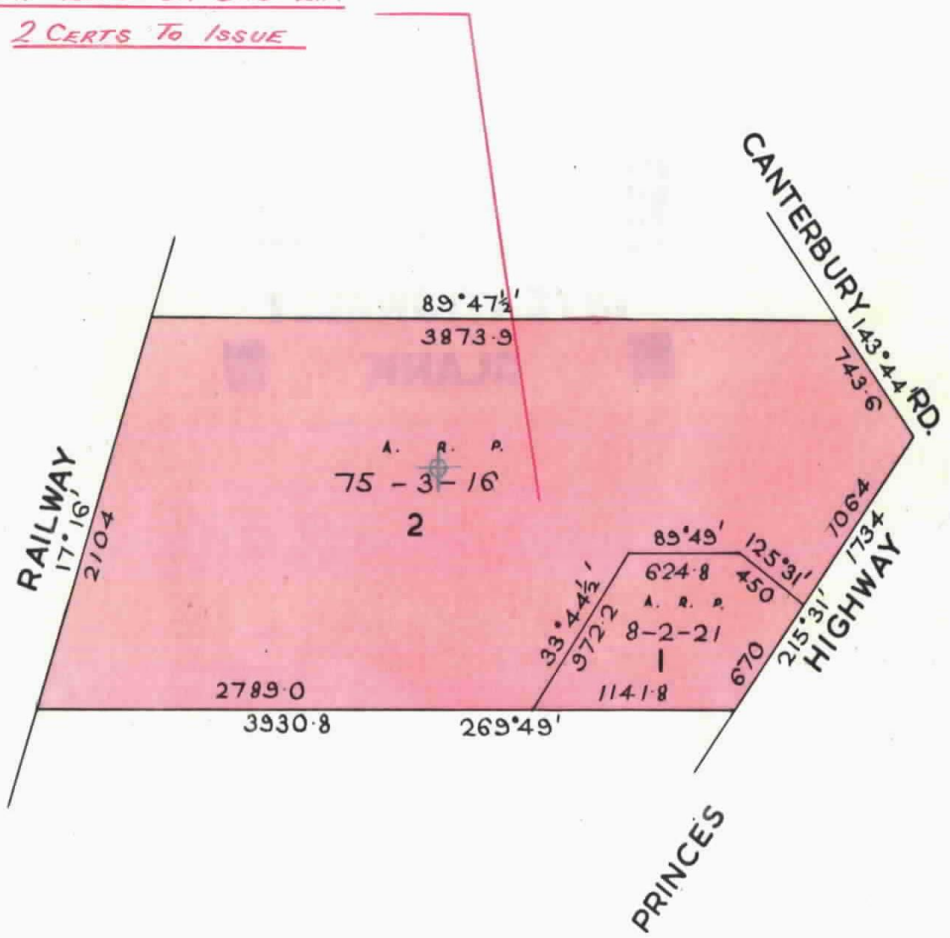
Nature of Instrument.	Time of its Production for Registration.	To whom given.	Number or Symbol thereon.
DISCHARGED Thos Gleeson Assistant Registrar of Titles. 8rd July 1923	2nd June 1920	To Eustace Giles Alfred Comport. Assistant Registrar of Titles	406290
MORTGAGE to Guy Beauchamp Hobart registered on 7th July 1923 and numbered 46[illegible] Thos Gleeson Assistant Registrar of Titles. DISCHARGED Assistant Registrar of Titles 12th September 1927		CANCELLED Pursuant to Regulation 12 and Titles issued as set out hereunder on 14th October 1968 Lots 1 and 2 in Vol 8743 Fol 077 and Vol 8743 Fol 078 OFFICE OF TITLES M.G. VICTORIA LP 81458	
MORTGAGE to Frederick Walter Purches registered on 13th September 1929 numbered 574017 Thos Gleeson Assistant Registrar of Titles DISCHARGED Assistant Registrar of Titles 13th September 1932		CANCELLED	
MORTGAGE to Albert Henry Joseph Hennett James Henderson and John Couper registered on 19th January 1939 numbered 768403 B. Henrison. Assistant Registrar of Titles DISCHARGED Assistant Registrar of Titles 27th April 1945			
Joya Lorraine Wyld of Stawell Street Werribee Married Woman is now the proprietor of the within described estate by transfer registered on - 8 FEB 1954 and numbered 2614767 11.3.54 J. Jenkins. Assistant Registrar of Titles			
MORTGAGE to Australia and New Zealand Bank Limited registered on 28 Feb 1956 numbered 1072167 J. Jenkins. Assistant Registrar of Titles DISCHARGED Assistant Registrar of Titles 29 APR 1957			
MORTGAGE to Leslie William Abley Alexander Edward Bone William Francis Temple and Albert Oliver Sick registered on 29 APR 1957 numbered A324881 A. McL. Whiteland Assistant Registrar of Titles DISCHARGED -4 AUG 1960 OFFICE OF TITLES F.M.H. VICTORIA			

SCALE: to one inch

Volume 4327 Folio 349

T04327-349-2-1

L.P. 81458 CANCELS THIS TITLE BEING
BOTH LOTS ON SAID L.P.
2 CERTS TO ISSUE



L.P. 81458

A. 8/11/68.

Natural Resources and Environment

AGRICULTURE · RESOURCES · CONSERVATION · LAND MANAGEMENT

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Produced 24/05/2019 12:07 PM

Volume 2296 Folio 169AA
Folio Creation: Details Unknown
Parent title Volume 00731 Folio 063

STATEMENT END

VOTS Snapshot

NIL

Paper Title Images

2296/169A - Version 0, Date 19/09/2000

Entered in the Register Book

Duplicate

Vol. 2296 Fol. 459169 A

Amended A
No. W917437K
22 AUG 2000

VICTORIA.

Certificate of Title,

UNDER THE "TRANSFER OF LAND ~~STATUTE~~" Act 1890.

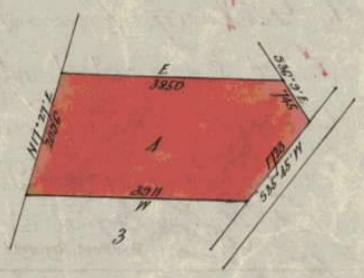
Lucretia Fink and Berenice Fink both of Victoria Parade East Melbourne Spinsters are as tenants in common now the proprietors of an Estate in Fee-simple, subject to the Encumbrances notified hereunder in All that piece of Land, delineated and coloured red on the Map in the margin, containing eighty three acres two roods and thirty five perches or thereabouts being Crown allotment four Section fourteen A. parish of Moranghurk County of Grant —

Dated the ninth day of September — One thousand eight hundred and ninety.

CANCELLED

Assistant Registrar of Titles.

ENCUMBRANCES REFERRED TO.



ORIGINAL CERTIFICATE.
Not to be dealt with outside the Titles Office.

The Measurements are in links

Vol. 731 Fol. 146063 Transfer 288191 Application

Nature of Instrument.	Day and Hour of its Production.	Names of the Parties to it.	Number or Symbol thereon.
Lease expired W.L. 20/8/11	The 22nd December 1893 at 10.46 a.m.	Lucretia Fink and Berenice Fink to Jacob Gillett W R Andrews Assistant Registrar of Titles.	6203
Jacob Gillett of Lara, near Geelong Farmer is now the proprietor of the within described Estate and Land by Transfer from the within named Lucretia Fink and Berenice Fink (Barrow formerly) registered on the 3rd day of May 1904, at 12.35 o'clock in the afternoon, and Numbered 487835 12.50 pm Wm Byrne Assistant Registrar of Titles.			
Mortgage DISCHARGED ASST. REGR. OF TITLES 21st August 1911	The 9th May 1904 at 11.10 a.m.	Jacob Gillett to Charles Meredith Poynter Wm Byrne Assistant Registrar of Titles.	226924
Mortgage DISCHARGED ASST. REGR. OF TITLES 21st August 1911	The 20th April 1906 at 9.30 am	Jacob Gillett to Charles Meredith Poynter Wm Byrne Assistant Registrar of Titles.	241926
Alfred Orchard of North Geelong farmer is now the proprietor of the within-described Estate and Land pursuant to a Transfer from the above named Jacob Gillett registered on the 21st day of August 1911 at 2.8 o'clock in the afternoon and Numbered 659403 L J H Osborne Assistant Registrar of Titles.			
Mortgage DISCHARGED ASSISTANT REGISTRAR OF TITLES 2nd June 1930	The 21st day of August 1911 at 2.8 o'clock in the afternoon	Alfred Orchard to Arthur Orlando Hall L J H Osborne Assistant Registrar of Titles.	296750

For continuation of Endorsements see attached sheet marked A

Nature of Instrument.	Day and Hour of its Production.	Names of the Parties to it.	Number or Symbol thereon.
		Assistant Registrar of Titles.	
		Assistant Registrar of Titles.	
		Assistant Registrar of Titles.	
		Assistant Registrar of Titles.	
		Assistant Registrar of Titles.	
		T02296-169-00A-2-8 *Assistant Registrar of Titles.*	

This is the Sheet marked A *referred to in the Certificate of Title entered in the Register Book Vol.* 2296 *Fol.* 459169

Assistant Registrar of Titles.

Nature of Instrument.	Day and Hour of its Production.	Names of the Parties to it.	Number or Symbol thereon.
Mortgage	14th August 1915 at 10.2 am	Alfred Orchard to The Board of Land and Works *Assistant Registrar of Titles.*	350856
DISCHARGED Mortgage 6th March 1919			

Nature of Instrument.	Time of its Production for Registration.	To whom given	Number or Symbol thereon.
Transfer cancelled see Certificate of Title Vol. 4327 Fol. 865349	2nd June 1920	To George William Thomas Morriss Alfred Compton *Assistant Registrar of Titles.*	943872
		Assistant Registrar of Titles.	
		Assistant Registrar of Titles.	
		Assistant Registrar of Titles.	
		Assistant Registrar of Titles.	

Produced 24/05/2019 12:30 PM

Volume 731 Folio 063
Folio Creation: Details Unknown

STATEMENT END

VOTS Snapshot

NIL

Paper Title Images

731/063 - Version 0, Date 17/08/2000

Sec 31 ~~22~~ Act 1869

1169

Entered in the Register Book.
Vol. 731 Folio 146063

Registrar of Titles.

Victoria by the Grace of God of the United Kingdom of Great Britain and Ireland QUEEN Defender of the Faith to all to whom these presents shall come GREETING **Whereas** in conformity with the laws relating to the sale and occupation of Crown Lands in our Colony of Victoria the person hereinafter named has in consideration of the sum of eighty four pounds which sum has been duly paid to us become entitled to a grant in fee-simple of the land hereinafter described

Now know ye that in consideration of the sum so paid and in pursuance of *The Land Act* 1869 WE DO HEREBY GRANT unto Moses Fink of Melbourne

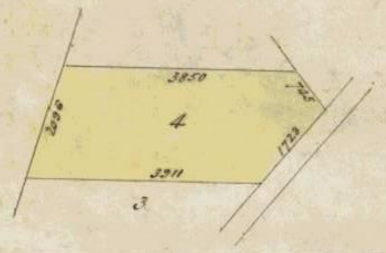
his heirs and assigns ALL THAT PIECE OF LAND in the said Colony containing eighty three acres two roods and thirty five perches or thereabouts and more particularly described in the Schedule hereto and delineated with the measurements and abuttals thereof in the map drawn in the margin of these presents and therein colored yellow To HOLD unto the said Moses Fink

his heirs and assigns for ever

EXCEPTING however unto us our heirs and successors all gold and auriferous earth or stone and all mines containing gold within the boundaries of the said land AND ALSO reserving to us our heirs and successors full liberty and authority for us our heirs and successors and our and their agents and servants at any time or times hereafter to enter upon the said land and to search and mine therein for gold and to extract and remove therefrom any gold and any auriferous earth or stone and for the purposes aforesaid to sink shafts erect machinery carry on any works and do any other things which may be necessary or usual in mining PROVIDED ALWAYS that it shall be lawful for us our heirs and successors at any time on paying full compensation to the said Moses Fink

his heirs executors administrators or assigns for the value other than auriferous of the said piece of land or of so much thereof as may be resumed as hereinafter mentioned and of the improvements upon the said piece of land or the part so resumed such value in case of disagreement to be ascertained by arbitration to resume the said piece of land or any part thereof for mining purposes AND THAT the terms conditions and events upon which such land may be resumed and the manner in which such arbitration may be conducted may be determined by regulations in such manner as the Governor in Council may from time to time direct or if at any time no such regulations shall be in force then by the regulations concerning the resumption of land for mining purposes in force at the date of this Grant unless Parliament shall otherwise determine **In testimony whereof** we have caused this our Grant to be sealed with the seal of the said Colony **Witness** our trusty and well-beloved SIR GEORGE FERGUSON BOWEN Knight Grand Cross of our Most Distinguished Order of Saint Michael and Saint George Governor and Commander-in-Chief of the said Colony of Victoria and its Dependencies and Vice-Admiral of the same at Melbourne this thirty first day of July in the thirty eighth year of our Reign and in the year of our Lord One thousand eight hundred and seventy four

S. W. Bowen



185

SCHEDULE.

Situation of Land.	Number on Survey Map.	Superficial Extent or thereabouts. Acres.	Roods.	Perches.	Boundaries.
County of Grant	Section fourteen A				Commencing at the north west angle of the allotment and bounded on the north by a line bearing east thirty eight chains fifty links on the north east by a line bearing south thirty six degrees nine minutes east seven chains forty five links on the south east by a road three chains wide bearing south thirty five degrees forty five minutes west seventeen chains twenty three links on the south by allotment three bearing west thirty nine chains eleven links and on the west by a line bearing north seventeen degrees twenty seven minutes east twenty chains ninety six links to the commencing point
	Allotment four	83	2	35	
Parish of Warangburk	~~Subdivision~~				

M A F 166

MEMORIALS OF INSTRUMENTS.

Nature of Instrument.	Time of its Production for Registration.	Names of the Parties to it.	Number or Symbol thereon.
Lease	The 18th day of June 1875, at 2 : 26 o'clock in the after noon.	Moses Fink to John Nathaniel Street C. Henry Act. Regr. of Titles	752
Lease	The 23rd day of July 1877 at 12 38 o'clock in the afternoon	Moses Fink to John Wild Branch Act. Regr. of Titles	1370.
Affirm No. 106.90 Wolfe Fink of Melbourne Chambers Little Collins Street Melbourne Barrister at Law is registered as Proprietor of the within described land as Administrator to whom Administration of the Estate of Moses Fink who died on the 19th of July 1885 was granted on the 27th of August 1885 Dated the 9th of September 1890 20.9.90 Act. Regr. of Titles			
Transfer	The 9th September 1890 at 2 27 pm	Wolfe Fink to Lucretia Fink and Berenice Fink Act. Regr. of Titles	288191

2296 459169

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 09925 FOLIO 167

Security no : 124077614541W
Produced 24/05/2019 01:24 PM

LAND DESCRIPTION

Crown Allotment 3C Section 15B Township of Lara Parish of Moranghurk.
PARENT TITLE Volume 09824 Folio 024
Created by instrument P269748P 23/06/1989

REGISTERED PROPRIETOR

Estate Fee Simple
TENANTS IN COMMON
As to 1 of a total of 2 equal undivided shares
Joint Proprietors
    DAVID JAMES NASH of 63 RHINDS ROAD WALLINGTON VIC 3221
    TREVOR CLARENCE NASH of 815 PRINCES HIGHWAY LARA VIC 3212
    JOHN ALBERT NASH of FLAT 2814, TUNG HING HOUSE, LEI TUNG ESTATE, AP LEI CHAU HONG KONG Legal Personal Representative(s) of JAMES SAMPSON NASH deceased
    AF261419M 09/08/2007
As to 1 of a total of 2 equal undivided shares
Sole Proprietor
    DONALD NASH of 100 WILSONS RD NEWCOMB
    P628835A 25/01/1990

ENCUMBRANCES, CAVEATS AND NOTICES

For details of any other encumbrances see the plan or imaged folio set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE TP785257R FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

----------END OF REGISTER SEARCH STATEMENT----------

Additional information: (not part of the Register Search Statement)

Street Address: 76-156 CANTERBURY ROAD EAST LARA VIC 3212

DOCUMENT END

Imaged Document Cover Sheet

The document following this cover sheet is an imaged document supplied by LANDATA®, Land Use Victoria.

Document Type	**Plan**
Document Identification	**TP785257R**
Number of Pages (excluding this cover sheet)	**1**
Document Assembled	**24/05/2019 13:25**

TITLE PLAN		EDITION 1	TP 785257R

Location of Land

Parish: MORANGHURK
Township: LARA
Section: 15B
Crown Allotment: 3C
Crown Portion:

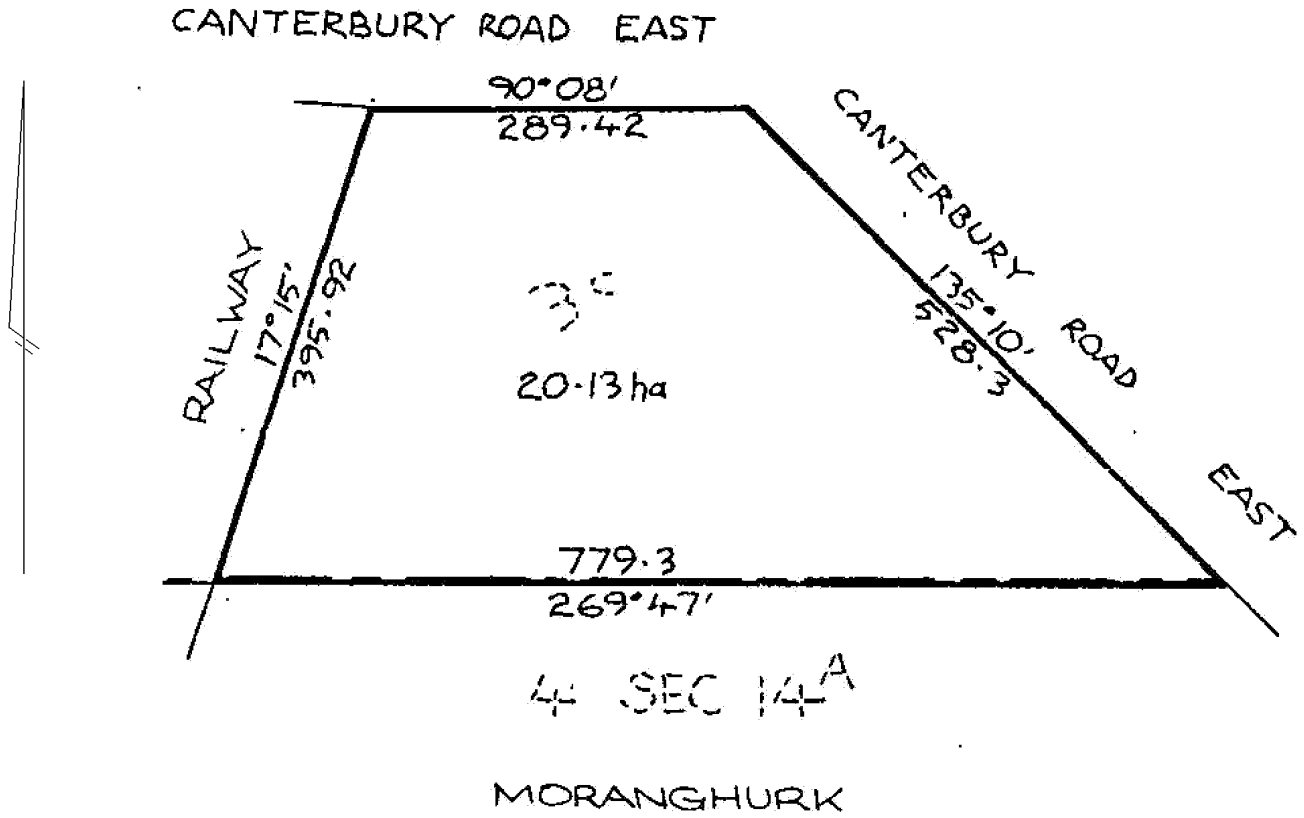
Last Plan Reference:
Derived From: VOL 9925 FOL 167
Depth Limitation: NIL

Notations

ANY REFERENCE TO MAP IN THE TEXT MEANS THE DIAGRAM SHOWN ON THIS TITLE PLAN

Description of Land / Easement Information

THIS PLAN HAS BEEN PREPARED FOR THE LAND REGISTRY, LAND VICTORIA, FOR TITLE DIAGRAM PURPOSES AS PART OF THE LAND TITLES AUTOMATION PROJECT
COMPILED: 18/05/2003
VERIFIED: L.S.



LENGTHS ARE IN METRES	Metres = 0.3048 x Feet Metres = 0.201168 x Links		Sheet 1 of 1 sheets

Produced 24/05/2019 01:25 PM

Volume 9925 Folio 167
Folio Creation: Created as paper folio continued as computer folio
Parent title Volume 09824 Folio 024

THE IMAGE OF THE FOLIO CEASED TO BE THE DIAGRAM LOCATION ON 28/05/2003 05:00:25 AM

RECORD OF HISTORICAL DEALINGS

Date Lodged for Registration	Date Recorded on Register	Dealing	Imaged	Dealing Type and Details

RECORD OF VOTS DEALINGS

Date Lodged for Registration	Date Recorded on Register	Dealing	Imaged
21/08/2006	21/08/2006	AE555572Y	Y

CAVEAT
    CAVEAT AE555572Y 21/08/2006
    Caveator
    AMY JOYCE NASH
    Capacity SEE CAVEAT
    Lodged by
    FAULKNER E
    Notices to
    FAULKNER E of 12 ABERDEEN STREET GEELONG VIC 3220

09/08/2007	09/08/2007	AF261419M	Y

TRANSMISSION APPLICATION
    FROM:
    JAMES SAMPSON NASH
    TO:
    DAVID JAMES NASH
    TREVOR CLARENCE NASH
    JOHN ALBERT NASH

    RESULTING PROPRIETORSHIP:
    Estate Fee Simple
    TENANTS IN COMMON
    As to 1 of a total of 2 equal undivided shares
    Joint Proprietors
        DAVID JAMES NASH of 63 RHINDS ROAD WALLINGTON VIC 3221
        TREVOR CLARENCE NASH of 815 PRINCES HIGHWAY LARA VIC 3212
        JOHN ALBERT NASH of FLAT 2814, TUNG HING HOUSE, LEI TUNG ESTATE,
        AP LEI CHAU HONG KONG Legal Personal Representative(s) of JAMES
        SAMPSON NASH who died on 22/06/2006
        AF261419M 09/08/2007
    As to 1 of a total of 2 equal undivided shares
    Sole Proprietor
        DONALD NASH of 100 WILSONS RD NEWCOMB
        P628835A 25/01/1990

05/08/2014	16/09/2014	AL273707M	Y

APPLICATION TO REMOVE CAVEAT
CAVEAT AE555572Y REMOVED

STATEMENT END

VOTS Snapshot

Volume 09925 Folio 167
124018836552Q
Produced 21/08/2006 10:46 am

LAND DESCRIPTION

Crown Allotment 3C Section 15B Township of Lara Parish of Moranghurk.
PARENT TITLE Volume 09824 Folio 024
Created by instrument P269748P 23/06/1989

REGISTERED PROPRIETOR

Estate Fee Simple
TENANTS IN COMMON
As to 1 of a total of 2 equal undivided shares
Sole Proprietor
JAMES SAMPSON NASH of 100 WILSONS RD NEWCOMB
As to 1 of a total of 2 equal undivided shares
Sole Proprietor
DONALD NASH of 100 WILSONS RD NEWCOMB
P628835A 25/01/1990

ENCUMBRANCES, CAVEATS AND NOTICES

For details of any other encumbrances see the plan or imaged folio set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE TP785257R FOR FURTHER DETAILS AND BOUNDARIES

Paper Title Images

9925/167 - Version 1, Date 18/02/2000

P269748P (2nd Cert)

ORIGINAL

NOT TO BE TAKEN FROM THE OFFICE OF TITLES

VICTORIA

REGISTER BOOK

VOL. 9925 FOL. 167

Certificate of Title

UNDER THE "TRANSFER OF LAND ACT"

FOL.

VOL.

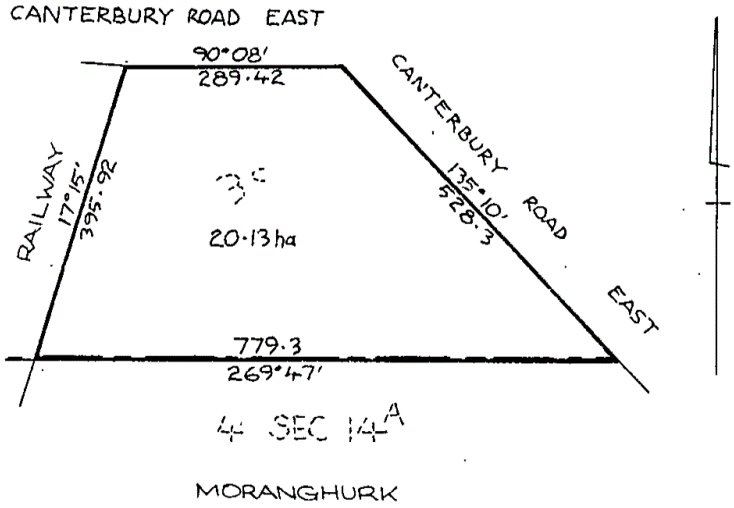
HELEN MARGERY BRYCE OF 18 GORDON STREET HAMPTON AND FRANCES ELIZABETH WILLMOTT OF 8 RUYTON STREET BURWOOD (EXECUTRICES OF THE WILL OF IVAN JAMES LEWIS DECEASED WHO WAS THE SURVIVING EXECUTOR OF THE WILL OF ABRAHAM ALEXANDER MCCLELLAND DECEASED) ARE JOINT PROPRIETORS OF AN ESTATE IN FEE SIMPLE SUBJECT TO THE ENCUMBRANCES NOTIFIED HEREUNDER IN ALL THAT PIECE OF LAND IN THE TOWNSHIP OF LARA PARISH OF MORANGHURK BEING CROWN ALLOTMENT 3^{C} SECTION 15^{B} WHICH LAND IS SHOWN ENCLOSED BY CONTINUOUS LINES ON THE MAP HEREON -

DATE: 23/6/89
DERIVED FROM VOL.9824 FOL.024 P269748P

ENCUMBRANCES

OFFICE OF TITLES VICTORIA

M. W. Goodwin
Assistant Registrar of Titles



T09925-167-1-1

MEASUREMENTS ARE IN METRES

VOL. 9925 FOL. 167

PROPRIETOR

ETHEL McCLELLAND OF UNIT 9

12 PETERSEN ST.SOMERTON PARK

SOUTH AUSTRALIA

REGISTERED 9/1/90

P604551M

OFFICE OF TITLES M.L.P. VICTORIA

PROPRIETORS

TENANTS IN COMMON IN EQUAL SHARES

JAMES SAMPSON NASH & DONALD NASH

OF 100 WILSONS RD. NEWCOMB

REGISTERED 25/1/90

~~R628835A~~

P628835A

OFFICE OF TITLES M.L.P. VICTORIA

Amended (ONLY) ENDORSED No. W568661V 11-2-00

OFFICE OF TITLES T.P.V. VICTORIA

Produced 24/05/2019 01:40 PM

Volume 9824 Folio 024
Folio Creation: Details Unknown
Parent title Volume 06663 Folio 401

STATEMENT END

VOTS Snapshot

NIL

Paper Title Images

9824/024 - Version 0, Date 06/04/1999

N440101N

CANCELLED

REGISTER BOOK

VOL. 9824 FOL. 024

ORIGINAL

NOT TO BE TAKEN FROM THE OFFICE OF TITLES

VICTORIA

Certificate of Title

UNDER THE "TRANSFER OF LAND ACT"

50

IVAN JAMES LEWIS OF 89 MYERS STREET GEELONG (SURVIVING EXECUTOR OF THE WILL OF ABRAHAM ALEXANDER MCCLELLAND DECEASED) IS THE PROPRIETOR OF AN ESTATE IN FEE SIMPLE SUBJECT TO THE ENCUMBRANCES NOTIFIED HEREUNDER IN ALL THOSE PIECES OF LAND BEING CROWN ALLOTMENTS 3^B AND 3^C AND PART OF CROWN ALLOTMENT 2 SECTION 15^B IN THE TOWNSHIP OF LARA AND PART OF CROWN PORTION B SECTION 14 AND PARTS OF CROWN ALLOTMENTS ONE AND 2 SECTION 14^A ALL IN THE PARISH OF MORANGHURK WHICH LAND IS SHOWN ENCLOSED BY CONTINUOUS LINES ON THE MAP ON THE SHEET ANNEXED HERETO THE SAID PART OF CROWN ALLOTMENT 2 SECTION 14^A BEING LIMITED TO SO MUCH AS LIES ABOVE THE DEPTH OF - - - - "15.24 METRES" BELOW THE SURFACE -

FOL.

VOL.

DATE: 6/5/88
DERIVED FROM VOL.6663 FOL.401 N440101N

ENCUMBRANCES

AS TO THE LAND SHOWN MARKED "E-1"
THE EASEMENT TO THE SHIRE OF CORIO
CREATED BY INSTRUMENT L652163M

OFFICE OF TITLES VICTORIA

P. Riddicombe
Assistant Registrar of Titles

T09824-024-1-1

MEASUREMENTS ARE IN METRES

VOL. 9824 FOL. 024

SO

IVAN JAMES LEWIS DIED ON 30/12/88

PROBATE OF HIS WILL HAS BEEN GRANTED TO

FRANCES ELIZABETH WILLMOTT OF 8 RUYTON ST.

BURWOOD AND HELEN MARGERY BRYCE OF 18

GORDON ST. HAMPTON

REGISTERED 23/6/89

P269747S

OFFICE OF TITLES K. P. VICTORIA

CANCELLED

APPLICATION No. P269748P

Registered 23 JUN 1989

See Vol. 9925 Fol. 166

to VOL. 9925 FOL. 171

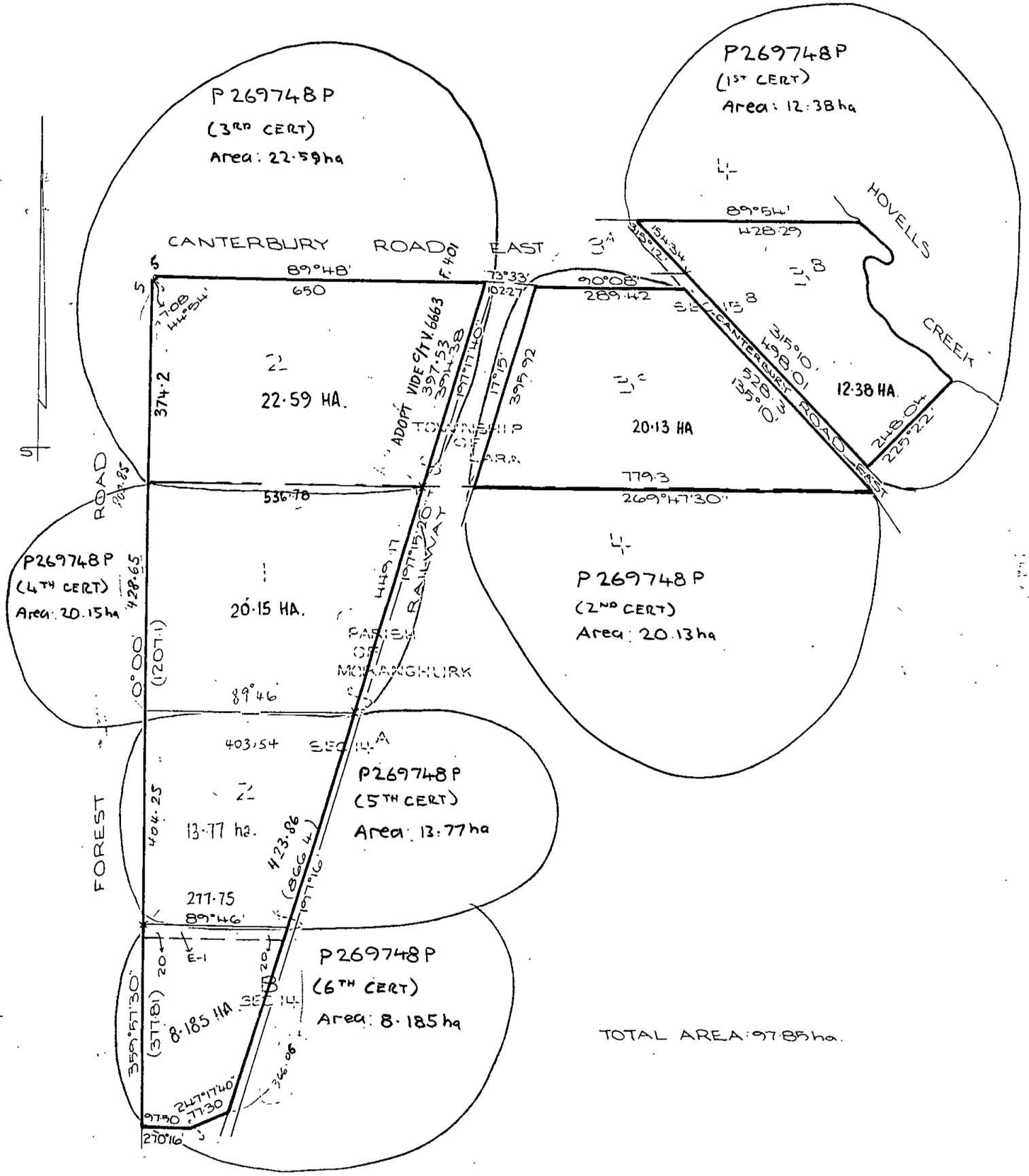
(B.I.)

OFFICE OF TITLES K. P. VICTORIA

CANCELLED

ANNEXED SHEET REFERRED TO IN
CERTIFICATE OF TITLE VOL. 9824 FOL. 024

P. Huddlecombe
ASSISTANT REGISTRAR OF TITLES



T09824-024-2-0

Natural Resources and Environment

AGRICULTURE • RESOURCES • CONSERVATION • LAND MANAGEMENT

INTENTIONALLY BLANK

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 06663 FOLIO 401

Security no : 124077615784V
Produced 24/05/2019 02:06 PM

LAND DESCRIPTION

Road R1 on Plan of Subdivision 055117.
PARENT TITLES :
Volume 03372 Folio 372 Volume 06363 Folio 413
Volume 06363 Folio 415 to Volume 06363 Folio 417
Volume 06598 Folio 473
Created by instrument 4123591R 19/11/1943

REGISTERED PROPRIETOR

Estate Fee Simple
Sole Proprietor
ETHEL MCCLELLAND of UNIT 9 12 PETERSEN STREET SOMERTON PARK SA
P604551M 09/01/1990

ENCUMBRANCES, CAVEATS AND NOTICES

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan or imaged folio set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE LP055117 FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

DOCUMENT END

Produced 24/05/2019 02:07 PM

Volume 6663 Folio 401
Folio Creation: Created as paper folio continued as computer folio

Parent titles :
Volume 03372 Folio 372 Volume 06363 Folio 413
Volume 06363 Folio 415 to Volume 06363 Folio 417
Volume 06363 Folio 415 to Volume 06363 Folio 417Volume 06598 Folio 473

THE IMAGE OF THE FOLIO CEASED TO BE THE DIAGRAM LOCATION ON 20/11/2013 08:22:22 AM

RECORD OF HISTORICAL DEALINGS

Date Lodged for Registration	Date Recorded on Register	Dealing	Imaged	Dealing Type and Details

RECORD OF VOTS DEALINGS

Date Lodged for Registration	Date Recorded on Register	Dealing	Imaged
20/11/2013	20/11/2013	AK726433L	N

RECTIFICATION- LAND DESCRIPTION LOT,CROWN,FORMER
Road R1 on Plan of Subdivision 055117.
Being the land remaining untransferred in this folio
PARENT TITLES :
Volume 03372 Folio 372 Volume 06363 Folio 413
Volume 06363 Folio 415 to Volume 06363 Folio 417
Volume 06598 Folio 473
Created by instrument 4123591R 19/11/1943

20/11/2013	20/11/2013	AK726434J	N

RECTIFICATION FOLIO FREE TEXT

20/11/2013	20/11/2013	AK726435G	N

RECTIFICATION DIAGRAM LOCATION
Previous diagram reference: TP893117F
New diagram reference: LP055117
SEE LP055117 FOR FURTHER DETAILS AND BOUNDARIES

STATEMENT END

VOTS Snapshot

VOLUME 06663 FOLIO 401
124048265540K
Produced 20/11/2013 06:20 pm

LAND DESCRIPTION

Lot 1 on Title Plan 893117F.
Being the land remaining untransferred in this folio
PARENT TITLES :
Volume 03372 Folio 372 Volume 06363 Folio 413
Volume 06363 Folio 415 to Volume 06363 Folio 417
Volume 06598 Folio 473
Created by instrument 4123591R 19/11/1943

REGISTERED PROPRIETOR

Estate Fee Simple
Sole Proprietor
ETHEL MCCLELLAND of UNIT 9 12 PETERSEN STREET SOMERTON PARK SA
P604551M 09/01/1990

ENCUMBRANCES, CAVEATS AND NOTICES

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE DIAGRAM ON IMAGED FOLIO VOLUME 6663 FOLIO 401 FOR FURTHER DETAILS AND BOUNDARIES

Paper Title Images

6663/401 - Version 0, Date 02/09/1999

T06663-401-1-1

Entered in the Register Book

Vol. 6663 Fol. 1332401

VICTORIA.

Certificate of Title,

UNDER THE "TRANSFER OF LAND ACT 1928."

11-2-44

INDEX PLAN No. 243
PARCEL No. 509, 510
INDEX PLAN No. 244
PARCEL No. ~~507 508~~ 8 520 521
INDEX PLAN No. 245
PARCEL No. ~~505~~ 506 & 513

Abraham Alexander McClelland of Lara Grazier is - - - - - - - - - - - - - - - - - *now the proprietor of an Estate in Fee-simple, subject to the Encumbrances notified hereunder in* All th ose *pieces of Land, delineated and coloured* red on the map on the sheet annexed hereto and in the surface and down to the depth of fifty feet below the surface of ALL THOSE pieces of land delineated and colored-purple on the said map containing altogether Five hundred and fourteen acres Three-roods Thirty-nine perches and four-tenths of a perch or thereabouts being part of-- Crown Portion A Section Fifteen, Crown Allotments Two, Three^{B} and Three^{C} and --- Subdivisions Four, Five, Six, Seven, Eight and Nine of Crown Allotment One Section Fifteen^{B} Town of Lara, part of Crown Portion B Section Fourteen and Crown -------- Allotments One and Two Section Fourteen^{A} all in the Parish of Moranghurk, part of-- of Crown Allotment A Section Six and part of Crown Allotment Nine^{B} Section Eleven Town of Lara Parish of Woornyalook County of Grant - - - - - - - - - - - - -

Dated the Nineteenth *day of* November *thousand nine hundred and* forty-three.

Assistant Registrar of Titles.

ORIGINAL CERTIFICATE.

Not to be dealt with outside the Titles Office.

LP. 35/84 18966

LP 20413

374

72/93 -34429

ENCUMBRANCES REFERRED TO.

As to parts of the land ---

MORTGAGE Book 562 No.978 - - - - - - -

As to another part of the land ---

MORTGAGE No.790034 in the Register Book

As to other parts of the land ---

MORTGAGE No.790035 in the Register Book

Discharged

MEMO
The first encumbrance notified hereon has been removed.
Dated 9th February 1945.
T. Adros
Assistant Registrar of Titles

A11815

The above Mortgages Nos 790034 and 79
are
DISCHARGED
Assistant Registrar of Titles
9th February 1945

PART OF THE WITHIN LAND IS ... AS ... ON ... LP. 18966 20413

THE WHOLE OR PART OF THE ... LAND HAS BEEN SUBDIVIDED SEE Unregistered Plan ~~97/81~~
Misc. Plan
P. 55117 N° B361639

The Measurements are in

Vols 3372, 6363, 6363, 6598. Fols 674372, 1272413, 1272415 to 417 inc, 1319473. Transfer. Application.

Red Tab No. 4123591

TRANSFER AS TO PART to Ian McLean Turner registered on 27th February 1946 numbered 1989297 CANCELLED AS TO PART See Certificate of Title Vol. 7135 Fol. 1426903 F.O. Hewison
Area - 28a-1r-24p Assistant Registrar of Titles

TRANSFER AS TO PART to Stanley Bond Maynard registered on 15th June 1949 numbered 2221945 CANCELLED AS TO PART See Certificate of Title Vol. 7281 Fol. 1456033 F.O. Hewison Assistant Registrar of Titles

TRANSFER AS TO PART to Stanley Bond Maynard registered on 8th February 1950 numbered 2282747 CANCELLED AS TO PART See Certificate of Title Vol. 7364 Fol. 1472713 W.C. Tordoff Assistant Registrar of Titles

TRANSFER AS TO PART to Graham Gillett registered on 2nd May 1951 numbered 2400767 CANCELLED AS TO PART See Certificate of Title Vol. 7555 Fol. 112 W.P. Fitzgerald Assistant Registrar of Titles

TRANSFER AS TO PART to William Lorimer Orr and Jean Gill Orr registered on 8th May 1951 numbered 2401698 CANCELLED AS TO PART See Certificate of Title Vol. 7679 Fol. 098 F.O. Hewison Assistant Registrar of Titles

TRANSFER AS TO PART to Harry Laherty registered on 10th May 1951 numbered 2402069 CANCELLED AS TO PART See Certificate of Title Vol. 7679 Fol. 099 F.O. Hewison Assistant Registrar of Titles

TRANSFER AS TO PART to William Carling and Mary Ellen Carling registered on 27th July 1951 numbered 2423307 CANCELLED AS TO PART See Certificate of Title Vol. 7679 Fol. 100 F.O. Hewison Assistant Registrar of Titles

TRANSFER AS TO PART to George Richard Guthridge registered on 12th Sept. 1951 numbered 2435806 CANCELLED AS TO PART See Certificate of Title Vol. 7679 Fol. 101 F.O. Hewison Assistant Registrar of Titles

TRANSFER AS TO PART to Loris Desmond Summers and Emma Mary Summers registered on 19th Sept. 1951 numbered 2437566 CANCELLED AS TO PART See Certificate of Title Vol. 7679 Fol. 102 F.O. Hewison Assistant Registrar of Titles
Area 1R 8P 37

TRANSFER AS TO PART to Colin Orr registered on 26th Sept. 1951 numbered 2440901 CANCELLED AS TO PART See Certificate of Title Vol. 7679 Fol. 103 F.O. Hewison Assistant Registrar of Titles

TRANSFER AS TO PART to Robert Glencairn Dando registered on 3rd Oct. 1951 numbered 2444944 CANCELLED AS TO PART See Certificate of Title Vol. 7679 Fol. 104 F.O. Hewison Assistant Registrar of Titles

TRANSFER AS TO PART to John Cluwen registered on 17th Oct. 1951 numbered 2447172 CANCELLED AS TO PART See Certificate of Title Vol. 7679 Fol. 105 F.O. Hewison Assistant Registrar of Titles

TRANSFER AS TO PART to George Frederick Guthridge registered on 17th Oct. 1951 numbered 2447173 CANCELLED AS TO PART See Certificate of Title Vol. 7679 Fol. 106 F.O. Hewison Assistant Registrar of Titles

TRANSFER AS TO PART to Thomas Maynard registered on 27th Dec. 1951 numbered 2451840 CANCELLED AS TO PART See Certificate of Title Vol. 7679 Fol. 107 F.O. Hewison Assistant Registrar of Titles

TRANSFER AS TO PART to Ronald Victor Richards registered on 8th Jan. 1952 numbered 2451836 CANCELLED AS TO PART See Certificate of Title Vol. 7679 Fol. 108 F.O. Hewison Assistant Registrar of Titles

Continuation of Endorsement see annexed sheet marked A

This is the Sheet marked A referred to in Certificate of Title entered in the Register Book Vol. 6663 Fol. 401

J. F. Sweeney
Assistant Registrar of Titles.

ORIGINAL

F

TRANSFER AS TO PART to George Kuskin registered on -5 DEC 1951 numbered 2459372
CANCELLED AS TO PART See Certificate of Title Vol. 7774 Fol. 191
J. F. Sweeney
Assistant Registrar of Titles

TRANSFER AS TO PART to Wasily Kawoljenko registered on 23 APR 1952 numbered 2484340
CANCELLED AS TO PART See Certificate of Title Vol. 7774 Fol. 192
J. F. Sweeney
Assistant Registrar of Titles

TRANSFER AS TO PART to Thomas Strah registered on 23 APR 1952 numbered 2484341
CANCELLED AS TO PART See Certificate of Title Vol. 7774 Fol. 193
J. F. Sweeney
Assistant Registrar of Titles

TRANSFER AS TO PART to Johan Bluwen registered on 13 AUG 1953 numbered 2580676
CANCELLED AS TO PART See Certificate of Title Vol. 7950 Fol. 126
E. Harrison
Assistant Registrar of Titles

TRANSFER AS TO PART to H. Wise and Co. Proprietary Limited registered on 23 JUN 1954 numbered 2648806
CANCELLED AS TO PART See Certificate of Title Vol. 8049 Fol. 452
A W Mitchell
Assistant Registrar of Titles

TRANSFER AS TO PART to Graham John Newell registered on 8 Aug 1955 numbered A 19578
CANCELLED AS TO PART See Certificate of title Vol. 8089 Fol. 550
L. Kennedy
Assistant Registrar of Titles
Area 3A 1R 31 3/10 P

TRANSFER AS TO PART No. A508699
registered 11th April 1958
CANCELLED AS TO PART See Vol. 8190 Fol. 746
B. A. Stephens
Assistant Registrar of Titles
Lot 1 P/S 20413

CAVEAT No. A746198 LODGED 28th May 1959
Affecting part of the land herein ~~Lot No.~~ PLAN
CAVEAT LAPSED 21 JUL 1967
OFFICE OF TITLES B.D.D. VICTORIA

TRANSFER AS TO PART No. A677714
registered 27th January 1959
CANCELLED AS TO PART See Vol. 8215 Fol. 459
OFFICE OF TITLES R.C. VICTORIA

TRANSFER AS TO PART No. B11541
registered 13 July 1960
CANCELLED AS TO PART See Vol. 8272 Fol. 235
OFFICE OF TITLES J.R. VICTORIA

CANCELLED as to part
Pursuant to Regulation 12 and Titles issued as set out hereunder on 10 April 1962
Lots 1 – 30 Vol. 8345 Fol. 450 – 479
OFFICE OF TITLES M.A. VICTORIA

Cancel.

TRANSFER AS TO PART No. B397606
registered 6 April 1962
CANCELLED AS TO PART See Vol. 8378 Fol. 839
Area 5 acres
OFFICE OF TITLES M.A. VICTORIA

TRANSFER AS TO PART and CREATION OF EASEMENT No. B468985 registered 25 July 1962
CANCELLED AS TO PART See Vol. 8419 Fol. 041
Area 4A-0R-0P
OFFICE OF TITLES M.A. VICTORIA

SO

ABRAHAM ALEXANDER MC CLELLAND died on 5th July 1964
Probate of his Will has been granted to JEAN MC CLELLAND of Lara Widow and WILLIAM HENRY DANDO of Lara Lake Farmer
Dated 7th October 1965
No. C330606
OFFICE OF TITLES R. L. VICTORIA

TRANSFER AS TO PART and CREATION OF EASEMENT No. 652325 registered 30th NOVEMBER 196
CANCELLED AS TO PART See Vol. 8666 Fol. 497
176A – 1R – 16 2/10 P
OFFICE OF TITLES G. M. VICTORIA

TRANSFER AS TO PART No. C701408
registered 10th February 1967
CANCELLED AS TO PART See Vol. 8679 Fol. 768
OFFICE OF TITLES G.J.S. VICTORIA

SO

WILLIAM HENRY DAINO is now the SURVIVING PROPRIETOR
Registered 25th August 1971
No.E141586

OFFICE OF TITLES N.W.O. VICTORIA

SO

Probate of the Will of ABRAHAM ALEXANDER McCLELLAND deceased has also pursuant to his rights under the Will been granted to IVAN JAMES LEWIS of 89 Myers Street Geelong Solicitor
Registered 23rd February 1972
No.E312091

OFFICE OF TITLES L.A.R.

TRANSFER AS TO PART No J 213315
registered 29th October 1980
CANCELLED AS TO PART
See Vol. 9428 Fol. 450

OFFICE OF TITLES I.R.S. VICTORIA

TRANSFER AS TO PART No. J 816643
registered 12th February 1982.
CANCELLED AS TO PART
See Vol. 9468 Fol. 219
Area 1·709 ha.

OFFICE OF TITLES I.R.S. VICTORIA

TRANSFER AS TO PART No. L505054V
registered 11 FEB 1985
CANCELLED AS TO PART
See Vol. 9623 Fol. 672

OFFICE OF TITLES J.R.V. VICTORIA

CREATION OF EASEMENT
REGISTERED 7/5/85
L652163M

OFFICE OF TITLES J.R.V. VICTORIA

IVAN JAMES LEWIS OF 89 MYERS ST. GEELONG IS THE SURVIVING PROPRIETOR
REGISTERED 6/5/88
N440100R

OFFICE OF TITLES K. P. VICTORIA

CANCELLED AS TO PART
APPLICATION No. N440101N
Registered 6-5-88
See Vol. 9824 Fol. 024

OFFICE OF TITLES K. P. VICTORIA

Area 97·85ha

SO

IVAN JAMES LEWIS DIED ON 30/12/88
PROBATE OF HIS WILL HAS BEEN GRANTED TO FRANCES ELIZABETH WILLMOTT OF 8 RUYTON ST. BURWOOD AND HELEN MARGERY BRYCE OF 18 GORDON ST. HAMPTON
REGISTERED 23/6/89
P269747S

OFFICE OF TITLES K. P. VICTORIA

TRANSFER AS TO BALANCE
PROPRIETOR
ETHEL McCLELLAND OF UNIT 9 NO.12 PETERSEN ST. SOMERTON PARK SOUTH AUSTRALIA
REGISTERED 9/1/90
P604551M

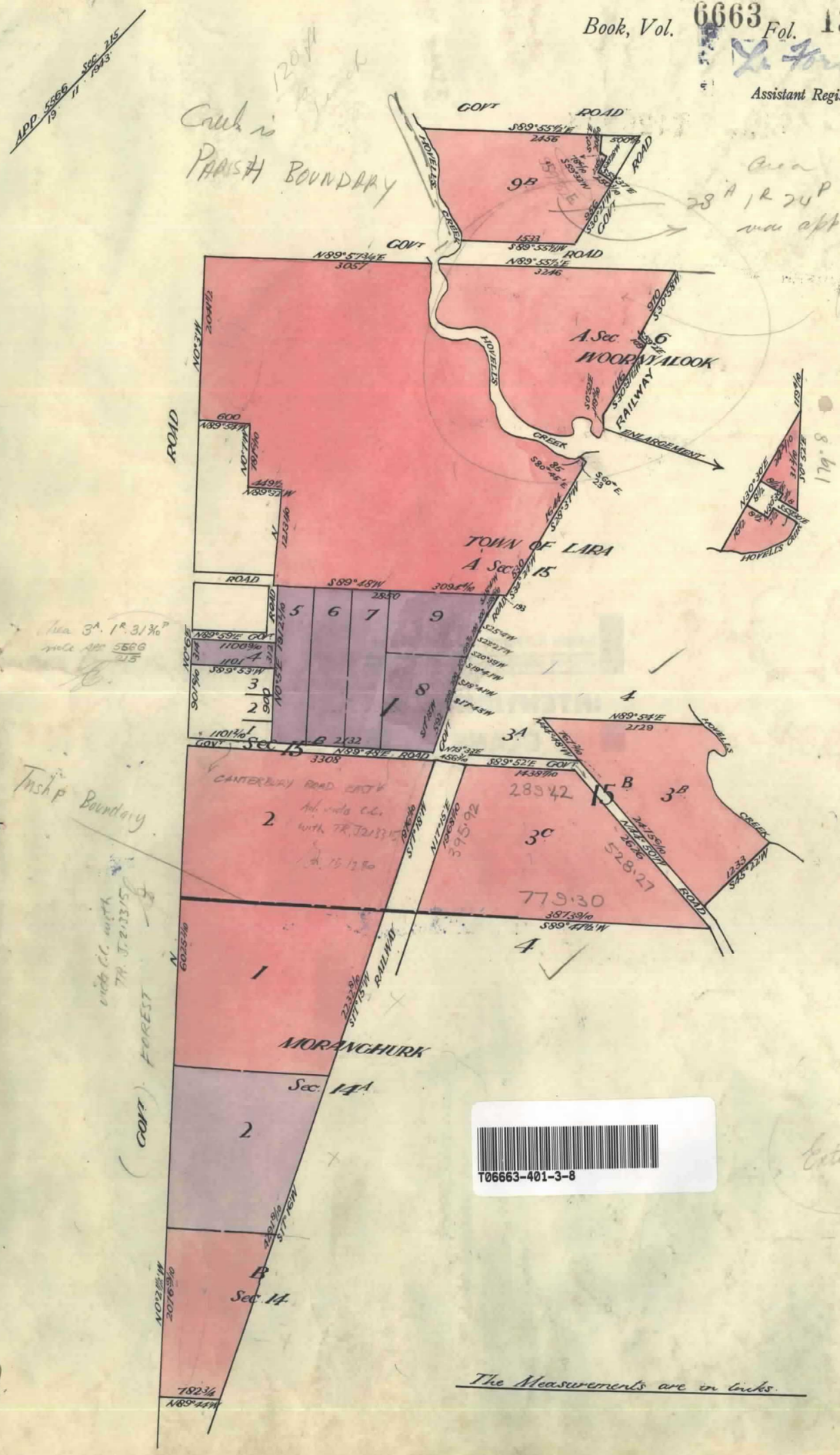
OFFICE OF TITLES M.I.P. VICTORIA

T06663-401-2-0

This is the Annexed Sheet referred to in Certificate of Title entered in the Register Book, Vol. 6663 *Fol.* 1332401

L. Forbes

Assistant Registrar of Titles.



Natural Resources and Environment

AGRICULTURE • RESOURCES • CONSERVATION • LAND MANAGEMENT

INTENTIONALLY BLANK

SCALE: 12 Chains to one inch.

Vol. 6663 fol.- 401

METRIC MEASUREMENTS SHOWN FOR L652163M

Enlargement

ADOPT R846 10/8/83.

Sign in c/t LP 55117 Approx. 8 land apprs. 8/1/00

GOVT. ROAD

HOVELLS CREEK

9B 1989297

90°4½'

GOVT. ROAD

89°58'

2437566 2 PIECES

L.P. 20413 See Sheet 3

L.P. 18966 See Sheet 2

L.P. 55117 See Sheet 4

89°57¾'

89°55½'

544

1144½

B 11541

C 701408

B 39 C 96

A Sec. 6

WOORNYALOOK

RAILWAY

ENLARGEMENT

HOVELLS CREEK

BANK STREET

ENLARGEMENT

ROAD

B. 468985

CG 52325

TOWN OF LARA

A Sec. 15

5 6 7 9

3 2 1 8

A. 185516

also remains in c/t Query Road status - B468985 N/A 15/1/91

ENLARGEMENT

CANTERBURY ROAD EAST

ROAD

FOREST

J 213315 (PT)

649.98

650

2132

Sec. 15 B

3B

3C

4

779.3

269°47½'

See APPN 5566/215 10/6/83

RAILWAY

MORANGHURK

1

N440101N (Conc Pt)

(3 PIECES)

AREA: 97.85 ha.

AREA

A R P

246 0 28.75

99.63 ha

Sec. 14A

FOREST

J 816643 (PT)

1.709 ha

AREA 99.63 ha

− 1.7796 ha

97.85 ha.

c/E L652163M TO SHIRE OF CORIO

89°46'

E-1

Sec 14

1709 ps.

SHEET 1

L505054V (PT)

706m²

T06663-401-4-6

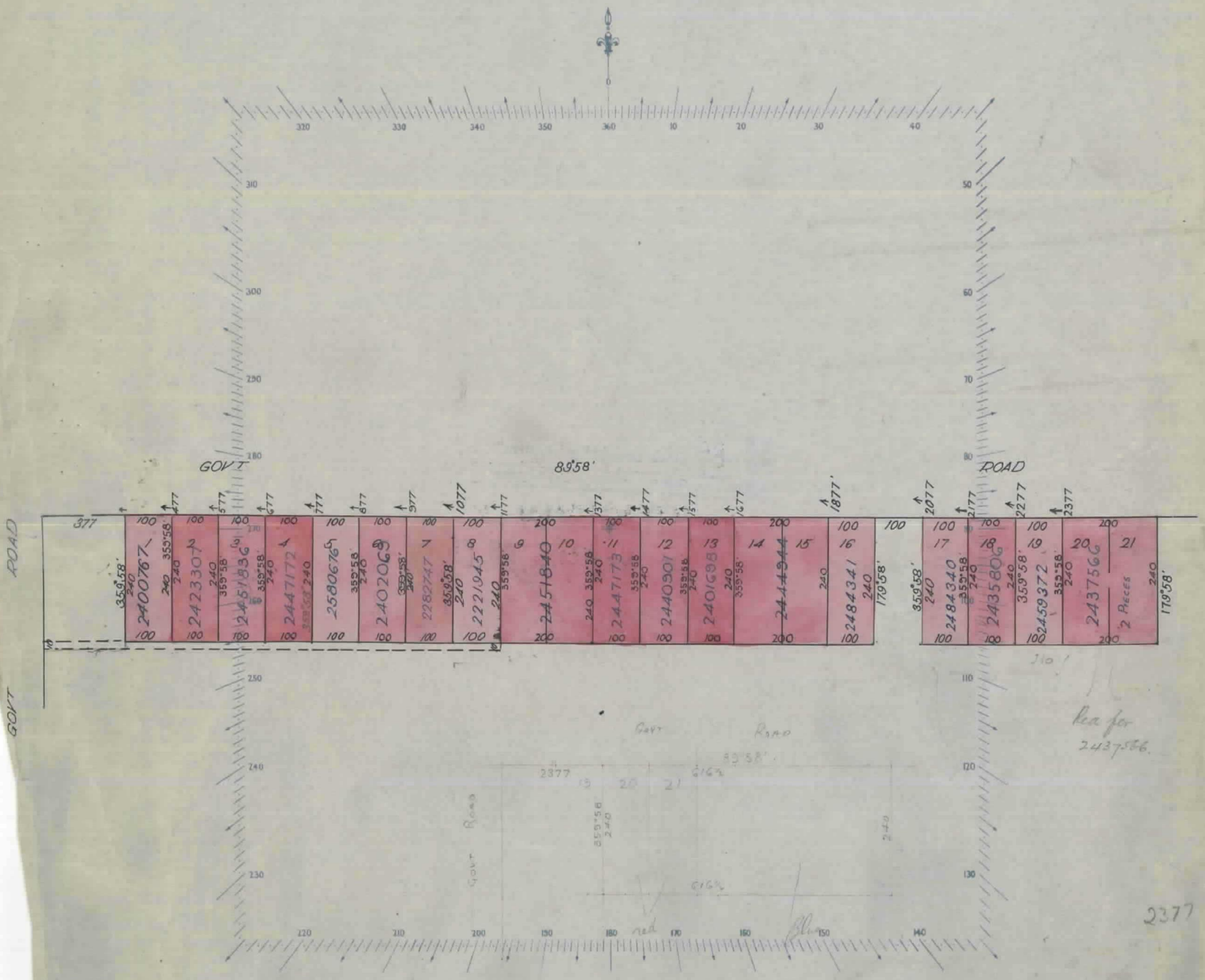
Natural Resources and Environment

AGRICULTURE • RESOURCES • CONSERVATION • LAND MANAGEMENT

INTENTIONALLY BLANK

SCALE: 200 links to one inch.

Vol. 6663 fol. 401



L.P. 18966

SHEET 2

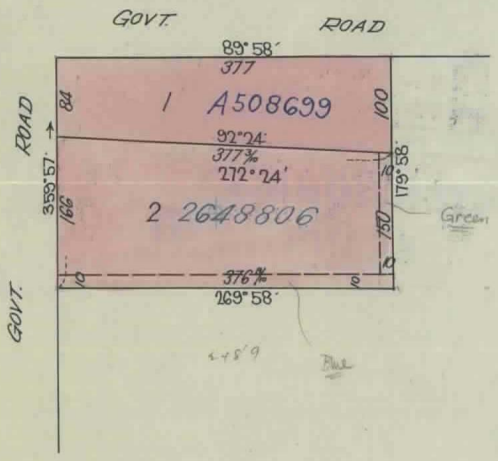
Natural Resources and Environment

AGRICULTURE • RESOURCES • CONSERVATION • LAND MANAGEMENT

INTENTIONALLY BLANK

SCALE: 150 links to one inch.

Vol. 6663 Fol. -401



L.P. 20413

Sheet 3

Natural Resources and Environment

AGRICULTURE • RESOURCES • CONSERVATION • LAND MANAGEMENT

INTENTIONALLY BLANK

SCALE: to one inch

Volume 6663 Folio 401

Natural Resources and Environment

AGRICULTURE • RESOURCES • CONSERVATION • LAND MANAGEMENT

INTENTIONALLY BLANK

Produced 24/05/2019 03:31 PM

Volume 6363 Folio 416
Folio Creation: Details Unknown
Parent title Volume 04466 Folio 136

STATEMENT END

VOTS Snapshot

NIL

Paper Title Images

6363/416 - Version 0, Date 12/08/1999

Entered in the Register Book

Vol. 6363 Fol. 1272416

VICTORIA.

Certificate of Title,

UNDER THE "TRANSFER OF LAND ACT 1928."

Abraham Alexander McClelland of Lara Grazier is- - - - - - - - - - - - - - - - - - -
now the proprietor of an Estate in Fee-simple, subject to the Encumbrances notified hereunder in All *those pieces of Land, delineated and coloured* red on the map in the margin containing Seventy-nine acres Three roods and- - - - - - - -
Thirty-one perches or thereabouts being Crown Allotments Three[B] and Three[C] Section Fifteen[B] Town of Lara Parish of Moranghurk County of Grant- - - - - - - - - - - -

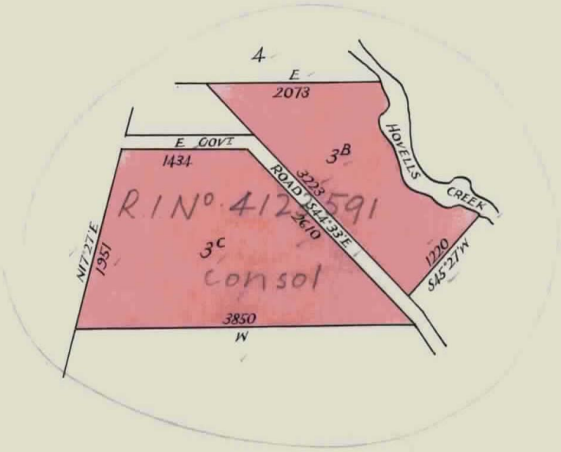
Dated the Seventeenth *day of* November *One thousand nine hundred and* thirty-nine.

Assistant Registrar of Titles.

ENCUMBRANCES REFERRED TO

OFFICE OF TITLES VICTORIA

For Consol sketch see C/T. 6598-473



5566
215

The Measurements are in links.

Vol. 4466 Fol. 893136 Transfer. 1745357 Application

MORTGAGE to Annie Johneena McLean Adeline Eva Drew. Alberta Bessie McDonald and Allan Elliott McDonald registered on 17th November 1939 numbered 790035

Assistant Registrar of Titles

CANCELLED See Certificate of Title

Vol. 6663 Fol. 1332401

Red Ink No. H123591

Assistant Registrar of Titles

CANCELLED

FEB 1944

DUP. WITH

Produced 24/05/2019 03:38 PM

Volume 4466 Folio 136
Folio Creation: Details Unknown
Parent title Volume 00828 Folio 520

STATEMENT END

VOTS Snapshot

NIL

Paper Title Images

4466/136 - Version 0, Date 05/12/1999

Entered in the Register Book

Vol. 4466 Fol. 893136

DIEU ET MON DROIT

VICTORIA.

Certificate of Title,

UNDER THE "TRANSFER OF LAND ACT 1915."

Abraham Alexander McClelland and Robert Samuel McClelland both of Lara Farmers

are now the proprietors as tenants in common in equal shares - - - - - - - - - - -

~~now the proprietors~~ *of an Estate in Fee-simple, subject to the Encumbrances notified hereunder in* All *those pieces of Land, delineated and coloured*

red on the map in the margin containing Seventy-nine acres Three roods and - - - -

Thirty-one perches or thereabouts being Crown Allotments Three[B] and Three[C] Section -

Fifteen[B] Town of Lara Parish of Moranghurk County of Grant -

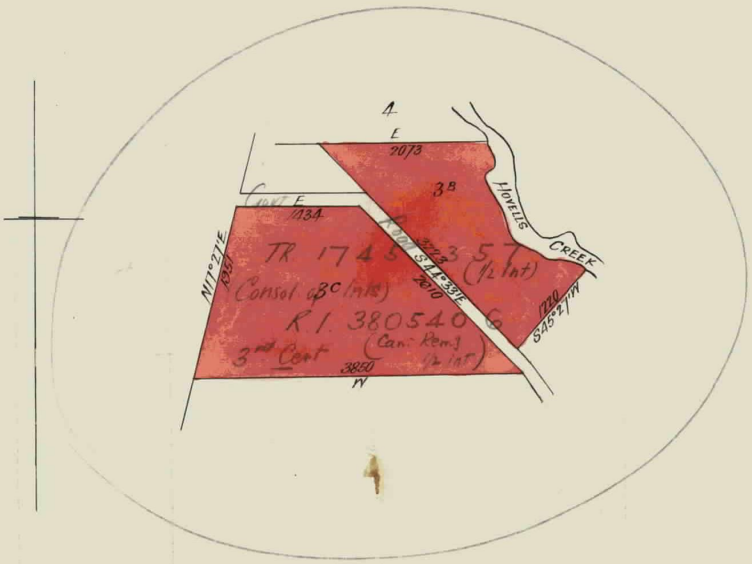
C.O. 34748
13. 3. 1940

ORIGINAL CERTIFICATE.
Not to be dealt with outside the Titles Office.

Dated the Sixth *day of* May *One thousand nine hundred and* twenty-one.

Assistant Registrar of Titles.

ENCUMBRANCES REFERRED TO.



T04466-136-1-7

The Measurements are in links

Vol. 828 Fol. 165520 Transfer. 995708 Application

Nature of Instrument.	Time of its Production for Registration.	To whom given.	Number or Symbol thereon.
DISCHARGED J.D. Newman Assistant Registrar of Titles 6th September 1939	6th May 1921.	To John Henry. Alf. W. Comport. Assistant Registrar of Titles.	428346.

Red Ink No. 37864465 as to the interest of Robert Samuel McClelland who died on 11th June 1936. Probate of his Will has been granted to James D'Helin of James Street Geelong Auctioneer John Joseph McClelland of Longwood near Adelaide South Australia Farmer and Abraham Alexander McClelland of Lara near Geelong Grazier. 6th September 1939 J.D. Newman Assistant Registrar of Titles

TRANSFER as to the interest of James D'Helin John Joseph McClelland and Abraham Alexander McClelland as executors to Abraham Alexander McClelland registered on 17th November 1939 numbered 1745357.

CANCELLED See Certificate of Title Vol. 6363 Fol. 1272416 J.D. Newman Assistant Registrar of Titles

CANCELLED

MAY 1940.

Produced 24/05/2019 03:44 PM

Volume 828 Folio 520
Folio Creation: Details Unknown

STATEMENT END

VOTS Snapshot

NIL

Paper Title Images

828/520 - Version 0, Date 18/08/2000

31 Section 1869

Entered in the Register Book, Vol. 828 Folio 165520

Registrar of Titles.

Victoria

by the Grace of God of the United Kingdom of Great Britain and Ireland QUEEN Defender of the Faith to all to whom these presents shall come GREETING

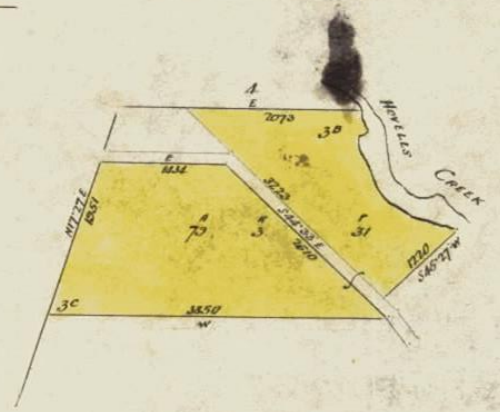
Whereas in conformity with the laws relating to the sale and occupation of Crown Lands in our Colony of Victoria the person hereinafter named has in consideration of the sum of Eighty pounds which sum has been duly paid to us become entitled to a grant in fee-simple of the land hereinafter described Now know ye that in consideration of the sum so paid and in pursuance of *The Land Act* 1869 WE DO HEREBY GRANT unto Ellen Smith of Lara

her heirs and assigns ALL THAT PIECE OF LAND in the said Colony containing Seventy nine acres three roods and thirty one perches or thereabouts being allotments three B and three C of Section fifteen B in the parish of Morangharuk County of Grant

delineated with the measurements and abuttals thereof in the map drawn in the margin of these presents and therein coloured yellow TO HOLD unto the said Ellen Smith her heirs and assigns for ever EXCEPTING however unto us our heirs and successors all gold and auriferous earth or stone and all mines containing gold within the boundaries of the said land AND ALSO reserving to us our heirs and successors full liberty and authority for us our heirs and successors and our and their agents and servants at any time or times hereafter to enter upon the said land and to search and mine therein for gold and to extract and remove therefrom any gold and any auriferous earth or stone and for the purposes aforesaid to sink shafts erect machinery carry on any works and do any other things which may be necessary or usual in mining PROVIDED ALWAYS that it shall be lawful for us our heirs and successors at any time on paying full compensation to the said Ellen Smith

her heirs executors administrators or assigns for the value other than auriferous of the said piece of land or of so much thereof as may be resumed as hereinafter mentioned and of the improvements upon the said piece of land or the part so resumed such value in case of disagreement to be ascertained by arbitration to resume the said piece of land or any part thereof for mining purposes AND THAT the terms conditions and events upon which such land may be resumed and the manner in which such arbitration may be conducted may be determined by regulations in such manner as the Governor in Council may from time to time direct or if at any time no such regulations shall be in force then by the regulations concerning the resumption of land for mining purposes in force at the date of this Grant unless Parliament shall otherwise determine **In testimony whereof** we have caused this our Grant to be sealed with the Seal of the said Colony **Witness** our trusty and well-beloved ~~The Honorable Sir William Foster Stawell Knight Chief Justice of the Colony of Victoria and Officer administering the Government of the said Colony of Victoria at Melbourne~~ Sir George Ferguson Bowen Knight Grand Cross of our Most Distinguished Order of Saint Michael and Saint George Governor and Commander in Chief of the said Colony of Victoria and its Dependencies and Vice Admiral of the same this twenty fourth day of July in the thirty ninth year of our Reign and in the year of our Lord One thousand eight hundred and seventy-five.

G. F. Bowen



NOTE.—*The bearings on this plan are accurate in relation to each other. The measurements are in* links

MEMORIALS OF INSTRUMENTS.

Nature of Instrument.	Time of its Production for Registration.	Names of the Parties to it.	Number or Symbol thereon.
Lease Remove The Byrne Asst Reg. of Titles	The 10th day of April 1876, at 11.56 o'clock in the fore noon.	Ellen Smith to David Vance Asst Regr of Titles	8.5
Mortgage DISCHARGED Asst. Regr. of Titles	The 6th day of September 1878 at 12.44 o'clock in the afternoon	Ellen Smith to Thomas Oldfield Asst. Regr. of Titles	
	Sarah Branch of Autumn Street Geelong West now the Proprietor of the within-described Estate and Land, by Transfer from the within named Ellen Smith, registered on the 27th day of 1894, at 12.5 o'clock in the after noon, and Numbered 853026 The Byrne Assistant-Registrar of Titles		
Mortgage DISCHARGED Asst Regr of Titles	The 22nd November 1894 at 12.5 p.m.	Sarah Branch to Ellen Smith. The Byrne Asst Regr of Titles	
Mortgage DISCHARGED Assistant Registrar of Titles 14th November 1911	The 21st July 1909 at 3 p.m.	Sarah Branch to Thomas William Cowley The Byrne	

MEMORIAL OF INSTRUMENT TO WHOM GIVEN

NATURE OF INSTRUMENT	TIME OF ITS PRODUCTION FOR REGISTRATION	TO WHOM GIVEN	NUMBER OR SYMBOL THEREON
Lease	THE 6 DAY OF May 1921	To Alexander McClelland and Robert Samuel McClelland	995408

Transfer Certificate of Title Vol. 4466 Fol. 893136

Reg. Ink No. 2154321. Sarah Inez Branch (herein called Sarah Branch) died on the 24th day of March 1920. Probate of her will has been granted to Arthur George Birrell of Winchelsea Bank Manager

Dated the 6th day of May 1921.

Assistant Registrar of Titles.

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 09000 FOLIO 922

Security no : 124077619428K
Produced 24/05/2019 03:31 PM

LAND DESCRIPTION

Lot 1 on Title Plan 156147J.
PARENT TITLE Volume 08743 Folio 078
Created by instrument F006505 21/09/1973

REGISTERED PROPRIETOR

Estate Fee Simple
TENANTS IN COMMON
As to 1 of a total of 3 equal undivided shares
Joint Proprietors
    DAVID JAMES NASH
    LINDA FLORENCE NASH both of 63 RHINDS ROAD WALLINGTON VIC 3221
    AF393713Y 10/10/2007
As to 1 of a total of 3 equal undivided shares
Sole Proprietor
    T C NASH HOLDINGS PTY LTD of 100 WILSONS ROAD NEWCOMB VIC 3219
    AF393714W 10/10/2007
As to 1 of a total of 3 equal undivided shares
Sole Proprietor
    J A N NOMINEES PTY LTD of 351 MOORABOOL STREET GEELONG VIC 3220
    AG887774Q 25/11/2009

ENCUMBRANCES, CAVEATS AND NOTICES

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE TP156147J FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

----------END OF REGISTER SEARCH STATEMENT----------

Additional information: (not part of the Register Search Statement)

Street Address: 785-805 PRINCES HIGHWAY LARA VIC 3212

DOCUMENT END

Imaged Document Cover Sheet

The document following this cover sheet is an imaged document supplied by LANDATA®, Land Use Victoria.

Document Type	**Plan**
Document Identification	**TP156147J**
Number of Pages (excluding this cover sheet)	**1**
Document Assembled	**24/05/2019 15:32**

TITLE PLAN		EDITION 1	TP 156147J

Location of Land

Parish: MORANGHURK
Township:
Section:
Crown Allotment:
Crown Portion:

Last Plan Reference: LP 81458
Derived From: VOL 9000 FOL 922
Depth Limitation: NIL

Notations

ANY REFERENCE TO MAP IN THE TEXT MEANS THE DIAGRAM SHOWN ON THIS TITLE PLAN

Description of Land / Easement Information

THIS PLAN HAS BEEN PREPARED FOR THE LAND REGISTRY, LAND VICTORIA, FOR TITLE DIAGRAM PURPOSES AS PART OF THE LAND TITLES AUTOMATION PROJECT
COMPILED: 21-09-1999
VERIFIED: AD

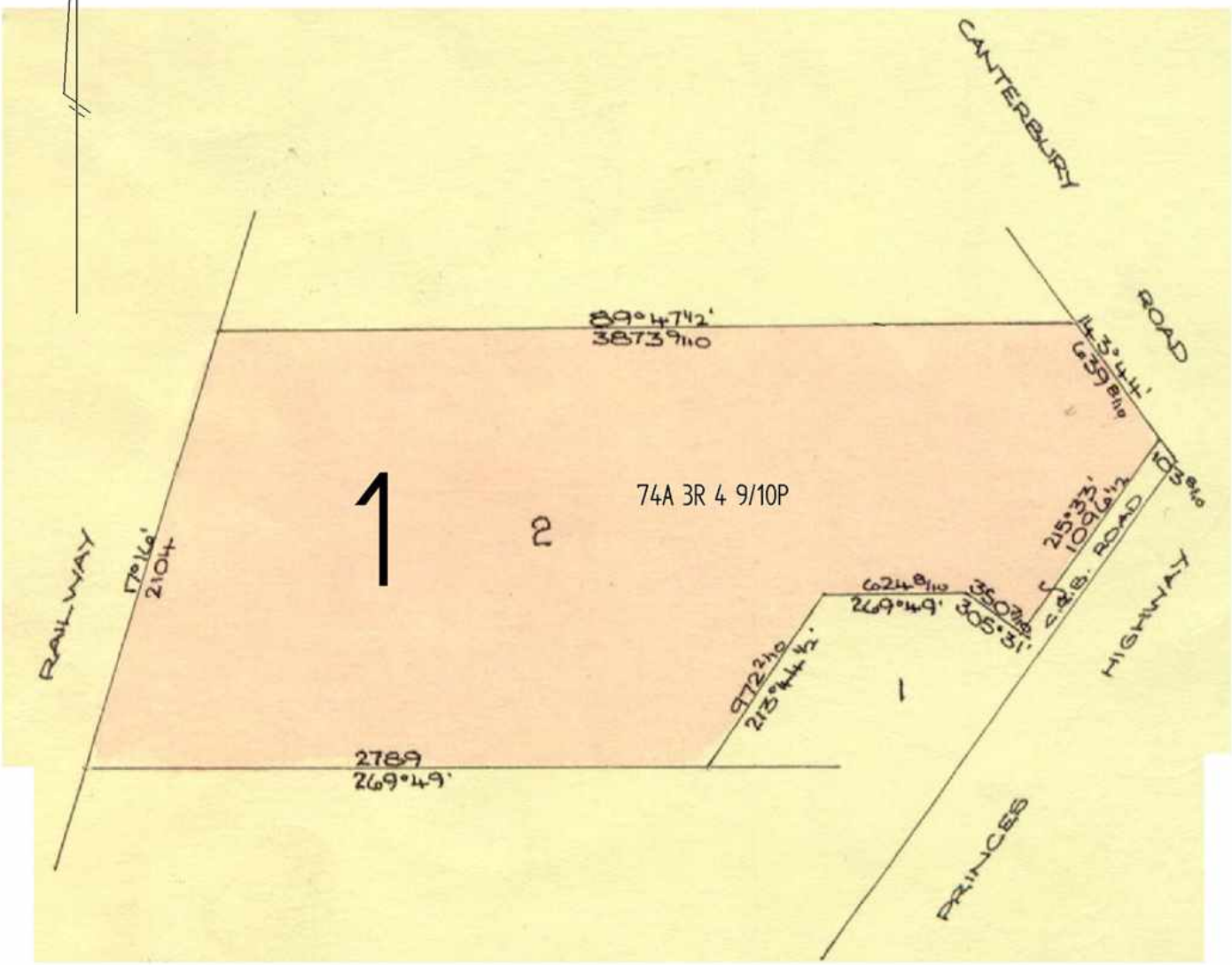


TABLE OF PARCEL IDENTIFIERS

WARNING: Where multiple parcels are referred to or shown on this Title Plan this does not imply separately disposable parcels under Section 8A of the Sale of Land Act 1962

PARCEL 1 = LOT 2 (PT) ON LP 81458

LENGTHS ARE IN LINKS	Metres = 0.3048 x Feet Metres = 0.201168 x Links		Sheet 1 of 1 sheets

Produced 27/05/2019 10:16 AM

Volume 8743 Folio 078
Folio Creation: Details Unknown
Parent title Volume 04327 Folio 349

STATEMENT END

VOTS Snapshot

NIL

Paper Title Images

8743/078 - Version 0, Date 03/02/2000

ORIGINAL

NOT TO BE TAKEN FROM THE OFFICE OF TITLES

REGISTER BOOK

VOL. 8743 FOL. 078

VICTORIA

Certificate of Title

UNDER THE "TRANSFER OF LAND ACT"

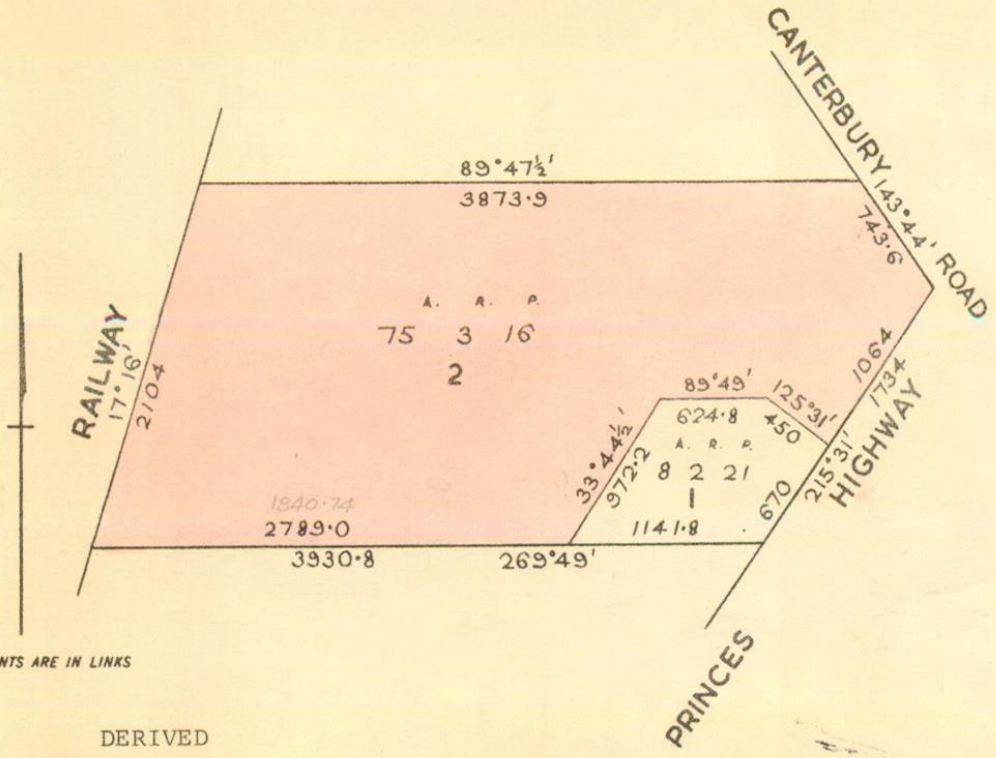
MOYA LORRAINE WYLD of Princes Highway Lara Married Woman is the - - - - - proprietor of an estate in fee simple subject to the encumbrances notified- - hereunder in ALL THAT piece of land coloured on the map hereon being - - - - - Lot 2 on Plan of Subdivision No.81458 Parish of Moranghurk County of Grant

Issued under Regulation 12 on the approval of the above Plan of Subdivision -

L. G. McDarcy

Assistant Registrar of Titles

ENCUMBRANCES REFERRED TO



MEASUREMENTS ARE IN LINKS

DERIVED
FROM
VOL. 4327
FOL. 349
14/10/'68.

COUNTRY ROADS BOARD

has pursuant to section 57 of Transfer of Land Act served a Notification relating to the compulsory acquisition of land comprised herein.

Dated 15 OCT 1971

Entered 22 OCT 1971

No. E 192210

OFFICE OF TITLES P.Q. VICTORIA

OFFICE OF TITLES H.I.N. VICTORIA

(Plan with letter)

TRANSFER AS TO PART No. E. 398231.

registered 23rd MAY 1972

CANCELLED AS TO PART

See Vol. 8930 Fol. 878

~~Pt Lot 2~~

OFFICE OF TITLES R.R. VICTORIA

TRANSFER AS TO BALANCE No. F6505

registered 21st September 1973

CANCELLED See Vol. 9000 Fol. 922

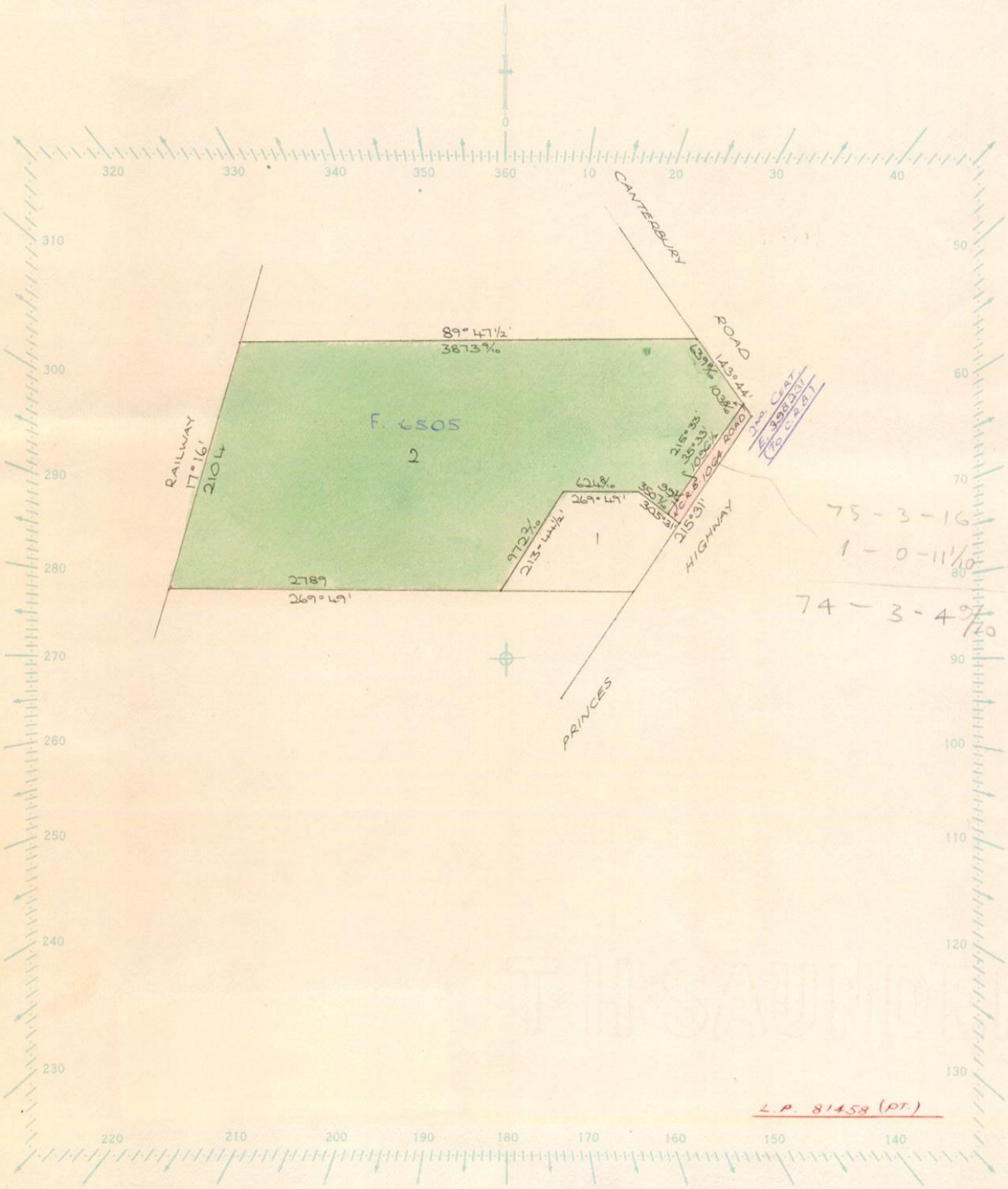
OFFICE OF TITLES W.M.S. VICTORIA

CANCELLED

T08743-078-1-9

SCALE: 10 CHAINS to one inch

Volume 8743 Folio 078



SK 1.01
27/6/72

Natural Resources and Environment

AGRICULTURE • RESOURCES • CONSERVATION • LAND MANAGEMENT

INTENTIONALLY

BLANK

Environmental
Site Assessments

Appendix 3: ESV Cathodic Protection Search

energysafe VICTORIA

Creating a safer state with electricity and gas

24 May, 2019

To: Seton Lillas

Environmental Site Assessment

T: 0433 747 187

SEARCH FOR CATHODIC PROTECTION SYSTEMS

With reference to your email of 23/05/2019, a search of the CP database has failed to identify any cathodic protection systems that have been registered at the following locations:

- ***76-156 Canterbury Road, Lara***
- ***785-805 Princes Highway, Lara***

Yours sincerely

Peter Wade

MANAGER ELECTROLYSIS MITIGATION

Disclaimer

Energy Safe Victoria provides this information in good faith, but cannot guarantee the accuracy or validate the information provided. The Cathodic Protection (CP) database is a register of currently operating Cathodic Protection systems in Victoria and was established in 1970. The CP database is administered under the Electricity Safety Act 1998 and the Electricity Safety (Cathodic Protection) Regulations 2009.

Some underground fuel tanks may not be listed in the CP database including: if the tank is not metallic (therefore not requiring CP); the tank is metallic but CP was not installed; the CP system was not registered, or the CP system has been de-commissioned.

If you believe underground tanks may be present and not shown on ESV's database you should conduct your own tests and investigations.

Energy Safe Victoria
ABN 27 462 247 657

Level 5 Building 2
4 Riverside Quay
Southbank VIC 3006

PO Box 262
Collins St West VIC 8007
DX 212569 Melbourne VIC

T (03) 9203 9700
F (03) 9686 2197
www.esv.vic.gov.au

Environmental
Site Assessments

Appendix 4: Sample Locations

Environmental Site Assessments

Phone: 03 5221 8136
office@esagroup.com.au
PO Box 3106,
Waurn Ponds, VIC 3216
www.esagroup.com.au

Legend

- Sample Points
- Not Part Of Investigation

Aerial sourced from Nearmap

Designed:	S. Lillas	Revision:	1
Drawn:	S. Lillas	Date:	23/05/19
File:	Sample Locations.pdf		

N

0 Metres 200

Title:	Sample Locations
Project:	Environmental Assessment
Location:	76-156 Canterbury Road, 705-775 Princes Hwy & 785-805 Princes Hwy, Lara
Client:	Costa Property Group

Environmental
Site Assessments

Appendix 5: PID Calibration Form

AES
sensing safety

Calibration Certificate

Sensor	Type	Serial No.	Span Gas	Concentration	Traceability Lot #	CF	Reading	
							Zero	Span
Oxygen								
LEL								
PID	C03-0912-003. 10.6EV PI D SENSOR (MULTIRAE	SC03A30297T8	Isobutylene	100 PPM	S110317-1		0	100
Battery	M01-3053-000. MULTIRA E RECHARGEABLE LI-I	M0140701T7						
Toxic 1								
Toxic 2								
Toxic 3								
Toxic 4								
Toxic 5								
Toxic 6								

Calibrated/Repaired by: DARREN FRANCALANZA Date: 28.03.2019 Next Due: 28.09.2019

Appendix 6: Comparison Tables

					OCP			BTEX								Cyanides	Halogenated Benzenes	Halogenated Phenols						Herbicides	Inorganics		Lead	Metals									
					Tokuthion	Organochlorine pesticides EPAVic	Other organochlorine pesticides EPAVic	Benzene	Ethylbenzene	Toluene	Total BTEX	Xylene (m & p)	Xylene (o)	Xylene Total	C6-C10 less BTEX (F1)	Cyanide (WAD)	Hexachlorobenzene	2,4,5-trichlorophenol	2,4,6-trichlorophenol	2,4-dichlorophenol	2,6-dichlorophenol	2-chlorophenol	Pentachlorophenol	Atrazine	Moisture	Moisture Content (dried @ 103°C)	Lead	Arsenic	Barium	Beryllium	Boron	Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Chromium (Trivalent)	Cobalt	Copper
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL								0.2	0.5	0.5	0.2	0.5	0.5	0.5	10	1	0.05	0.5	0.5	0.5	0.5	0.5	2	0.05	1		5	2	10	1	10	0.4	0.5	2		2	5
NEPM 2013 Table 1A(1) HILs Res A Soil																	10					100	320			300	100		60	4500	20	100			100	6000
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion																																					
0-1m								0.5|0.6|0.7	NL|55	160|390|480				40|95|110	40|45|50																					
NEPM 2013 Table 1B(6) ESLs for Urban Res								65		105																											
0-2m								50	70|125	85				45|105																						
LocCode	Field_ID	Sample_Depth	Soil_Type	Sampled_Date-Time																																	
SP01	SP01/0-0.15	0-0.15	SILT	23-May-19	-	-	-	<0.2	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<10	<1	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.05	18.4	-	7	<5	60	<1	<50	<1	<0.5	20	-	7	7
SP02	SP02/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	19.7	-	7	<5	60	<1	<50	<1	-	18	-	6	6
SP03	SP03/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	16	-	9	<5	70	<1	<50	<1	-	27	-	8	9
SP04	SP04/0-0.15	0-0.15	SILT	23-May-19	-	-	-	<0.2	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<10	1	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.05	16.7	-	9	<5	80	<1	<50	<1	<0.5	28	-	8	9
SP05	QC04	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	14	-	8	<5	70	<1	<50	<1	-	25	-	6	7
SP05	QC05	0-0.15	SILT	23-May-19	<0.2	<0.1	<0.1	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	18	13	5.5	120	<2	<10	<0.4	<1	45	45	12	12
SP05	SP05/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	15.7	-	8	<5	80	<1	<50	<1	-	27	-	7	8
SP06	SP06/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	12.1	-	10	<5	40	<1	<50	<1	-	23	-	6	6
SP07	SP07/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	14.2	-	11	5	20	<1	<50	<1	-	24	-	6	6
SP08	SP08/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	11.5	-	10	<5	30	<1	<50	<1	-	18	-	7	6
SP09	SP09/0-0.15	0-0.15	SILT	23-May-19	-	-	-	<0.2	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<10	1	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.05	9.7	-	8	<5	20	<1	<50	<1	<0.5	14	-	3	<5
SP10	SP10/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	13.1	-	12	<5	10	<1	<50	<1	-	22	-	5	<5
SP11	SP11/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	14.4	-	11	<5	20	<1	<50	<1	-	26	-	6	6
SP12	SP12/0-0.15	0-0.15	SILT	23-May-19	-	-	-	<0.2	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<10	1	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.05	15.1	-	9	<5	50	<1	<50	<1	<0.5	27	-	9	7
SP13	SP13/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	14.6	-	7	<5	60	<1	<50	<1	-	19	-	7	6
SP14	SP14/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	17.7	-	6	<5	80	<1	<50	<1	-	19	-	7	7
SP15	SP15/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	15.7	-	6	<5	90	<1	<50	<1	-	21	-	6	8
SP16	SP16/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	14.2	-	6	<5	80	<1	<50	<1	-	19	-	7	6
SP17	SP17/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	15.8	-	6	<5	60	<1	<50	<1	-	17	-	6	6
SP18	SP18/0-0.15	0-0.15	SILT	23-May-19	-	-	-	<0.2	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<10	1	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.05	16.7	-	8	<5	30	<1	<50	<1	<0.5	24	-	6	6
SP19	SP19/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	13.4	-	6	<5	10	<1	<50	<1	-	17	-	5	<5
SP20	SP20/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	15.8	-	13	<5	80	<1	<50	<1	-	26	-	8	10
SP21	SP21/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	16.4	-	32	<5	30	<1	<50	<1	-	25	-	5	12
SP22	SP22/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	12.1	-	30	<5	50	<1	<50	<1	-	17	-	5	8
SP23	SP23/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	17.4	-	26	<5	60	<1	<50	<1	-	20	-	5	9
SP24	SP24/0-0.15	0-0.15	SILT	23-May-19	-	-	-	<0.2	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<10	<1	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.05	15.2	-	8	<5	70	<1	<50	<1	<0.5	19	-	7	7
SP25	QC06	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	11.7	-	11	<5	70	<1	<50	<1	-	20	-	8	8
SP25	QC07	0-0.15	SILT	23-May-19	<0.2	<0.1	<0.1	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	14	14	3.8	120	<2	<10	<0.4	<1	29	29	11	10
SP25	SP25/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	17.6	-	10	<5	60	<1	<50	<1	-	18	-	7	7
SP26	SP26/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	14	-	11	<5	30	<1	<50	<1	-	22	-	9	6
SP27	SP27/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	12.3	-	8	<5	40	<1	<50	<1	-	21	-	8	6
SP28	SP28/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	10.8	-	8	<5	10	<1	<50	<1	-	22	-	5	<5
SP29	SP29/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	12.4	-	9	<5	20	<1	<50	<1	-	22	-	6	<5
SP30	SP30/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	10.1	-	9	<5	10	<1	<50	<1	-	23	-	5	5
SP31	SP31/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	12.1	-	9	<5	20	<1	<50	<1	-	30	-	6	7
SP32	SP32/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	16.1	-	10	<5	20	<1	<50	<1	-	30	-	8	8
SP33	SP33/0-0.15	0-0.15	SILT	23-May-19	-	-	-	<0.2	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<10	1	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.05	13.8	-	<5	<5	<10	<1	<50	<1	<0.5	3	-	<2	<5
SP34	SP34/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	19	-	9	<5	20	<1	<50	<1	-	26	-	5	5
SP35	SP35/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	10.8	-	9	<5	10	<1	<50	<1	-	24	-	4	5
SP36	SP36/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	15.5	-	11	6	20	<1	<50	<1	-	23	-	6	6
SP37	SP37/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	12	-	9	<5	40	<1	<50	<1	-	21	-	8	6
SP38	SP38/0-0.15	0-0.15	SILT	23-May-19	-	-	-	<0.2	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<10	1	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.05	13.2	-	9	<5	20	<1	<50	<1	<0.5	24	-	6	5
SP39	SP39/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	12	-	10	<5	10	<1	<50	<1	-	23	-	5	5
SP40	SP40/0-0.15	0-0.15	SILT	23-May-19	-	-	-	<0.2	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<10	1	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.05	10.5	-	10	<5	20	<1	<50	<1	<0.5	28	-	9	6
SP41	SP41/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	12	-	11	<5	30	<1	<50	<1	-	50	-	19	14
SP42	SP42/0-0.15	0-0.15	SILT	23-May-19	-	-	-	<0.2	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<10	1	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.05	15.2	-	10	<5	30	<1	<50	<1	<0.5	54	-	20	14
SP43	SP43/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	16.4	-	11	<5	160	<1	<50	<1	-	45	-	28	14

									Organochlorine Pesticides																																			
					Manganese	Mercury	Nickel	Selenium	Vanadium	Zinc	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene	Azinophos methyl	Bolstar (Sulprofos)	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Demeton-O
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					5	0.1	2	5	5	5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05		0.05		0.05	0.05	0.05	0.05	0.05		
NEPM 2013 Table 1A(1) HILs Res A Soil					3800	40	400	200		7400				6		50						240		270				10				6		300	20						160			
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion																																												
0-1m																																												
NEPM 2013 Table 1B(6) ESLs for Urban Res																																												
0-2m																																												
LocCode	**Field_ID**	**Sample_Depth**	**Soil_Type**	**Sampled_Date-Time**																																								
SP01	SP01/0-0.15	0-0.15	SILT	23-May-19	194	<0.1	14	<5	26	13	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP02	SP02/0-0.15	0-0.15	SILT	23-May-19	184	<0.1	12	<5	23	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP03	SP03/0-0.15	0-0.15	SILT	23-May-19	248	<0.1	20	<5	38	15	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP04	SP04/0-0.15	0-0.15	SILT	23-May-19	255	<0.1	20	<5	37	16	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP05	QC04	0-0.15	SILT	23-May-19	197	<0.1	17	<5	33	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP05	QC05	0-0.15	SILT	23-May-19	350	<0.1	30	-	59	27	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2
SP05	SP05/0-0.15	0-0.15	SILT	23-May-19	216	<0.1	20	<5	35	14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP06	SP06/0-0.15	0-0.15	SILT	23-May-19	143	<0.1	12	<5	34	16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP07	SP07/0-0.15	0-0.15	SILT	23-May-19	135	<0.1	14	<5	36	23	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP08	SP08/0-0.15	0-0.15	SILT	23-May-19	233	<0.1	11	<5	26	40	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP09	SP09/0-0.15	0-0.15	SILT	23-May-19	93	<0.1	6	<5	21	12	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP10	SP10/0-0.15	0-0.15	SILT	23-May-19	129	<0.1	9	<5	37	23	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP11	SP11/0-0.15	0-0.15	SILT	23-May-19	147	<0.1	12	<5	41	15	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP12	SP12/0-0.15	0-0.15	SILT	23-May-19	277	<0.1	18	<5	39	13	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP13	SP13/0-0.15	0-0.15	SILT	23-May-19	260	<0.1	13	<5	28	11	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP14	SP14/0-0.15	0-0.15	SILT	23-May-19	235	<0.1	14	<5	24	13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP15	SP15/0-0.15	0-0.15	SILT	23-May-19	213	<0.1	17	<5	27	14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP16	SP16/0-0.15	0-0.15	SILT	23-May-19	230	<0.1	13	<5	26	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP17	SP17/0-0.15	0-0.15	SILT	23-May-19	226	<0.1	12	<5	24	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP18	SP18/0-0.15	0-0.15	SILT	23-May-19	163	<0.1	12	<5	35	12	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP19	SP19/0-0.15	0-0.15	SILT	23-May-19	175	<0.1	7	<5	26	6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP20	SP20/0-0.15	0-0.15	SILT	23-May-19	287	<0.1	21	<5	37	50	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP21	SP21/0-0.15	0-0.15	SILT	23-May-19	126	<0.1	18	<5	38	467	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP22	SP22/0-0.15	0-0.15	SILT	23-May-19	143	0.1	10	<5	24	34	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP23	SP23/0-0.15	0-0.15	SILT	23-May-19	200	<0.1	8	<5	31	126	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP24	SP24/0-0.15	0-0.15	SILT	23-May-19	340	<0.1	14	<5	25	25	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP25	QC06	0-0.15	SILT	23-May-19	326	<0.1	12	<5	26	85	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP25	QC07	0-0.15	SILT	23-May-19	440	<0.1	18	-	38	110	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2
SP25	SP25/0-0.15	0-0.15	SILT	23-May-19	301	<0.1	11	<5	24	84	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP26	SP26/0-0.15	0-0.15	SILT	23-May-19	279	<0.1	13	<5	31	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP27	SP27/0-0.15	0-0.15	SILT	23-May-19	241	<0.1	11	<5	31	10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP28	SP28/0-0.15	0-0.15	SILT	23-May-19	105	<0.1	9	<5	34	7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP29	SP29/0-0.15	0-0.15	SILT	23-May-19	223	<0.1	9	<5	36	8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP30	SP30/0-0.15	0-0.15	SILT	23-May-19	111	<0.1	9	<5	38	9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP31	SP31/0-0.15	0-0.15	SILT	23-May-19	116	<0.1	14	<5	42	14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP32	SP32/0-0.15	0-0.15	SILT	23-May-19	186	<0.1	14	<5	44	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP33	SP33/0-0.15	0-0.15	SILT	23-May-19	44	<0.1	<2	<5	<5	<5	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP34	SP34/0-0.15	0-0.15	SILT	23-May-19	173	<0.1	11	<5	40	14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP35	SP35/0-0.15	0-0.15	SILT	23-May-19	114	<0.1	10	<5	37	10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP36	SP36/0-0.15	0-0.15	SILT	23-May-19	126	<0.1	11	<5	33	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP37	SP37/0-0.15	0-0.15	SILT	23-May-19	267	<0.1	12	<5	29	13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP38	SP38/0-0.15	0-0.15	SILT	23-May-19	173	<0.1	10	<5	36	10	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP39	SP39/0-0.15	0-0.15	SILT	23-May-19	184	<0.1	10	<5	37	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP40	SP40/0-0.15	0-0.15	SILT	23-May-19	159	<0.1	16	<5	42	11	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP41	SP41/0-0.15	0-0.15	SILT	23-May-19	397	<0.1	32	<5	61	16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP42	SP42/0-0.15	0-0.15	SILT	23-May-19	377	<0.1	40	<5	65	16	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-
SP43	SP43/0-0.15	0-0.15	SILT	23-May-19	754	<0.1	35	<5	55	21	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-

					Organophosphorous Pesticides																							PAH	PAH/Phenols															
					Demeton-S	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethion	Ethoprop	Fenitrothion	Fensulfothion	Fenthion	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Naled (Dibrom)	Omethoate	Phorate	Prothiofos	Pyrazophos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos	Benzo(b+j)fluoranthene	2,4-dimethylphenol	2-methylphenol	2-nitrophenol	3&4-methylphenol	4-chloro-3-methylphenol	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Carcinogenic PAHs (as B(a)P TPE)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						0.05	0.05	0.05		0.05				0.05	0.05		0.2		0.2				0.05						0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
NEPM 2013 Table 1A(1) HILs Res A Soil																																												3
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion																																												
0-1m																																												
NEPM 2013 Table 1B(6) ESLs for Urban Res																																												
0-2m																																						0.7					
LocCode	Field_ID	Sample_Depth	Soil_Type	Sampled_Date-Time																																								
SP01	SP01/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP02	SP02/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP03	SP03/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP04	SP04/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP05	QC04	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP05	QC05	0-0.15	SILT	23-May-19	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP05	SP05/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP06	SP06/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP07	SP07/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP08	SP08/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP09	SP09/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP10	SP10/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP11	SP11/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP12	SP12/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP13	SP13/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP14	SP14/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP15	SP15/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP16	SP16/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP17	SP17/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP18	SP18/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP19	SP19/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP20	SP20/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP21	SP21/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP22	SP22/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP23	SP23/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP24	SP24/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP25	QC06	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP25	QC07	0-0.15	SILT	23-May-19	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP25	SP25/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP26	SP26/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP27	SP27/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP28	SP28/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP29	SP29/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP30	SP30/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP31	SP31/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP32	SP32/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP33	SP33/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP34	SP34/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP35	SP35/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP36	SP36/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP37	SP37/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP38	SP38/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP39	SP39/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP40	SP40/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP41	SP41/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP42	SP42/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP43	SP43/0-0.15	0-0.15	SILT	23-May-19	-	<0.05	<0.05	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	<0.2	-	<0.2	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

										Pesticides								Polychlorinated Biphenyls	SVOCs	TPH											
					Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	PAHs (Sum of total)	Phenanthrene	Phenol	Pyrene	Bifenthrin	Demeton-S-methyl	Fenamiphos	Mirex	Parathion	Pirimiphos-methyl	Pirimphos-ethyl	PCBs (Sum of total)	EPN	C10-C16	C16-C34	C34-C40	F2-NAPHTHALENE	C6 - C9	C10 - C14	C15 - C28	C29-C36	+C10 - C36 (Sum of total)	C10 - C40 (Sum of total)	C6-C10
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.05	0.05	0.05	0.2	0.2		0.05	0.1		50	100	100	50	10	50	100	100	50	50	10
NEPM 2013 Table 1A(1) HILs Res A Soil									300		3000		600			10				1												
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion																																
0-1m								3|4|5																	110|230|280							
NEPM 2013 Table 1B(6) ESLs for Urban Res																						120	1300	5600								180
0-2m																						120	300	2800								180
LocCode	**Field_ID**	**Sample_Depth**	**Soil_Type**	**Sampled_Date-Time**																												
SP01	SP01/0-0.15	0-0.15	SILT	23-May-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.2	<0.2	-	<0.05	<0.1	-	<50	<100	<100	<50	<10	<50	<100	<100	<50	<50	<10
SP02	SP02/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP03	SP03/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP04	SP04/0-0.15	0-0.15	SILT	23-May-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.2	<0.2	-	<0.05	<0.1	-	<50	<100	<100	<50	<10	<50	<100	<100	<50	<50	<10
SP05	QC04	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP05	QC05	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.2	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-
SP05	SP05/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP06	SP06/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP07	SP07/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP08	SP08/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP09	SP09/0-0.15	0-0.15	SILT	23-May-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.2	<0.2	-	<0.05	<0.1	-	<50	<100	<100	<50	<10	<50	<100	<100	<50	<50	<10
SP10	SP10/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP11	SP11/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP12	SP12/0-0.15	0-0.15	SILT	23-May-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.2	<0.2	-	<0.05	<0.1	-	<50	<100	<100	<50	<10	<50	<100	<100	<50	<50	<10
SP13	SP13/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP14	SP14/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP15	SP15/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP16	SP16/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP17	SP17/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP18	SP18/0-0.15	0-0.15	SILT	23-May-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.2	<0.2	-	<0.05	<0.1	-	<50	<100	<100	<50	<10	<50	<100	<100	<50	<50	<10
SP19	SP19/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP20	SP20/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP21	SP21/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP22	SP22/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP23	SP23/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP24	SP24/0-0.15	0-0.15	SILT	23-May-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.2	<0.2	-	<0.05	<0.1	-	<50	<100	<100	<50	<10	<50	<100	<100	<50	<50	<10
SP25	QC06	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP25	QC07	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.2	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-
SP25	SP25/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP26	SP26/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP27	SP27/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP28	SP28/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP29	SP29/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP30	SP30/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP31	SP31/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP32	SP32/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP33	SP33/0-0.15	0-0.15	SILT	23-May-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.2	<0.2	-	<0.05	<0.1	-	<50	<100	<100	<50	<10	<50	<100	<100	<50	<50	<10
SP34	SP34/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP35	SP35/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP36	SP36/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP37	SP37/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP38	SP38/0-0.15	0-0.15	SILT	23-May-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.2	<0.2	-	<0.05	<0.1	-	<50	120	<100	<50	<10	<50	<100	<100	<50	120	<10
SP39	SP39/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP40	SP40/0-0.15	0-0.15	SILT	23-May-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.2	<0.2	-	<0.05	<0.1	-	<50	100	<100	<50	<10	<50	<100	<100	<50	100	<10
SP41	SP41/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP42	SP42/0-0.15	0-0.15	SILT	23-May-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.2	<0.2	-	<0.05	<0.1	-	<50	120	<100	<50	<10	<50	<100	<100	<50	120	<10
SP43	SP43/0-0.15	0-0.15	SILT	23-May-19	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.2	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Field Duplicates (SOIL)
Filter: SDG in('ALSE-Melbourne 24-May-19')

			SDG	ALSE-Melbourne 24-May-19	ALSE-Melbourne 24-May-19		ALSE-Melbourne 24-May-19	ALSE-Melbourne 24-May-19		ALSE-Melbourne 24-May-19	ALSE-Melbourne 24-May-19		ALSE-Melbourne 24-May-19	ALSE-Melbourne 24-May-19	
			Field ID	SP05/0-0.15	QC04	**RPD**	SP25/0-0.15	QC06	**RPD**	SP05/0-0.15	QC05	**RPD**	SP25/0-0.15	QC07	**RPD**
			Sampled Date/Time	23-05-19 10:32	23-05-19 10:32		23-05-19 11:51	23-05-19 11:51		23-05-19 10:32	23-05-19 10:32		23-05-19 11:51	23-05-19 11:51	
Chem_Group	**ChemName**	**Units**	**EQL**												
Halogenated Benzenes	Hexachlorobenzene	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
Inorganics	Moisture	%	1	15.7	14.0	11	17.6	11.7	40	15.7			17.6		
Lead	Lead	mg/kg	5	8.0	8.0	0	10.0	11.0	10	8.0	13.0	48	10.0	14.0	33
Metals	Arsenic	mg/kg	5 (Primary): 2 (Interlab)	<5.0	<5.0	0	<5.0	<5.0	0	<5.0	5.5	10	<5.0	3.8	0
	Barium	mg/kg	10	80.0	70.0	13	60.0	70.0	15	80.0	120.0	40	**60.0**	**120.0**	**67**
	Beryllium	mg/kg	1 (Primary): 2 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<2.0	0	<1.0	<2.0	0
	Boron	mg/kg	50 (Primary): 10 (Interlab	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<10.0	0	<50.0	<10.0	0
	Cadmium	mg/kg	1 (Primary): 0.4 (Interlab	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.4	0	<1.0	<0.4	0
	Chromium (III+VI)	mg/kg	2 (Primary): 5 (Interlab)	27.0	25.0	8	18.0	20.0	11	27.0	45.0	50	18.0	29.0	47
	Cobalt	mg/kg	2 (Primary): 5 (Interlab)	7.0	6.0	15	7.0	8.0	13	7.0	12.0	53	7.0	11.0	44
	Copper	mg/kg	5	8.0	7.0	13	7.0	8.0	13	8.0	12.0	40	7.0	10.0	35
	Manganese	mg/kg	5	216.0	197.0	9	301.0	326.0	8	**216.0**	**350.0**	**47**	**301.0**	**440.0**	**38**
	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	2 (Primary): 5 (Interlab)	20.0	17.0	16	11.0	12.0	9	20.0	30.0	40	11.0	18.0	48
	Selenium	mg/kg	5	<5.0	<5.0	0	<5.0	<5.0	0	<5.0			<5.0		
	Vanadium	mg/kg	5 (Primary): 10 (Interlab)	35.0	33.0	6	24.0	26.0	8	35.0	59.0	51	24.0	38.0	45
	Zinc	mg/kg	5	14.0	12.0	15	84.0	85.0	1	14.0	27.0	63	84.0	110.0	27
Organochlorine Pesticides	4,4-DDE	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	a-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Aldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Aldrin + Dieldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	b-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	chlordane	mg/kg	0.05 (Primary): 0.1 (Inte	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.1	0	<0.05	<0.1	0
	Chlordane (cis)	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	Chlordane (trans)	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	d-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	DDD	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	DDT	mg/kg	0.2 (Primary): 0.05 (Inte	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.05	0	<0.2	<0.05	0
	DDT+DDE+DDD	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Dieldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	Endosulfan I	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan II	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan sulphate	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin aldehyde	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin ketone	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	g-BHC (Lindane)	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Heptachlor	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Heptachlor epoxide	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Methoxychlor	mg/kg	0.2 (Primary): 0.05 (Inte	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.05	0	<0.2	<0.05	0
Organophosphorous Pesticides	Azinophos methyl	mg/kg	0.05 (Primary): 0.2 (Inte	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.2	0	<0.05	<0.2	0
	Bromophos-ethyl	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	Carbophenothion	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	Chlorfenvinphos	mg/kg	0.05 (Primary): 0.2 (Inte	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.2	0	<0.05	<0.2	0
	Chlorpyrifos	mg/kg	0.05 (Primary): 0.2 (Inte	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.2	0	<0.05	<0.2	0
	Chlorpyrifos-methyl	mg/kg	0.05 (Primary): 0.2 (Inte	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.2	0	<0.05	<0.2	0
	Diazinon	mg/kg	0.05 (Primary): 0.2 (Inte	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.2	0	<0.05	<0.2	0
	Dichlorvos	mg/kg	0.05 (Primary): 0.2 (Inte	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.2	0	<0.05	<0.2	0
	Dimethoate	mg/kg	0.05 (Primary): 0.2 (Inte	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.2	0	<0.05	<0.2	0
	Ethion	mg/kg	0.05 (Primary): 0.2 (Inte	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.2	0	<0.05	<0.2	0
	Fenthion	mg/kg	0.05 (Primary): 0.2 (Inte	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.2	0	<0.05	<0.2	0
	Malathion	mg/kg	0.05 (Primary): 0.2 (Inte	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.2	0	<0.05	<0.2	0
	Methyl parathion	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0
	Monocrotophos	mg/kg	0.2 (Primary): 2 (Interlab	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<2.0	0	<0.2	<2.0	0
	Prothiofos	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
Pesticides	Demeton-S-methyl	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	Fenamiphos	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	Parathion	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0
	Pirimphos-ethyl	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 80 (1-10 x EQL); 50 (10-30 x EQL); 30 (> 30 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Field Blanks (WATER)
Filter: SDG in('ALSE-Melbourne 24-May-19')

		SDG	ALSE-Melbourne 24-May-19	ALSE-Melbourne 24-May-19	ALSE-Melbourne 24-May-19	ALSE-Melbourne 24-May-19
		Field ID	QC03	QC08	QC01	QC02
		Sampled_Date/Time	23-05-19 10:07	23-05-19 12:30	23-05-19 10:06	23-05-19 10:06
		Sample Type	Field_B	Rinsate	Trip_B	Trip_B
Chem_Group	**ChemName**	**Units**	**EQL**				
BTEX	Benzene	µg/L	1			<1	<1
	Ethylbenzene	µg/L	2			<2	<2
	Toluene	µg/L	2			<2	<2
	Total BTEX	mg/l	0.001			<0.001	<0.001
	Xylene (m & p)	µg/L	2			<2	<2
	Xylene (o)	µg/L	2			<2	<2
	Xylene Total	µg/L	2			<2	<2
	C6-C10 less BTEX (F1)	mg/l	0.02			<0.02	<0.02
Halogenated Benzenes	Hexachlorobenzene	µg/L	0.5	<0.5	<0.5		
Lead	Lead	mg/l	0.001	<0.001	<0.001		
Metals	Arsenic	mg/l	0.001	<0.001	<0.001		
	Barium	mg/l	0.001	<0.001	<0.001		
	Beryllium	mg/l	0.001	<0.001	<0.001		
	Boron	mg/l	0.05	<0.05	<0.05		
	Cadmium	mg/l	0.0001	<0.0001	<0.0001		
	Chromium (III+VI)	mg/l	0.001	<0.001	<0.001		
	Cobalt	mg/l	0.001	<0.001	<0.001		
	Copper	mg/l	0.001	<0.001	<0.001		
	Manganese	mg/l	0.001	<0.001	<0.001		
	Mercury	mg/l	0.0001	<0.0001	<0.0001		
	Nickel	mg/l	0.001	<0.001	<0.001		
	Selenium	mg/l	0.01	<0.01	<0.01		
	Vanadium	mg/l	0.01	<0.01	<0.01		
	Zinc	mg/l	0.005	<0.005	<0.005		
Organochlorine Pesticides	4,4-DDE	µg/L	0.5	<0.5	<0.5		
	a-BHC	µg/L	0.5	<0.5	<0.5		
	Aldrin	µg/L	0.5	<0.5	<0.5		
	Aldrin + Dieldrin	µg/L	0.5	<0.5	<0.5		
	b-BHC	µg/L	0.5	<0.5	<0.5		
	chlordane	µg/L	0.5	<0.5	<0.5		
	Chlordane (cis)	µg/L	0.5	<0.5	<0.5		
	Chlordane (trans)	µg/L	0.5	<0.5	<0.5		
	d-BHC	µg/L	0.5	<0.5	<0.5		
	DDD	µg/L	0.5	<0.5	<0.5		
	DDT	µg/L	2	<2	<2		
	DDT+DDE+DDD	µg/L	0.5	<0.5	<0.5		
	Dieldrin	µg/L	0.5	<0.5	<0.5		
	Endosulfan I	µg/L	0.5	<0.5	<0.5		
	Endosulfan II	µg/L	0.5	<0.5	<0.5		
	Endosulfan sulphate	µg/L	0.5	<0.5	<0.5		
	Endrin	µg/L	0.5	<0.5	<0.5		
	Endrin aldehyde	µg/L	0.5	<0.5	<0.5		
	Endrin ketone	µg/L	0.5	<0.5	<0.5		
	g-BHC (Lindane)	µg/L	0.5	<0.5	<0.5		
	Heptachlor	µg/L	0.5	<0.5	<0.5		
	Heptachlor epoxide	µg/L	0.5	<0.5	<0.5		
	Methoxychlor	µg/L	2	<2	<2		
Organophosphorous Pesticides	Azinophos methyl	µg/L	0.5	<0.5	<0.5		
	Bromophos-ethyl	µg/L	0.5	<0.5	<0.5		
	Carbophenothion	µg/L	0.5	<0.5	<0.5		
	Chlorfenvinphos	µg/L	0.5	<0.5	<0.5		
	Chlorpyrifos	µg/L	0.5	<0.5	<0.5		
	Chlorpyrifos-methyl	mg/l	0.0005	<0.0005	<0.0005		
	Diazinon	µg/L	0.5	<0.5	<0.5		
	Dichlorvos	µg/L	0.5	<0.5	<0.5		
	Dimethoate	µg/L	0.5	<0.5	<0.5		
	Ethion	µg/L	0.5	<0.5	<0.5		
	Fenthion	µg/L	0.5	<0.5	<0.5		
	Malathion	µg/L	0.5	<0.5	<0.5		
	Methyl parathion	µg/L	2	<2	<2		
	Monocrotophos	µg/L	2	<2	<2		
	Prothiofos	µg/L	0.5	<0.5	<0.5		
PAH/Phenols	Naphthalene	µg/L	5			<5	<5
Pesticides	Demeton-S-methyl	µg/L	0.5	<0.5	<0.5		
	Fenamiphos	µg/L	0.5	<0.5	<0.5		
	Parathion	µg/L	2	<2	<2		
	Pirimphos-ethyl	µg/L	0.5	<0.5	<0.5		
TPH	C6 - C9	µg/L	20			<20	<20
	C6-C10	mg/l	0.02			<0.02	<0.02

Environmental
Site Assessments

Appendix 7: Laboratory Chain of Custody Forms and Certificates of Analysis

URGENT URGENT

CHAIN OF CUSTODY

ALS Laboratory: please tick

Melbourne: 3-4 Westall Rd, Springvale VIC 3171
Ph:03 8549 9600 E: samples.melbourne@alsenviro.com

CLIENT: ENVIRONMENTAL SITE ASSESSMENTS	TURNAROUND REQUIREMENTS :	Standard TAT	FOR LABORATORY USE ONLY (Circle)
OFFICE: PO BOX 3106, WAURN PONDS VIC 3216		X Non Standard or urgent TAT (Due date): 27/05/19	Custody Seal Intact? Yes No N/A
PROJECT: COSTA GROUP - LARA	ALS QUOTE NO.: MEBQ-159-15 V2	COC SEQUENCE NUMBER	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER:		COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Seton Lillas	CONTACT PH: 0433747187	OF: 1 2 3 4 (5) 6 7	Other comment:
SAMPLER: Seton Lillas	SAMPLER MOBILE: 0433747187	RELINQUISHED BY: S. Lillas	RECEIVED BY:
COC emailed to ALS? NO	EDD FORMAT (or default):	DATE/TIME: 12.44 23/5/19	DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): office@esagroup.com.au		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): accounts@esagroup.com.au		DATE/TIME:	DATE/TIME: 24/5, 9:05

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: COMPOSITE AS PER BELOW.

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH C6-C10 + BTEX N2	P21/1A	OC/OP Pesticides	15 Metals					
1	QC01	23/5/19 10:06	W			X								
2	QC02	" 10:06	"			X								
3	QC03	" 10:07	"					X	X					
4	SP01/0-0.15	" 10:21	S				X							
5	SP02/0-0.15	" 10:26	"					X	X					
6	SP03/0-0.15	" 10:28	"					X	X					
7	SP04/0-0.15	" 10:30	"				X							
8	SP05/0-0.15	" 10:32	"					X	X					
9	QC04	" 10:32	"					X	X					
10	SP06/0-0.15	" 10:35	"					X	X					
11	SP07/0-0.15	" 10:39	"					X	X					
12	SP08/0-0.15	" 11:37	"					X	X					
					TOTAL		2	8	8					

Environmental Division Melbourne
Work Order Reference
EM1907943

Telephone : + 61-3-8549 9600

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick

Melbourne 2-4 Westall Rd Springvale VIC 3171
Ph:03 8549 9600 E: samples.melbourne@alsenviro.com

CLIENT: ENVIRONMENTAL SITE ASSESSMENTS		TURNAROUND REQUIREMENTS :	☐ Standard TAT
OFFICE:	PO BOX 3106, WAURN PONDS VIC 3216		☐ Non Standard or urgent TAT (Due date):
PROJECT:		ALS QUOTE NO.: MEBQ-159-15 V2	
ORDER NUMBER:			
PROJECT MANAGER:	Seton Lillas	CONTACT PH: 0433747187	
SAMPLER:	Seton Lillas	SAMPLER MOBILE: 0433747187	
COC emailed to ALS?	NO	EDD FORMAT (or default):	

COC SEQUENCE NUMBER
COC: 1 (2) 3 4 5 6 7
OF: 1 2 3 4 5 6 7

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No N/A
Free Ice / frozen ice bricks present upon receipt? Yes No N/A
Random Sample Temperature on Receipt: °C
Other comment:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
S. Lillas			Monica Cm
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME: 24/5 9.00

Email Reports to (will default to PM if no other addresses are listed): office@esagroup.com.au

Email Invoice to (will default to PM if no other addresses are listed): accounts@esagroup.com.au

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: COMPOSITE AS PER BELOW.

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES								Additional Information				
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	P21/1A	OCPOP pesticides + 15 Metals											
13	SP09/0-0.15	23/5/19 11.40	S			X												
14	SP10/0-0.15	" 10.42	"				+											
15	SP11/0-0.15	" 10.45	"				+											
16	SP12/0-0.15	" 10.49	"			X												
17	SP13/0-0.15	" 10.51	"				+											
18	SP14/0-0.15	" 10.54	"				+											
19	SP15/0-0.15	" 10.57	"				+											
20	SP16/0-0.15	" 11.00	"				+											
21	SP17/0-0.15	" 11.02	"				+											
22	SP18/0-0.15	" 11.05	"			X												
23	SP19/0-0.15	" 11.08	"				+											
24	SP20/0-0.15	" 11.49	"				+											
					TOTAL	5	17											

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick

Melbourne: 2-4 Westall Rd, Springvale VIC 3171
Ph 03 8549 9600 E: samples.melbourne@alsenviro.com

CLIENT: ENVIRONMENTAL SITE ASSESSMENTS	TURNAROUND REQUIREMENTS :	☐ Standard TAT	FOR LABORATORY USE ONLY (Circle)
OFFICE: PO BOX 3106, WAURN PONDS VIC 3216		☐ Non Standard or urgent TAT (Due date):	Custody Seal Intact? Yes No N/A
PROJECT:	ALS QUOTE NO.: MEBQ-159-15 V2	COC SEQUENCE NUMBER	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER:		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Seton Lillas	CONTACT PH: 0433747187	OF: 1 2 3 4 5 6 7	Other comment:

SAMPLER: Seton Lillas	SAMPLER MOBILE: 0433747187	RELINQUISHED BY: S. Lillas	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? NO	EDD FORMAT (or default):	DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME: 24/5 9.05

Email Reports to (will default to PM if no other addresses are listed): office@esagroup.com.au

Email Invoice to (will default to PM if no other addresses are listed): accounts@esagroup.com.au

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: COMPOSITE AS PER BELOW.

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES		Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	P21/1A	OC/OP Pesticides + 15 Metals	
26	SP21/0-0.15	23/5/19 11.46	S				X	
26	SP22/0-0.15	" 11.44	"				X	
27	SP23/0-0.15	" 11.56	"				X	
28	SP24/0-0.15	" 11.54	"			X		
29	SP25/0-0.15	" 11.51	"				X	
30	QC06	" 11.51	"				X	
31	SP26/0-0.15	" 11.12	"				X	
32	SP27/0-0.15	" 11.13	"				X	
33	SP28/0-0.15	" 11.18	"				X	
34	SP29/0-0.15	" 11.16	"				X	
35	SP30/0-0.15	" 11.20	"				X	
36	SP31/0-0.15	" 11.23	"				X	
				TOTAL		6	28	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick

Melbourne: 2-4 Westall Rd, Springvale VIC 3171
Ph 03 8549 9600 E: samples.melbourne@alsenviro.com

CLIENT: ENVIRONMENTAL SITE ASSESSMENTS		TURNAROUND REQUIREMENTS :	Standard TAT / Non Standard or urgent TAT (Due date):
OFFICE:	PO BOX 3106, WAURN PONDS VIC 3216		
PROJECT:		ALS QUOTE NO.: MEBQ-159-15 V2	
ORDER NUMBER:			COC SEQUENCE NUMBER — COC: 1 2 3 4 5 6 7 — OF: 1 2 3 4 5 6 7
PROJECT MANAGER:	Seton Lillas	CONTACT PH: 0433747187	
SAMPLER:	Seton Lillas	SAMPLER MOBILE: 0433747187	
COC emailed to ALS?	NO	EDD FORMAT (or default):	
Email Reports to (will default to PM if no other addresses are listed): office@esagroup.com.au			
Email Invoice to (will default to PM if no other addresses are listed): accounts@esagroup.com.au			

FOR LABORATORY USE ONLY (Circle)
Custody Seal intact? Yes No N/A
Free ice / frozen ice bricks present upon receipt? Yes No N/A
Random Sample Temperature on Receipt: °C
Other comment:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
S. Lillas			Melbourne (Pm)
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME: 24/5 9.05

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: COMPOSITE AS PER BELOW.

ALS USE ONLY	SAMPLE DETAILS (MATRIX: Solid(S) Water(W))			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES		Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	P21/IA	OCOP Pesticides + 15 Metals	
37	SP32/0-0.15	23/5/19 11.25	S				+	
38	SP33/0-0.15	" 11.28	"			X		
39	SP34/0-0.15	" 12.01	"				+	
40	SP35/0-0.15	" 12.04	"				+	
41	SP36/0-0.15	" 12.08	"				+	
42	SP37/0-0.15	" 12.10	"				+	
43	SP38/0-0.15	" 12.12	"			X		
44	SP39/0-0.15	" 11.31	"				+	
45	SP40/0-0.15	" 12.14	"			X		
46	SP41/0-0.15	" 12.18	"				+	
47	SP42/0-0.15	" 12.23	"			X		
48	SP43/0-0.15	" 12.27	"				+	
					TOTAL	10	36	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick

Melbourne: 2-4 Aspinall Rd Springvale VIC 3171
Ph 03 8549 9600 E: samples.melbourne@alsenviro.com

CLIENT: ENVIRONMENTAL SITE ASSESSMENTS	**TURNAROUND REQUIREMENTS :**	☐ Standard TAT	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: PO BOX 3106, WAURN PONDS VIC 3216		☐ Non Standard or urgent TAT (Due date):	Custody Seal Intact? Yes No N/A
PROJECT:	**ALS QUOTE NO.:** MEBQ-159-15 V2	**COC SEQUENCE NUMBER**	Free Ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER:		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Seton Lillas	**CONTACT PH:** 0433747187	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Seton Lillas	**SAMPLER MOBILE:** 0433747187		
COC emailed to ALS? NO	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): office@esagroup.com.au			
Email Invoice to (will default to PM if no other addresses are listed): accounts@esagroup.com.au			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
S. Lillas			[illegible]
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME: 24/5 9.05

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: COMPOSITE AS PER BELOW.

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES								Additional Information				
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES		OC/OP Pesticides + 15 Metals											
49	Q108	23/5/19 12.30	W				X											
					TOTAL													

WaterContainerCodes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM1907943**	Page	: 1 of 49
Client	: **ENVIRONMENTAL SITE ASSESSMENTS PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR SETON LILLAS	Contact	: Larissa Burns
Address	: P.O. BOX 3106 WAURN PONDS VIC 3216	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: +6138549 9644
Project	: COSTA GROUP - LARA	Date Samples Received	: 24-May-2019 09:05
Order number	:	Date Analysis Commenced	: 24-May-2019
C-O-C number	: ----	Issue Date	: 27-May-2019 19:23
Sampler	: SL		
Site	: ----		
Quote number	: MEBQ/159/15 V2		
No. of samples received	: 49		
No. of samples analysed	: 49		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Nikki Stepniewski	Senior Inorganic Instrument Chemist	Melbourne Inorganics, Springvale, VIC

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP01/0-0.15	SP02/0-0.15	SP03/0-0.15	SP04/0-0.15	SP05/0-0.15
			Client sampling date / time	23-May-2019 10:21	23-May-2019 10:26	23-May-2019 10:28	23-May-2019 10:30	23-May-2019 10:32
Compound	CAS Number	LOR	Unit	EM1907943-004	EM1907943-005	EM1907943-006	EM1907943-007	EM1907943-008
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	18.4	19.7	16.0	16.7	15.7
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	60	60	70	80	80
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg	<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	20	18	27	28	27
Cobalt	7440-48-4	2	mg/kg	7	6	8	8	7
Copper	7440-50-8	5	mg/kg	7	6	9	9	8
Lead	7439-92-1	5	mg/kg	7	7	9	9	8
Manganese	7439-96-5	5	mg/kg	194	184	248	255	216
Nickel	7440-02-0	2	mg/kg	14	12	20	20	20
Selenium	7782-49-2	5	mg/kg	<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg	26	23	38	37	35
Zinc	7440-66-6	5	mg/kg	13	12	15	16	14
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	----	----	<0.5	----
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	----	----	1	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	----	<0.05	<0.05	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP01/0-0.15	SP02/0-0.15	SP03/0-0.15	SP04/0-0.15	SP05/0-0.15
			Client sampling date / time	23-May-2019 10:21	23-May-2019 10:26	23-May-2019 10:28	23-May-2019 10:30	23-May-2019 10:32
Compound	CAS Number	LOR	Unit	EM1907943-004	EM1907943-005	EM1907943-006	EM1907943-007	EM1907943-008
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Mirex	2385-85-5	0.20	mg/kg	<0.20	----	----	<0.20	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP01/0-0.15	SP02/0-0.15	SP03/0-0.15	SP04/0-0.15	SP05/0-0.15
			Client sampling date / time	23-May-2019 10:21	23-May-2019 10:26	23-May-2019 10:28	23-May-2019 10:30	23-May-2019 10:32
Compound	CAS Number	LOR	Unit	EM1907943-004	EM1907943-005	EM1907943-006	EM1907943-007	EM1907943-008
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068C: Triazines								
Atrazine	1912-24-9	0.05	mg/kg	<0.05	----	----	<0.05	----
EP068D: Pyrethroids								
Bifenthrin	82657-04-3	0.05	mg/kg	<0.05	----	----	<0.05	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	----	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	<0.5	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	----	----	<1	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	<0.5	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	<0.5	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	----	----	<2	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	<0.5	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	<0.5	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	<0.5	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	<0.5	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP01/0-0.15	SP02/0-0.15	SP03/0-0.15	SP04/0-0.15	SP05/0-0.15
			Client sampling date / time	23-May-2019 10:21	23-May-2019 10:26	23-May-2019 10:28	23-May-2019 10:30	23-May-2019 10:32
Compound	CAS Number	LOR	Unit	EM1907943-004	EM1907943-005	EM1907943-006	EM1907943-007	EM1907943-008
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	<0.5	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	----	<0.5	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	----	----	<0.5	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	----	----	**0.6**	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	----	----	**1.2**	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	----	<10	----
C10 - C14 Fraction	----	50	mg/kg	<50	----	----	<50	----
C15 - C28 Fraction	----	100	mg/kg	<100	----	----	<100	----
C29 - C36 Fraction	----	100	mg/kg	<100	----	----	<100	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	----	<50	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	----	----	<10	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	----	----	<10	----
>C10 - C16 Fraction	----	50	mg/kg	<50	----	----	<50	----
>C16 - C34 Fraction	----	100	mg/kg	<100	----	----	<100	----
>C34 - C40 Fraction	----	100	mg/kg	<100	----	----	<100	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	----	----	<50	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	----	----	<50	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	----	<0.2	----
Toluene	108-88-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	----	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	----	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	----	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	----	----	<0.2	----
^ Total Xylenes	----	0.5	mg/kg	<0.5	----	----	<0.5	----
Naphthalene	91-20-3	1	mg/kg	<1	----	----	<1	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**92.3**	----	----	**88.5**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP01/0-0.15	SP02/0-0.15	SP03/0-0.15	SP04/0-0.15	SP05/0-0.15
			Client sampling date / time	23-May-2019 10:21	23-May-2019 10:26	23-May-2019 10:28	23-May-2019 10:30	23-May-2019 10:32
Compound	CAS Number	LOR	Unit	EM1907943-004	EM1907943-005	EM1907943-006	EM1907943-007	EM1907943-008
				Result	Result	Result	Result	Result
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	89.4	91.0	89.2	93.5	93.9
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	83.3	85.1	86.9	91.1	92.7
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	94.5	----	----	95.8	----
2-Chlorophenol-D4	93951-73-6	0.5	%	97.4	----	----	96.7	----
2.4.6-Tribromophenol	118-79-6	0.5	%	78.4	----	----	78.6	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	101	----	----	102	----
Anthracene-d10	1719-06-8	0.5	%	108	----	----	108	----
4-Terphenyl-d14	1718-51-0	0.5	%	104	----	----	104	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	72.6	----	----	70.6	----
Toluene-D8	2037-26-5	0.2	%	76.0	----	----	73.4	----
4-Bromofluorobenzene	460-00-4	0.2	%	102	----	----	88.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	QC04	SP06/0-0.15	SP07/0-0.15	SP08/0-0.15	SP09/0-0.15
			Client sampling date / time	23-May-2019 10:32	23-May-2019 10:35	23-May-2019 10:39	23-May-2019 11:37	23-May-2019 11:40
Compound	CAS Number	LOR	Unit	EM1907943-009	EM1907943-010	EM1907943-011	EM1907943-012	EM1907943-013
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	14.0	12.1	14.2	11.5	9.7
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	5	<5	<5
Barium	7440-39-3	10	mg/kg	70	40	20	30	20
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg	<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	25	23	24	18	14
Cobalt	7440-48-4	2	mg/kg	6	6	6	7	3
Copper	7440-50-8	5	mg/kg	7	6	6	6	<5
Lead	7439-92-1	5	mg/kg	8	10	11	10	8
Manganese	7439-96-5	5	mg/kg	197	143	135	233	93
Nickel	7440-02-0	2	mg/kg	17	12	14	11	6
Selenium	7782-49-2	5	mg/kg	<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg	33	34	36	26	21
Zinc	7440-66-6	5	mg/kg	12	16	23	40	12
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	----	----	<0.5
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	----	----	----	1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	QC04	SP06/0-0.15	SP07/0-0.15	SP08/0-0.15	SP09/0-0.15
			Client sampling date / time	23-May-2019 10:32	23-May-2019 10:35	23-May-2019 10:39	23-May-2019 11:37	23-May-2019 11:40
Compound	CAS Number	LOR	Unit	EM1907943-009	EM1907943-010	EM1907943-011	EM1907943-012	EM1907943-013
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Mirex	2385-85-5	0.20	mg/kg	----	----	----	----	<0.20
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	QC04	SP06/0-0.15	SP07/0-0.15	SP08/0-0.15	SP09/0-0.15
			Client sampling date / time	23-May-2019 10:32	23-May-2019 10:35	23-May-2019 10:39	23-May-2019 11:37	23-May-2019 11:40
Compound	CAS Number	LOR	Unit	EM1907943-009	EM1907943-010	EM1907943-011	EM1907943-012	EM1907943-013
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068C: Triazines								
Atrazine	1912-24-9	0.05	mg/kg	----	----	----	----	<0.05
EP068D: Pyrethroids								
Bifenthrin	82657-04-3	0.05	mg/kg	----	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	----	----	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	----	----	----	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	----	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	----	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	----	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	----	----	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	----	----	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	----	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	----	----	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	----	----	----	----	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	----	----	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	----	----	----	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	----	----	----	----	<0.5
Anthracene	120-12-7	0.5	mg/kg	----	----	----	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	----	----	----	<0.5
Pyrene	129-00-0	0.5	mg/kg	----	----	----	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	----	----	<0.5
Chrysene	218-01-9	0.5	mg/kg	----	----	----	----	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	----	----	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	----	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	----	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	QC04	SP06/0-0.15	SP07/0-0.15	SP08/0-0.15	SP09/0-0.15
			Client sampling date / time	23-May-2019 10:32	23-May-2019 10:35	23-May-2019 10:39	23-May-2019 11:37	23-May-2019 11:40
Compound	CAS Number	LOR	Unit	EM1907943-009	EM1907943-010	EM1907943-011	EM1907943-012	EM1907943-013
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	----	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	----	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	----	----	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	----	----	----	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	----	----	----	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	----	----	----	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	----	----	----	**1.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	----	----	----	<10
C10 - C14 Fraction	----	50	mg/kg	----	----	----	----	<50
C15 - C28 Fraction	----	100	mg/kg	----	----	----	----	<100
C29 - C36 Fraction	----	100	mg/kg	----	----	----	----	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	----	----	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	----	----	----	----	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	----	----	----	<10
>C10 - C16 Fraction	----	50	mg/kg	----	----	----	----	<50
>C16 - C34 Fraction	----	100	mg/kg	----	----	----	----	<100
>C34 - C40 Fraction	----	100	mg/kg	----	----	----	----	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	----	----	----	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	----	----	----	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	----	----	----	----	<0.2
Toluene	108-88-3	0.5	mg/kg	----	----	----	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	----	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	----	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg	----	----	----	----	<0.2
^ Total Xylenes	----	0.5	mg/kg	----	----	----	----	<0.5
Naphthalene	91-20-3	1	mg/kg	----	----	----	----	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	**89.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	QC04	SP06/0-0.15	SP07/0-0.15	SP08/0-0.15	SP09/0-0.15
			Client sampling date / time	23-May-2019 10:32	23-May-2019 10:35	23-May-2019 10:39	23-May-2019 11:37	23-May-2019 11:40
Compound	CAS Number	LOR	Unit	EM1907943-009	EM1907943-010	EM1907943-011	EM1907943-012	EM1907943-013
				Result	Result	Result	Result	Result
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	89.0	93.2	93.7	91.6	100
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	89.5	93.5	94.3	93.6	96.8
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	----	----	----	----	101
2-Chlorophenol-D4	93951-73-6	0.5	%	----	----	----	----	102
2.4.6-Tribromophenol	118-79-6	0.5	%	----	----	----	----	85.3
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	----	----	----	----	105
Anthracene-d10	1719-06-8	0.5	%	----	----	----	----	111
4-Terphenyl-d14	1718-51-0	0.5	%	----	----	----	----	108
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	----	----	----	----	79.7
Toluene-D8	2037-26-5	0.2	%	----	----	----	----	77.2
4-Bromofluorobenzene	460-00-4	0.2	%	----	----	----	----	94.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP10/0-0.15	SP11/0-0.15	SP12/0-0.15	SP13/0-0.15	SP14/0-0.15
			Client sampling date / time	23-May-2019 10:42	23-May-2019 10:45	23-May-2019 10:49	23-May-2019 10:51	23-May-2019 10:54
Compound	CAS Number	LOR	Unit	EM1907943-014	EM1907943-015	EM1907943-016	EM1907943-017	EM1907943-018
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	13.1	14.4	15.1	14.6	17.7
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	10	20	50	60	80
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg	<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	22	26	27	19	19
Cobalt	7440-48-4	2	mg/kg	5	6	9	7	7
Copper	7440-50-8	5	mg/kg	<5	6	7	6	7
Lead	7439-92-1	5	mg/kg	12	11	9	7	6
Manganese	7439-96-5	5	mg/kg	129	147	277	260	235
Nickel	7440-02-0	2	mg/kg	9	12	18	13	14
Selenium	7782-49-2	5	mg/kg	<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg	37	41	39	28	24
Zinc	7440-66-6	5	mg/kg	23	15	13	11	13
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	<0.5	----	----
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	----	1	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	<0.1	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP10/0-0.15	SP11/0-0.15	SP12/0-0.15	SP13/0-0.15	SP14/0-0.15
			Client sampling date / time	23-May-2019 10:42	23-May-2019 10:45	23-May-2019 10:49	23-May-2019 10:51	23-May-2019 10:54
Compound	CAS Number	LOR	Unit	EM1907943-014	EM1907943-015	EM1907943-016	EM1907943-017	EM1907943-018
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Mirex	2385-85-5	0.20	mg/kg	----	----	<0.20	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP10/0-0.15	SP11/0-0.15	SP12/0-0.15	SP13/0-0.15	SP14/0-0.15
			Client sampling date / time	23-May-2019 10:42	23-May-2019 10:45	23-May-2019 10:49	23-May-2019 10:51	23-May-2019 10:54
Compound	CAS Number	LOR	Unit	EM1907943-014	EM1907943-015	EM1907943-016	EM1907943-017	EM1907943-018
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068C: Triazines								
Atrazine	1912-24-9	0.05	mg/kg	----	----	<0.05	----	----
EP068D: Pyrethroids								
Bifenthrin	82657-04-3	0.05	mg/kg	----	----	<0.05	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	<0.5	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	----	<1	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	<0.5	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	----	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	<0.5	----	----
Pentachlorophenol	87-86-5	2	mg/kg	----	----	<2	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	----	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	----	----	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	----	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg	----	----	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	----	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg	----	----	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg	----	----	<0.5	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	----	<0.5	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP10/0-0.15	SP11/0-0.15	SP12/0-0.15	SP13/0-0.15	SP14/0-0.15
			Client sampling date / time	23-May-2019 10:42	23-May-2019 10:45	23-May-2019 10:49	23-May-2019 10:51	23-May-2019 10:54
Compound	CAS Number	LOR	Unit	EM1907943-014	EM1907943-015	EM1907943-016	EM1907943-017	EM1907943-018
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	<0.5	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	----	<0.5	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	----	<0.5	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	----	**0.6**	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	----	**1.2**	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	----	<10	----	----
C10 - C14 Fraction	----	50	mg/kg	----	----	<50	----	----
C15 - C28 Fraction	----	100	mg/kg	----	----	<100	----	----
C29 - C36 Fraction	----	100	mg/kg	----	----	<100	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	----	----	<10	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	----	<10	----	----
>C10 - C16 Fraction	----	50	mg/kg	----	----	<50	----	----
>C16 - C34 Fraction	----	100	mg/kg	----	----	<100	----	----
>C34 - C40 Fraction	----	100	mg/kg	----	----	<100	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	----	<50	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	----	<50	----	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	----	----	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg	----	----	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg	----	----	<0.2	----	----
^ Total Xylenes	----	0.5	mg/kg	----	----	<0.5	----	----
Naphthalene	91-20-3	1	mg/kg	----	----	<1	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	**87.7**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP10/0-0.15	SP11/0-0.15	SP12/0-0.15	SP13/0-0.15	SP14/0-0.15
			Client sampling date / time	23-May-2019 10:42	23-May-2019 10:45	23-May-2019 10:49	23-May-2019 10:51	23-May-2019 10:54
Compound	CAS Number	LOR	Unit	EM1907943-014	EM1907943-015	EM1907943-016	EM1907943-017	EM1907943-018
				Result	Result	Result	Result	Result
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	92.0	100	99.5	93.0	91.4
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	93.8	92.8	92.0	98.3	94.4
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	----	----	92.5	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	----	----	93.2	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	----	----	75.7	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	----	----	98.3	----	----
Anthracene-d10	1719-06-8	0.5	%	----	----	104	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	----	----	99.8	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	----	----	71.1	----	----
Toluene-D8	2037-26-5	0.2	%	----	----	73.2	----	----
4-Bromofluorobenzene	460-00-4	0.2	%	----	----	96.0	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP15/0-0.15	SP16/0-0.15	SP17/0-0.15	SP18/0-0.15	SP19/0-0.15
			Client sampling date / time	23-May-2019 10:57	23-May-2019 11:00	23-May-2019 11:02	23-May-2019 11:05	23-May-2019 11:08
Compound	CAS Number	LOR	Unit	EM1907943-019	EM1907943-020	EM1907943-021	EM1907943-022	EM1907943-023
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	15.7	14.2	15.8	16.7	13.4
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	90	80	60	30	10
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg	<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	21	19	17	24	17
Cobalt	7440-48-4	2	mg/kg	6	7	6	6	5
Copper	7440-50-8	5	mg/kg	8	6	6	6	<5
Lead	7439-92-1	5	mg/kg	6	6	6	8	6
Manganese	7439-96-5	5	mg/kg	213	230	226	163	175
Nickel	7440-02-0	2	mg/kg	17	13	12	12	7
Selenium	7782-49-2	5	mg/kg	<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg	27	26	24	35	26
Zinc	7440-66-6	5	mg/kg	14	12	12	12	6
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	----	<0.5	----
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	----	----	1	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP15/0-0.15	SP16/0-0.15	SP17/0-0.15	SP18/0-0.15	SP19/0-0.15
			Client sampling date / time	23-May-2019 10:57	23-May-2019 11:00	23-May-2019 11:02	23-May-2019 11:05	23-May-2019 11:08
Compound	CAS Number	LOR	Unit	EM1907943-019	EM1907943-020	EM1907943-021	EM1907943-022	EM1907943-023
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Mirex	2385-85-5	0.20	mg/kg	----	----	----	<0.20	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP15/0-0.15	SP16/0-0.15	SP17/0-0.15	SP18/0-0.15	SP19/0-0.15
			Client sampling date / time	23-May-2019 10:57	23-May-2019 11:00	23-May-2019 11:02	23-May-2019 11:05	23-May-2019 11:08
Compound	CAS Number	LOR	Unit	EM1907943-019	EM1907943-020	EM1907943-021	EM1907943-022	EM1907943-023
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068C: Triazines								
Atrazine	1912-24-9	0.05	mg/kg	----	----	----	<0.05	----
EP068D: Pyrethroids								
Bifenthrin	82657-04-3	0.05	mg/kg	----	----	----	<0.05	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	----	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	----	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	----	<0.5	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	----	----	<1	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	----	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	----	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	----	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	----	<0.5	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	----	----	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	----	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	----	<0.5	----
Pentachlorophenol	87-86-5	2	mg/kg	----	----	----	<2	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	----	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	----	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg	----	----	----	<0.5	----
Fluorene	86-73-7	0.5	mg/kg	----	----	----	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg	----	----	----	<0.5	----
Anthracene	120-12-7	0.5	mg/kg	----	----	----	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg	----	----	----	<0.5	----
Pyrene	129-00-0	0.5	mg/kg	----	----	----	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	----	<0.5	----
Chrysene	218-01-9	0.5	mg/kg	----	----	----	<0.5	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	----	----	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	----	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	----	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP15/0-0.15	SP16/0-0.15	SP17/0-0.15	SP18/0-0.15	SP19/0-0.15
			Client sampling date / time	23-May-2019 10:57	23-May-2019 11:00	23-May-2019 11:02	23-May-2019 11:05	23-May-2019 11:08
Compound	CAS Number	LOR	Unit	EM1907943-019	EM1907943-020	EM1907943-021	EM1907943-022	EM1907943-023
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	----	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	----	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	----	<0.5	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	----	----	<0.5	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	----	----	<0.5	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	----	----	**0.6**	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	----	----	**1.2**	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	----	----	<10	----
C10 - C14 Fraction	----	50	mg/kg	----	----	----	<50	----
C15 - C28 Fraction	----	100	mg/kg	----	----	----	<100	----
C29 - C36 Fraction	----	100	mg/kg	----	----	----	<100	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	----	<50	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	----	----	----	<10	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	----	----	<10	----
>C10 - C16 Fraction	----	50	mg/kg	----	----	----	<50	----
>C16 - C34 Fraction	----	100	mg/kg	----	----	----	<100	----
>C34 - C40 Fraction	----	100	mg/kg	----	----	----	<100	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	----	----	<50	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	----	----	<50	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	----	----	----	<0.2	----
Toluene	108-88-3	0.5	mg/kg	----	----	----	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	----	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	----	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	----	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg	----	----	----	<0.2	----
^ Total Xylenes	----	0.5	mg/kg	----	----	----	<0.5	----
Naphthalene	91-20-3	1	mg/kg	----	----	----	<1	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	**85.8**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP15/0-0.15	SP16/0-0.15	SP17/0-0.15	SP18/0-0.15	SP19/0-0.15
			Client sampling date / time	23-May-2019 10:57	23-May-2019 11:00	23-May-2019 11:02	23-May-2019 11:05	23-May-2019 11:08
Compound	CAS Number	LOR	Unit	EM1907943-019	EM1907943-020	EM1907943-021	EM1907943-022	EM1907943-023
				Result	Result	Result	Result	Result
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	93.8	87.0	92.0	96.5	95.0
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	96.8	89.7	98.0	90.8	91.6
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	----	----	----	93.3	----
2-Chlorophenol-D4	93951-73-6	0.5	%	----	----	----	92.7	----
2.4.6-Tribromophenol	118-79-6	0.5	%	----	----	----	76.4	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	----	----	----	96.0	----
Anthracene-d10	1719-06-8	0.5	%	----	----	----	102	----
4-Terphenyl-d14	1718-51-0	0.5	%	----	----	----	98.0	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	----	----	----	69.5	----
Toluene-D8	2037-26-5	0.2	%	----	----	----	69.4	----
4-Bromofluorobenzene	460-00-4	0.2	%	----	----	----	86.7	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP20/0-0.15	SP21/0-0.15	SP22/0-0.15	SP23/0-0.15	SP24/0-0.15
			Client sampling date / time	23-May-2019 11:49	23-May-2019 11:46	23-May-2019 11:44	23-May-2019 11:56	23-May-2019 11:54
Compound	CAS Number	LOR	Unit	EM1907943-024	EM1907943-025	EM1907943-026	EM1907943-027	EM1907943-028
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	15.8	16.4	12.1	17.4	15.2
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	80	30	50	60	70
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg	<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	26	25	17	20	19
Cobalt	7440-48-4	2	mg/kg	8	5	5	5	7
Copper	7440-50-8	5	mg/kg	10	12	8	9	7
Lead	7439-92-1	5	mg/kg	13	32	30	26	8
Manganese	7439-96-5	5	mg/kg	287	126	143	200	340
Nickel	7440-02-0	2	mg/kg	21	18	10	8	14
Selenium	7782-49-2	5	mg/kg	<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg	37	38	24	31	25
Zinc	7440-66-6	5	mg/kg	50	467	34	126	25
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	----	----	<0.5
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	----	----	----	<1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP20/0-0.15	SP21/0-0.15	SP22/0-0.15	SP23/0-0.15	SP24/0-0.15
			Client sampling date / time	23-May-2019 11:49	23-May-2019 11:46	23-May-2019 11:44	23-May-2019 11:56	23-May-2019 11:54
Compound	CAS Number	LOR	Unit	EM1907943-024	EM1907943-025	EM1907943-026	EM1907943-027	EM1907943-028
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Mirex	2385-85-5	0.20	mg/kg	----	----	----	----	<0.20
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP20/0-0.15	SP21/0-0.15	SP22/0-0.15	SP23/0-0.15	SP24/0-0.15
			Client sampling date / time	23-May-2019 11:49	23-May-2019 11:46	23-May-2019 11:44	23-May-2019 11:56	23-May-2019 11:54
Compound	CAS Number	LOR	Unit	EM1907943-024	EM1907943-025	EM1907943-026	EM1907943-027	EM1907943-028
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068C: Triazines								
Atrazine	1912-24-9	0.05	mg/kg	----	----	----	----	<0.05
EP068D: Pyrethroids								
Bifenthrin	82657-04-3	0.05	mg/kg	----	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	----	----	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	----	----	----	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	----	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	----	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	----	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	----	----	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	----	----	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	----	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	----	----	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	----	----	----	----	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	----	----	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	----	----	----	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	----	----	----	----	<0.5
Anthracene	120-12-7	0.5	mg/kg	----	----	----	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	----	----	----	<0.5
Pyrene	129-00-0	0.5	mg/kg	----	----	----	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	----	----	<0.5
Chrysene	218-01-9	0.5	mg/kg	----	----	----	----	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	----	----	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	----	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	----	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP20/0-0.15	SP21/0-0.15	SP22/0-0.15	SP23/0-0.15	SP24/0-0.15
			Client sampling date / time	23-May-2019 11:49	23-May-2019 11:46	23-May-2019 11:44	23-May-2019 11:56	23-May-2019 11:54
Compound	CAS Number	LOR	Unit	EM1907943-024	EM1907943-025	EM1907943-026	EM1907943-027	EM1907943-028
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	----	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	----	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	----	----	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	----	----	----	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	----	----	----	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	----	----	----	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	----	----	----	**1.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	----	----	----	<10
C10 - C14 Fraction	----	50	mg/kg	----	----	----	----	<50
C15 - C28 Fraction	----	100	mg/kg	----	----	----	----	<100
C29 - C36 Fraction	----	100	mg/kg	----	----	----	----	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	----	----	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	----	----	----	----	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	----	----	----	<10
>C10 - C16 Fraction	----	50	mg/kg	----	----	----	----	<50
>C16 - C34 Fraction	----	100	mg/kg	----	----	----	----	<100
>C34 - C40 Fraction	----	100	mg/kg	----	----	----	----	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	----	----	----	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	----	----	----	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	----	----	----	----	<0.2
Toluene	108-88-3	0.5	mg/kg	----	----	----	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	----	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	----	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg	----	----	----	----	<0.2
^ Total Xylenes	----	0.5	mg/kg	----	----	----	----	<0.5
Naphthalene	91-20-3	1	mg/kg	----	----	----	----	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	**106**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP20/0-0.15	SP21/0-0.15	SP22/0-0.15	SP23/0-0.15	SP24/0-0.15
			Client sampling date / time	23-May-2019 11:49	23-May-2019 11:46	23-May-2019 11:44	23-May-2019 11:56	23-May-2019 11:54
Compound	CAS Number	LOR	Unit	EM1907943-024	EM1907943-025	EM1907943-026	EM1907943-027	EM1907943-028
				Result	Result	Result	Result	Result
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	88.3	83.6	85.2	84.4	84.7
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	84.0	82.7	86.6	87.9	88.1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	----	----	----	----	92.9
2-Chlorophenol-D4	93951-73-6	0.5	%	----	----	----	----	96.6
2.4.6-Tribromophenol	118-79-6	0.5	%	----	----	----	----	75.9
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	----	----	----	----	106
Anthracene-d10	1719-06-8	0.5	%	----	----	----	----	116
4-Terphenyl-d14	1718-51-0	0.5	%	----	----	----	----	114
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	----	----	----	----	71.7
Toluene-D8	2037-26-5	0.2	%	----	----	----	----	70.3
4-Bromofluorobenzene	460-00-4	0.2	%	----	----	----	----	86.6

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP25/0-0.15	QC06	SP26/0-0.15	SP27/0-0.15	SP28/0-0.15
			Client sampling date / time	23-May-2019 11:51	23-May-2019 11:51	23-May-2019 11:12	23-May-2019 11:13	23-May-2019 11:18
Compound	CAS Number	LOR	Unit	EM1907943-029	EM1907943-030	EM1907943-031	EM1907943-032	EM1907943-033
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	17.6	11.7	14.0	12.3	10.8
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	60	70	30	40	10
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg	<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	18	20	22	21	22
Cobalt	7440-48-4	2	mg/kg	7	8	9	8	5
Copper	7440-50-8	5	mg/kg	7	8	6	6	<5
Lead	7439-92-1	5	mg/kg	10	11	11	8	8
Manganese	7439-96-5	5	mg/kg	301	326	279	241	105
Nickel	7440-02-0	2	mg/kg	11	12	13	11	9
Selenium	7782-49-2	5	mg/kg	<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg	24	26	31	31	34
Zinc	7440-66-6	5	mg/kg	84	85	12	10	7
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP25/0-0.15	QC06	SP26/0-0.15	SP27/0-0.15	SP28/0-0.15
			Client sampling date / time	23-May-2019 11:51	23-May-2019 11:51	23-May-2019 11:12	23-May-2019 11:13	23-May-2019 11:18
Compound	CAS Number	LOR	Unit	EM1907943-029	EM1907943-030	EM1907943-031	EM1907943-032	EM1907943-033
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**81.0**	**85.1**	**85.7**	**83.0**	**94.0**
EP068T: Organophosphorus Pesticide Surrogate								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP25/0-0.15	QC06	SP26/0-0.15	SP27/0-0.15	SP28/0-0.15
			Client sampling date / time	23-May-2019 11:51	23-May-2019 11:51	23-May-2019 11:12	23-May-2019 11:13	23-May-2019 11:18
Compound	CAS Number	LOR	Unit	EM1907943-029	EM1907943-030	EM1907943-031	EM1907943-032	EM1907943-033
				Result	Result	Result	Result	Result
EP068T: Organophosphorus Pesticide Surrogate - Continued								
DEF	78-48-8	0.05	%	**84.5**	**88.6**	**92.0**	**86.5**	**87.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP29/0-0.15	SP30/0-0.15	SP31/0-0.15	SP32/0-0.15	SP33/0-0.15
			Client sampling date / time	23-May-2019 11:16	23-May-2019 11:20	23-May-2019 11:23	23-May-2019 11:25	23-May-2019 11:28
Compound	CAS Number	LOR	Unit	EM1907943-034	EM1907943-035	EM1907943-036	EM1907943-037	EM1907943-038
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	12.4	10.1	12.1	16.1	13.8
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	20	10	20	20	<10
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg	<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	22	23	30	30	3
Cobalt	7440-48-4	2	mg/kg	6	5	6	8	<2
Copper	7440-50-8	5	mg/kg	<5	5	7	8	<5
Lead	7439-92-1	5	mg/kg	9	9	9	10	<5
Manganese	7439-96-5	5	mg/kg	223	111	116	186	44
Nickel	7440-02-0	2	mg/kg	9	9	14	14	<2
Selenium	7782-49-2	5	mg/kg	<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg	36	38	42	44	<5
Zinc	7440-66-6	5	mg/kg	8	9	14	12	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	----	----	<0.5
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	----	----	----	1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP29/0-0.15	SP30/0-0.15	SP31/0-0.15	SP32/0-0.15	SP33/0-0.15
			Client sampling date / time	23-May-2019 11:16	23-May-2019 11:20	23-May-2019 11:23	23-May-2019 11:25	23-May-2019 11:28
Compound	CAS Number	LOR	Unit	EM1907943-034	EM1907943-035	EM1907943-036	EM1907943-037	EM1907943-038
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Mirex	2385-85-5	0.20	mg/kg	----	----	----	----	<0.20
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP29/0-0.15	SP30/0-0.15	SP31/0-0.15	SP32/0-0.15	SP33/0-0.15
			Client sampling date / time	23-May-2019 11:16	23-May-2019 11:20	23-May-2019 11:23	23-May-2019 11:25	23-May-2019 11:28
Compound	CAS Number	LOR	Unit	EM1907943-034	EM1907943-035	EM1907943-036	EM1907943-037	EM1907943-038
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068C: Triazines								
Atrazine	1912-24-9	0.05	mg/kg	----	----	----	----	<0.05
EP068D: Pyrethroids								
Bifenthrin	82657-04-3	0.05	mg/kg	----	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	----	----	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	----	----	----	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	----	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	----	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	----	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	----	----	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	----	----	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	----	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	----	----	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	----	----	----	----	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	----	----	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	----	----	----	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	----	----	----	----	<0.5
Anthracene	120-12-7	0.5	mg/kg	----	----	----	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	----	----	----	<0.5
Pyrene	129-00-0	0.5	mg/kg	----	----	----	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	----	----	<0.5
Chrysene	218-01-9	0.5	mg/kg	----	----	----	----	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	----	----	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	----	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	----	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP29/0-0.15	SP30/0-0.15	SP31/0-0.15	SP32/0-0.15	SP33/0-0.15
			Client sampling date / time	23-May-2019 11:16	23-May-2019 11:20	23-May-2019 11:23	23-May-2019 11:25	23-May-2019 11:28
Compound	CAS Number	LOR	Unit	EM1907943-034	EM1907943-035	EM1907943-036	EM1907943-037	EM1907943-038
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	----	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	----	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	----	----	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	----	----	----	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	----	----	----	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	----	----	----	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	----	----	----	**1.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	----	----	----	<10
C10 - C14 Fraction	----	50	mg/kg	----	----	----	----	<50
C15 - C28 Fraction	----	100	mg/kg	----	----	----	----	<100
C29 - C36 Fraction	----	100	mg/kg	----	----	----	----	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	----	----	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	----	----	----	----	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	----	----	----	<10
>C10 - C16 Fraction	----	50	mg/kg	----	----	----	----	<50
>C16 - C34 Fraction	----	100	mg/kg	----	----	----	----	<100
>C34 - C40 Fraction	----	100	mg/kg	----	----	----	----	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	----	----	----	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	----	----	----	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	----	----	----	----	<0.2
Toluene	108-88-3	0.5	mg/kg	----	----	----	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	----	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	----	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg	----	----	----	----	<0.2
^ Total Xylenes	----	0.5	mg/kg	----	----	----	----	<0.5
Naphthalene	91-20-3	1	mg/kg	----	----	----	----	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	**106**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP29/0-0.15	SP30/0-0.15	SP31/0-0.15	SP32/0-0.15	SP33/0-0.15
			Client sampling date / time	23-May-2019 11:16	23-May-2019 11:20	23-May-2019 11:23	23-May-2019 11:25	23-May-2019 11:28
Compound	CAS Number	LOR	Unit	EM1907943-034	EM1907943-035	EM1907943-036	EM1907943-037	EM1907943-038
				Result	Result	Result	Result	Result
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	95.2	83.4	91.4	84.7	82.8
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	91.5	88.0	86.0	90.9	87.5
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	----	----	----	----	95.9
2-Chlorophenol-D4	93951-73-6	0.5	%	----	----	----	----	98.3
2.4.6-Tribromophenol	118-79-6	0.5	%	----	----	----	----	85.1
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	----	----	----	----	109
Anthracene-d10	1719-06-8	0.5	%	----	----	----	----	118
4-Terphenyl-d14	1718-51-0	0.5	%	----	----	----	----	117
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	----	----	----	----	76.5
Toluene-D8	2037-26-5	0.2	%	----	----	----	----	76.9
4-Bromofluorobenzene	460-00-4	0.2	%	----	----	----	----	99.6

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP34/0-0.15	SP35/0-0.15	SP36/0-0.15	SP37/0-0.15	SP38/0-0.15
			Client sampling date / time	23-May-2019 12:01	23-May-2019 12:04	23-May-2019 12:08	23-May-2019 12:10	23-May-2019 12:12
Compound	CAS Number	LOR	Unit	EM1907943-039	EM1907943-040	EM1907943-041	EM1907943-042	EM1907943-043
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	19.0	10.8	15.5	12.0	13.2
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	6	<5	<5
Barium	7440-39-3	10	mg/kg	20	10	20	40	20
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg	<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	26	24	23	21	24
Cobalt	7440-48-4	2	mg/kg	5	4	6	8	6
Copper	7440-50-8	5	mg/kg	5	5	6	6	5
Lead	7439-92-1	5	mg/kg	9	9	11	9	9
Manganese	7439-96-5	5	mg/kg	173	114	126	267	173
Nickel	7440-02-0	2	mg/kg	11	10	11	12	10
Selenium	7782-49-2	5	mg/kg	<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg	40	37	33	29	36
Zinc	7440-66-6	5	mg/kg	14	10	12	13	10
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	----	----	<0.5
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	----	----	----	1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP34/0-0.15	SP35/0-0.15	SP36/0-0.15	SP37/0-0.15	SP38/0-0.15
			Client sampling date / time	23-May-2019 12:01	23-May-2019 12:04	23-May-2019 12:08	23-May-2019 12:10	23-May-2019 12:12
Compound	CAS Number	LOR	Unit	EM1907943-039	EM1907943-040	EM1907943-041	EM1907943-042	EM1907943-043
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Mirex	2385-85-5	0.20	mg/kg	----	----	----	----	<0.20
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP34/0-0.15	SP35/0-0.15	SP36/0-0.15	SP37/0-0.15	SP38/0-0.15
			Client sampling date / time	23-May-2019 12:01	23-May-2019 12:04	23-May-2019 12:08	23-May-2019 12:10	23-May-2019 12:12
Compound	CAS Number	LOR	Unit	EM1907943-039	EM1907943-040	EM1907943-041	EM1907943-042	EM1907943-043
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068C: Triazines								
Atrazine	1912-24-9	0.05	mg/kg	----	----	----	----	<0.05
EP068D: Pyrethroids								
Bifenthrin	82657-04-3	0.05	mg/kg	----	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	----	----	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	----	----	----	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	----	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	----	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	----	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	----	----	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	----	----	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	----	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	----	----	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	----	----	----	----	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	----	----	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	----	----	----	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	----	----	----	----	<0.5
Anthracene	120-12-7	0.5	mg/kg	----	----	----	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	----	----	----	<0.5
Pyrene	129-00-0	0.5	mg/kg	----	----	----	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	----	----	<0.5
Chrysene	218-01-9	0.5	mg/kg	----	----	----	----	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	----	----	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	----	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	----	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP34/0-0.15	SP35/0-0.15	SP36/0-0.15	SP37/0-0.15	SP38/0-0.15
			Client sampling date / time	23-May-2019 12:01	23-May-2019 12:04	23-May-2019 12:08	23-May-2019 12:10	23-May-2019 12:12
Compound	CAS Number	LOR	Unit	EM1907943-039	EM1907943-040	EM1907943-041	EM1907943-042	EM1907943-043
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	----	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	----	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	----	----	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	----	----	----	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	----	----	----	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	----	----	----	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	----	----	----	**1.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	----	----	----	<10
C10 - C14 Fraction	----	50	mg/kg	----	----	----	----	<50
C15 - C28 Fraction	----	100	mg/kg	----	----	----	----	<100
C29 - C36 Fraction	----	100	mg/kg	----	----	----	----	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	----	----	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	----	----	----	----	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	----	----	----	<10
>C10 - C16 Fraction	----	50	mg/kg	----	----	----	----	<50
>C16 - C34 Fraction	----	100	mg/kg	----	----	----	----	**120**
>C34 - C40 Fraction	----	100	mg/kg	----	----	----	----	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	----	----	----	**120**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	----	----	----	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	----	----	----	----	<0.2
Toluene	108-88-3	0.5	mg/kg	----	----	----	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	----	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	----	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg	----	----	----	----	<0.2
^ Total Xylenes	----	0.5	mg/kg	----	----	----	----	<0.5
Naphthalene	91-20-3	1	mg/kg	----	----	----	----	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	**85.9**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP34/0-0.15	SP35/0-0.15	SP36/0-0.15	SP37/0-0.15	SP38/0-0.15
			Client sampling date / time	23-May-2019 12:01	23-May-2019 12:04	23-May-2019 12:08	23-May-2019 12:10	23-May-2019 12:12
Compound	CAS Number	LOR	Unit	EM1907943-039	EM1907943-040	EM1907943-041	EM1907943-042	EM1907943-043
				Result	Result	Result	Result	Result
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	93.4	92.4	94.4	81.1	91.3
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	91.8	88.8	90.7	80.2	87.2
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	----	----	----	----	96.7
2-Chlorophenol-D4	93951-73-6	0.5	%	----	----	----	----	95.6
2.4.6-Tribromophenol	118-79-6	0.5	%	----	----	----	----	87.6
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	----	----	----	----	100
Anthracene-d10	1719-06-8	0.5	%	----	----	----	----	115
4-Terphenyl-d14	1718-51-0	0.5	%	----	----	----	----	115
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	----	----	----	----	74.2
Toluene-D8	2037-26-5	0.2	%	----	----	----	----	72.3
4-Bromofluorobenzene	460-00-4	0.2	%	----	----	----	----	97.3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP39/0-0.15	SP40/0-0.15	SP41/0-0.15	SP42/0-0.15	SP43/0-0.15
			Client sampling date / time	23-May-2019 11:31	23-May-2019 12:14	23-May-2019 12:18	23-May-2019 12:23	23-May-2019 12:27
Compound	CAS Number	LOR	Unit	EM1907943-044	EM1907943-045	EM1907943-046	EM1907943-047	EM1907943-048
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	12.0	10.5	12.0	15.2	16.4
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	10	20	30	30	160
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg	<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	23	28	50	54	45
Cobalt	7440-48-4	2	mg/kg	5	9	19	20	28
Copper	7440-50-8	5	mg/kg	5	6	14	14	14
Lead	7439-92-1	5	mg/kg	10	10	11	10	11
Manganese	7439-96-5	5	mg/kg	184	159	397	377	754
Nickel	7440-02-0	2	mg/kg	10	16	32	40	35
Selenium	7782-49-2	5	mg/kg	<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg	37	42	61	65	55
Zinc	7440-66-6	5	mg/kg	12	11	16	16	21
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	<0.5	----	<0.5	----
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	1	----	1	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	----	<0.05	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP39/0-0.15	SP40/0-0.15	SP41/0-0.15	SP42/0-0.15	SP43/0-0.15
			Client sampling date / time	23-May-2019 11:31	23-May-2019 12:14	23-May-2019 12:18	23-May-2019 12:23	23-May-2019 12:27
Compound	CAS Number	LOR	Unit	EM1907943-044	EM1907943-045	EM1907943-046	EM1907943-047	EM1907943-048
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Mirex	2385-85-5	0.20	mg/kg	----	<0.20	----	<0.20	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP39/0-0.15	SP40/0-0.15	SP41/0-0.15	SP42/0-0.15	SP43/0-0.15
			Client sampling date / time	23-May-2019 11:31	23-May-2019 12:14	23-May-2019 12:18	23-May-2019 12:23	23-May-2019 12:27
Compound	CAS Number	LOR	Unit	EM1907943-044	EM1907943-045	EM1907943-046	EM1907943-047	EM1907943-048
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068C: Triazines								
Atrazine	1912-24-9	0.05	mg/kg	----	<0.05	----	<0.05	----
EP068D: Pyrethroids								
Bifenthrin	82657-04-3	0.05	mg/kg	----	<0.05	----	<0.05	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<0.5	----	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	----	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	----	<0.5	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	<1	----	<1	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	----	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	----	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	----	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	----	<0.5	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	<0.5	----	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	----	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	----	<0.5	----
Pentachlorophenol	87-86-5	2	mg/kg	----	<2	----	<2	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	----	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	----	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	----	<0.5	----
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	----	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	----	<0.5	----
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	----	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	----	<0.5	----
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	----	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	----	<0.5	----
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	----	<0.5	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	<0.5	----	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	----	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	----	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP39/0-0.15	SP40/0-0.15	SP41/0-0.15	SP42/0-0.15	SP43/0-0.15
			Client sampling date / time	23-May-2019 11:31	23-May-2019 12:14	23-May-2019 12:18	23-May-2019 12:23	23-May-2019 12:27
Compound	CAS Number	LOR	Unit	EM1907943-044	EM1907943-045	EM1907943-046	EM1907943-047	EM1907943-048
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	----	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	----	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	<0.5	----	<0.5	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	<0.5	----	<0.5	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	<0.5	----	<0.5	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	**0.6**	----	**0.6**	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	**1.2**	----	**1.2**	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	<10	----	<10	----
C10 - C14 Fraction	----	50	mg/kg	----	<50	----	<50	----
C15 - C28 Fraction	----	100	mg/kg	----	<100	----	<100	----
C29 - C36 Fraction	----	100	mg/kg	----	<100	----	<100	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	<50	----	<50	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	----	<10	----	<10	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	<10	----	<10	----
>C10 - C16 Fraction	----	50	mg/kg	----	<50	----	<50	----
>C16 - C34 Fraction	----	100	mg/kg	----	**100**	----	**120**	----
>C34 - C40 Fraction	----	100	mg/kg	----	<100	----	<100	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	**100**	----	**120**	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	<50	----	<50	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	<0.2	----
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg	----	<0.2	----	<0.2	----
^ Total Xylenes	----	0.5	mg/kg	----	<0.5	----	<0.5	----
Naphthalene	91-20-3	1	mg/kg	----	<1	----	<1	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	**95.8**	----	**85.0**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SP39/0-0.15	SP40/0-0.15	SP41/0-0.15	SP42/0-0.15	SP43/0-0.15
			Client sampling date / time	23-May-2019 11:31	23-May-2019 12:14	23-May-2019 12:18	23-May-2019 12:23	23-May-2019 12:27
Compound	CAS Number	LOR	Unit	EM1907943-044	EM1907943-045	EM1907943-046	EM1907943-047	EM1907943-048
				Result	Result	Result	Result	Result
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	85.6	81.2	83.8	84.1	84.0
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	87.0	82.0	83.8	84.1	83.7
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	----	96.1	----	90.7	----
2-Chlorophenol-D4	93951-73-6	0.5	%	----	98.6	----	93.9	----
2.4.6-Tribromophenol	118-79-6	0.5	%	----	91.5	----	85.1	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	----	108	----	104	----
Anthracene-d10	1719-06-8	0.5	%	----	119	----	112	----
4-Terphenyl-d14	1718-51-0	0.5	%	----	118	----	113	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	----	73.3	----	74.1	----
Toluene-D8	2037-26-5	0.2	%	----	75.4	----	73.4	----
4-Bromofluorobenzene	460-00-4	0.2	%	----	96.6	----	97.2	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	QC01	QC02	QC03	QC08	----
			Client sampling date / time	23-May-2019 10:06	23-May-2019 10:06	23-May-2019 10:07	23-May-2019 12:30	----
Compound	CAS Number	LOR	Unit	EM1907943-001	EM1907943-002	EM1907943-003	EM1907943-049	--------
				Result	Result	Result	Result	----
EG020T: Total Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	----	----	<0.001	<0.001	----
Boron	7440-42-8	0.05	mg/L	----	----	<0.05	<0.05	----
Barium	7440-39-3	0.001	mg/L	----	----	<0.001	<0.001	----
Beryllium	7440-41-7	0.001	mg/L	----	----	<0.001	<0.001	----
Cadmium	7440-43-9	0.0001	mg/L	----	----	<0.0001	<0.0001	----
Cobalt	7440-48-4	0.001	mg/L	----	----	<0.001	<0.001	----
Chromium	7440-47-3	0.001	mg/L	----	----	<0.001	<0.001	----
Copper	7440-50-8	0.001	mg/L	----	----	<0.001	<0.001	----
Manganese	7439-96-5	0.001	mg/L	----	----	<0.001	<0.001	----
Nickel	7440-02-0	0.001	mg/L	----	----	<0.001	<0.001	----
Lead	7439-92-1	0.001	mg/L	----	----	<0.001	<0.001	----
Selenium	7782-49-2	0.01	mg/L	----	----	<0.01	<0.01	----
Vanadium	7440-62-2	0.01	mg/L	----	----	<0.01	<0.01	----
Zinc	7440-66-6	0.005	mg/L	----	----	<0.005	<0.005	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	----	----	<0.0001	<0.0001	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.5	µg/L	----	----	<0.5	<0.5	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	----	----	<0.5	<0.5	----
beta-BHC	319-85-7	0.5	µg/L	----	----	<0.5	<0.5	----
gamma-BHC	58-89-9	0.5	µg/L	----	----	<0.5	<0.5	----
delta-BHC	319-86-8	0.5	µg/L	----	----	<0.5	<0.5	----
Heptachlor	76-44-8	0.5	µg/L	----	----	<0.5	<0.5	----
Aldrin	309-00-2	0.5	µg/L	----	----	<0.5	<0.5	----
Heptachlor epoxide	1024-57-3	0.5	µg/L	----	----	<0.5	<0.5	----
trans-Chlordane	5103-74-2	0.5	µg/L	----	----	<0.5	<0.5	----
alpha-Endosulfan	959-98-8	0.5	µg/L	----	----	<0.5	<0.5	----
cis-Chlordane	5103-71-9	0.5	µg/L	----	----	<0.5	<0.5	----
Dieldrin	60-57-1	0.5	µg/L	----	----	<0.5	<0.5	----
4.4`-DDE	72-55-9	0.5	µg/L	----	----	<0.5	<0.5	----
Endrin	72-20-8	0.5	µg/L	----	----	<0.5	<0.5	----
beta-Endosulfan	33213-65-9	0.5	µg/L	----	----	<0.5	<0.5	----
4.4`-DDD	72-54-8	0.5	µg/L	----	----	<0.5	<0.5	----
Endrin aldehyde	7421-93-4	0.5	µg/L	----	----	<0.5	<0.5	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	QC01	QC02	QC03	QC08	----
			Client sampling date / time	23-May-2019 10:06	23-May-2019 10:06	23-May-2019 10:07	23-May-2019 12:30	----
Compound	CAS Number	LOR	Unit	EM1907943-001	EM1907943-002	EM1907943-003	EM1907943-049	--------
				Result	Result	Result	Result	----
EP068A: Organochlorine Pesticides (OC) - Continued								
Endosulfan sulfate	1031-07-8	0.5	µg/L	----	----	<0.5	<0.5	----
4.4`-DDT	50-29-3	2.0	µg/L	----	----	<2.0	<2.0	----
Endrin ketone	53494-70-5	0.5	µg/L	----	----	<0.5	<0.5	----
Methoxychlor	72-43-5	2.0	µg/L	----	----	<2.0	<2.0	----
^ Total Chlordane (sum)	----	0.5	µg/L	----	----	<0.5	<0.5	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	µg/L	----	----	<0.5	<0.5	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L	----	----	<0.5	<0.5	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.5	µg/L	----	----	<0.5	<0.5	----
Demeton-S-methyl	919-86-8	0.5	µg/L	----	----	<0.5	<0.5	----
Monocrotophos	6923-22-4	2.0	µg/L	----	----	<2.0	<2.0	----
Dimethoate	60-51-5	0.5	µg/L	----	----	<0.5	<0.5	----
Diazinon	333-41-5	0.5	µg/L	----	----	<0.5	<0.5	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	----	----	<0.5	<0.5	----
Parathion-methyl	298-00-0	2.0	µg/L	----	----	<2.0	<2.0	----
Malathion	121-75-5	0.5	µg/L	----	----	<0.5	<0.5	----
Fenthion	55-38-9	0.5	µg/L	----	----	<0.5	<0.5	----
Chlorpyrifos	2921-88-2	0.5	µg/L	----	----	<0.5	<0.5	----
Parathion	56-38-2	2.0	µg/L	----	----	<2.0	<2.0	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L	----	----	<0.5	<0.5	----
Chlorfenvinphos	470-90-6	0.5	µg/L	----	----	<0.5	<0.5	----
Bromophos-ethyl	4824-78-6	0.5	µg/L	----	----	<0.5	<0.5	----
Fenamiphos	22224-92-6	0.5	µg/L	----	----	<0.5	<0.5	----
Prothiofos	34643-46-4	0.5	µg/L	----	----	<0.5	<0.5	----
Ethion	563-12-2	0.5	µg/L	----	----	<0.5	<0.5	----
Carbophenothion	786-19-6	0.5	µg/L	----	----	<0.5	<0.5	----
Azinphos Methyl	86-50-0	0.5	µg/L	----	----	<0.5	<0.5	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	QC01	QC02	QC03	QC08	----
			Client sampling date / time	23-May-2019 10:06	23-May-2019 10:06	23-May-2019 10:07	23-May-2019 12:30	----
Compound	CAS Number	LOR	Unit	EM1907943-001	EM1907943-002	EM1907943-003	EM1907943-049	--------
				Result	Result	Result	Result	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	<1	----	----	----
Toluene	108-88-3	2	µg/L	<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	<2	----	----	----
^ Total Xylenes	----	2	µg/L	<2	<2	----	----	----
^ Sum of BTEX	----	1	µg/L	<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	<5	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.5	%	----	----	71.2	78.9	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.5	%	----	----	66.2	76.4	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	2	%	104	108	----	----	----
Toluene-D8	2037-26-5	2	%	98.9	104	----	----	----
4-Bromofluorobenzene	460-00-4	2	%	100	102	----	----	----

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	36	140
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	38	128
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	33	139
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	117
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	51	127
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM1907943**	Page	: 1 of 31
Client	: **ENVIRONMENTAL SITE ASSESSMENTS PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR SETON LILLAS	Contact	: Larissa Burns
Address	: P.O. BOX 3106 WAURN PONDS VIC 3216	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: +6138549 9644
Project	: COSTA GROUP - LARA	Date Samples Received	: 24-May-2019
Order number	:	Date Analysis Commenced	: 24-May-2019
C-O-C number	: ----	Issue Date	: 27-May-2019
Sampler	: SL		
Site	: ----		
Quote number	: MEBQ/159/15 V2		
No. of samples received	: 49		
No. of samples analysed	: 49		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Nikki Stepniewski	Senior Inorganic Instrument Chemist	Melbourne Inorganics, Springvale, VIC

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 2366929)									
EM1907943-004	SP01/0-0.15	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	60	60	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	20	22	6.22	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	7	7	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	14	16	7.08	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	7	8	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	7	8	0.00	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	194	212	8.96	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	26	28	7.90	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	13	14	0.00	No Limit
		EG005T: Boron	7440-42-8	50	mg/kg	<50	<50	0.00	No Limit
EM1907943-013	SP09/0-0.15	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	20	20	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	14	15	0.00	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	3	3	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	6	7	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	8	8	0.00	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	93	99	5.94	0% - 50%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 2366929) - continued									
EM1907943-013	SP09/0-0.15	EG005T: Vanadium	7440-62-2	5	mg/kg	21	22	6.76	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	12	13	8.94	No Limit
		EG005T: Boron	7440-42-8	50	mg/kg	<50	<50	0.00	No Limit
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 2366931)									
EM1907943-024	SP20/0-0.15	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	80	80	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	26	26	0.00	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	8	8	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	21	21	0.00	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	10	9	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	13	13	0.00	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	287	269	6.67	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	37	36	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	50	46	7.78	No Limit
		EG005T: Boron	7440-42-8	50	mg/kg	<50	<50	0.00	No Limit
EM1907943-033	SP28/0-0.15	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	10	10	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	22	21	6.33	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	5	5	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	9	9	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	8	7	0.00	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	105	101	3.49	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	34	33	5.81	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	7	8	0.00	No Limit
		EG005T: Boron	7440-42-8	50	mg/kg	<50	<50	0.00	No Limit
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 2366944)									
EM1907591-003	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	1	<1	0.00	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	130	100	24.0	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	36	26	34.9	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	11	11	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	36	40	10.5	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 2366944) - continued									
EM1907591-003	Anonymous	EG005T: Copper	7440-50-8	5	mg/kg	18	16	14.2	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	25	13	67.6	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	253	225	11.7	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	34	25	32.6	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	53	42	22.6	0% - 50%
		EG005T: Boron	7440-42-8	50	mg/kg	<50	<50	0.00	No Limit
EM1907943-046	SP41/0-0.15	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	30	30	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	50	48	5.00	0% - 20%
		EG005T: Cobalt	7440-48-4	2	mg/kg	19	18	6.84	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	32	30	5.08	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	14	14	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	11	10	0.00	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	397	374	6.03	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	61	57	6.40	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	16	14	11.3	No Limit
		EG005T: Boron	7440-42-8	50	mg/kg	<50	<50	0.00	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 2367512)									
EM1907933-005	Anonymous	EA055: Moisture Content	----	0.1	%	19.7	20.9	6.26	0% - 20%
EM1907943-004	SP01/0-0.15	EA055: Moisture Content	----	0.1	%	18.4	19.1	4.13	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 2367513)									
EM1907943-014	SP10/0-0.15	EA055: Moisture Content	----	0.1	%	13.1	13.4	2.17	0% - 50%
EM1907943-024	SP20/0-0.15	EA055: Moisture Content	----	0.1	%	15.8	15.6	1.03	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 2367514)									
EM1907943-034	SP29/0-0.15	EA055: Moisture Content	----	0.1	%	12.4	14.6	16.4	0% - 50%
EM1907943-044	SP39/0-0.15	EA055: Moisture Content	----	0.1	%	12.0	10.4	14.8	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 2366930)									
EM1907943-004	SP01/0-0.15	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EM1907943-013	SP09/0-0.15	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 2366932)									
EM1907943-024	SP20/0-0.15	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EM1907943-033	SP28/0-0.15	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 2366943)									
EM1907591-003	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EM1907943-046	SP41/0-0.15	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 2366949)									
EM1907591-003	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EM1907943-045	SP40/0-0.15	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QC Lot: 2366964)									
EM1907943-004	SP01/0-0.15	EK028SF: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.00	No Limit
EM1907943-047	SP42/0-0.15	EK028SF: Weak Acid Dissociable Cyanide	----	1	mg/kg	1	1	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 2366829)									
EM1907943-004	SP01/0-0.15	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 2366834)									
EM1907943-028	SP24/0-0.15	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 2366840)									
EM1907943-043	SP38/0-0.15	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 2366830)									
EM1907943-014	SP10/0-0.15	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Mirex	2385-85-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EM1907943-004	SP01/0-0.15	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 2366830) - continued									
EM1907943-004	SP01/0-0.15	EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Mirex	2385-85-5	0.05	mg/kg	<0.20	<0.20	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 2366833)									
EM1907943-033	SP28/0-0.15	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Mirex	2385-85-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 2366833) - continued									
EM1907943-028	SP24/0-0.15	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Mirex	2385-85-5	0.05	mg/kg	<0.20	<0.20	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 2366839)									
EM1907943-043	SP38/0-0.15	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
				Laboratory Duplicate (DUP) Report					
EP068A: Organochlorine Pesticides (OC) (QC Lot: 2366839) - continued									
EM1907943-043	SP38/0-0.15	EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Mirex	2385-85-5	0.05	mg/kg	<0.20	<0.20	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 2366830)									
EM1907943-014	SP10/0-0.15	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EM1907943-004	SP01/0-0.15	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
				Laboratory Duplicate (DUP) Report					
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 2366830) - continued									
EM1907943-004	SP01/0-0.15	EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 2366833)									
EM1907943-033	SP28/0-0.15	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EM1907943-028	SP24/0-0.15	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 2366833) - continued									
EM1907943-028	SP24/0-0.15	EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 2366839)									
EM1907943-043	SP38/0-0.15	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068C: Triazines (QC Lot: 2366830)									
EM1907943-014	SP10/0-0.15	EP068: Atrazine	1912-24-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EM1907943-004	SP01/0-0.15	EP068: Atrazine	1912-24-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068C: Triazines (QC Lot: 2366833)									
EM1907943-033	SP28/0-0.15	EP068: Atrazine	1912-24-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EM1907943-028	SP24/0-0.15	EP068: Atrazine	1912-24-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068C: Triazines (QC Lot: 2366839)									
EM1907943-043	SP38/0-0.15	EP068: Atrazine	1912-24-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068D: Pyrethroids (QC Lot: 2366830)									
EM1907943-014	SP10/0-0.15	EP068: Bifenthrin	82657-04-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EM1907943-004	SP01/0-0.15	EP068: Bifenthrin	82657-04-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068D: Pyrethroids (QC Lot: 2366833)									
EM1907943-033	SP28/0-0.15	EP068: Bifenthrin	82657-04-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EM1907943-028	SP24/0-0.15	EP068: Bifenthrin	82657-04-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068D: Pyrethroids (QC Lot: 2366839)									
EM1907943-043	SP38/0-0.15	EP068: Bifenthrin	82657-04-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075(SIM)A: Phenolic Compounds (QC Lot: 2366831)									
EM1907943-004	SP01/0-0.15	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.00	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.00	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 2366836)									
EM1907943-028	SP24/0-0.15	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.00	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.00	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 2366838)									
EM1907943-043	SP38/0-0.15	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.00	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2366831)									
EM1907943-004	SP01/0-0.15	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
				Laboratory Duplicate (DUP) Report					
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2366831) - continued									
EM1907943-004	SP01/0-0.15	EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2366836)									
EM1907943-028	SP24/0-0.15	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2366838)									
EM1907943-043	SP38/0-0.15	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
				Laboratory Duplicate (DUP) Report					
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2366838) - continued									
EM1907943-043	SP38/0-0.15	EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2366824)									
EM1907938-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	517	503	2.88	0% - 20%
EM1907943-047	SP42/0-0.15	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2366832)									
EM1907943-004	SP01/0-0.15	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
		EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2366835)									
EM1907943-028	SP24/0-0.15	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
		EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2366837)									
EM1907943-043	SP38/0-0.15	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
		EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2366824)									
EM1907938-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	1030	1010	1.50	0% - 20%
EM1907943-047	SP42/0-0.15	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2366832)									
EM1907943-004	SP01/0-0.15	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
		EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2366835)									

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
				Laboratory Duplicate (DUP) Report					
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2366835) - continued									
EM1907943-028	SP24/0-0.15	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
		EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2366837)									
EM1907943-043	SP38/0-0.15	EP071: >C16 - C34 Fraction	----	100	mg/kg	120	100	14.8	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
		EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	120	100	18.2	No Limit
EP080: BTEXN (QC Lot: 2366824)									
EM1907938-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	20.9	22.1	5.30	0% - 20%
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	48.7	53.8	9.96	0% - 20%
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	139	146	4.35	0% - 20%
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	115	115	0.320	0% - 20%
		EP080: Naphthalene	91-20-3	1	mg/kg	18	17	0.00	0% - 50%
EM1907943-047	SP42/0-0.15	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
				Laboratory Duplicate (DUP) Report					
EG020T: Total Metals by ICP-MS (QC Lot: 2369560)									
EM1907920-002	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Barium	7440-39-3	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.00	No Limit
		EG020A-T: Selenium	7782-49-2	0.01	mg/L	<0.01	<0.01	0.00	No Limit
		EG020A-T: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.00	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020T: Total Metals by ICP-MS (QC Lot: 2369560) - continued									
EM1907920-002	Anonymous	EG020A-T: Boron	7440-42-8	0.05	mg/L	<0.05	<0.05	0.00	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 2367516)									
EM1907901-021	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
EM1907970-003	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0010	<0.0010	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2367015)									
EM1907021-004	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2367015)									
EM1907021-004	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.00	No Limit
EP080: BTEXN (QC Lot: 2367015)									
EM1907021-004	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.00	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.00	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.00	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2366929)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	79.4	78	107
EG005T: Barium	7440-39-3	10	mg/kg	<10	143 mg/kg	80.6	76	110
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.63 mg/kg	87.2	84	113
EG005T: Boron	7440-42-8	50	mg/kg	<50	33.2 mg/kg	87.6	84	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	76.2	76	108
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	87.3	78	110
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	16 mg/kg	78.4	78	112
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	82.8	78	108
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	95.3	78	106
EG005T: Manganese	7439-96-5	5	mg/kg	<5	130 mg/kg	92.6	81	110
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	81.2	80	109
EG005T: Selenium	7782-49-2	5	mg/kg	<5	5.37 mg/kg	101	92	110
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	29.6 mg/kg	78.3	78	106
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	80.5	79	110
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2366931)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	81.0	78	107
EG005T: Barium	7440-39-3	10	mg/kg	<10	143 mg/kg	79.8	76	110
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.63 mg/kg	87.5	84	113
EG005T: Boron	7440-42-8	50	mg/kg	<50	33.2 mg/kg	87.8	84	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	76.8	76	108
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	87.3	78	110
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	16 mg/kg	78.5	78	112
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	83.0	78	108
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	95.3	78	106
EG005T: Manganese	7439-96-5	5	mg/kg	<5	130 mg/kg	92.6	81	110
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	81.3	80	109
EG005T: Selenium	7782-49-2	5	mg/kg	<5	5.37 mg/kg	100	92	110
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	29.6 mg/kg	78.2	78	106
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	81.4	79	110
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2366944)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	101	78	107
EG005T: Barium	7440-39-3	10	mg/kg	<10	143 mg/kg	91.1	76	110
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.63 mg/kg	101	84	113
EG005T: Boron	7440-42-8	50	mg/kg	<50	33.2 mg/kg	103	84	126

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2366944) - continued								
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	89.5	76	108
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	88.2	78	110
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	16 mg/kg	91.7	78	112
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	89.6	78	108
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	95.0	78	106
EG005T: Manganese	7439-96-5	5	mg/kg	<5	130 mg/kg	91.7	81	110
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	93.5	80	109
EG005T: Selenium	7782-49-2	5	mg/kg	<5	5.37 mg/kg	104	92	110
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	29.6 mg/kg	90.2	78	106
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	94.3	79	110
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2366930)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	90.5	77	104
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2366932)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	90.5	77	104
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2366943)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	97.7	77	104
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 2366949)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	40 mg/kg	83.4	75	112
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 2366829)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1.27 mg/kg	97.6	63	115
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 2366834)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1.27 mg/kg	110	63	115
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 2366840)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	92.3	63	115
EP068A: Organochlorine Pesticides (OC) (QCLot: 2366830)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	101	69	122
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	103	71	122
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	100	72	121
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	97.2	66	124
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.7	60	120
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.9	62	120
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	90.3	70	122
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	70	121
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	94.6	68	124
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.2	71	124
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	94.7	71	122
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	90.7	65	123

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 2366830) - continued								
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	99.3	71	121
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	82.1	63	129
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.7	70	122
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.0	69	128
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	94.6	69	129
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	100	64	129
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	109	62	129
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	103	76	123
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	112	58	129
EP068: Mirex	2385-85-5	0.05	mg/kg	<0.05	0.5 mg/kg	100	76	124
EP068A: Organochlorine Pesticides (OC) (QCLot: 2366833)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	109	69	122
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	111	71	122
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	116	72	121
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	108	66	124
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	104	60	120
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	112	62	120
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	104	70	122
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	105	70	121
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	103	68	124
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	111	71	124
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	109	71	122
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	101	65	123
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	107	71	121
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	97.2	63	129
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	103	70	122
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	97.1	69	128
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	97.8	69	129
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	113	64	129
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	116	62	129
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	113	76	123
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	114	58	129
EP068: Mirex	2385-85-5	0.05	mg/kg	<0.05	0.5 mg/kg	115	76	124
EP068A: Organochlorine Pesticides (OC) (QCLot: 2366839)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	116	69	122
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	114	71	122
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	114	72	121
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	104	66	124
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	112	60	120

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 2366839) - continued								
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	106	62	120
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	109	70	122
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	110	70	121
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	114	68	124
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	107	71	124
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	113	71	122
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	105	65	123
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	116	71	121
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.5	63	129
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	114	70	122
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	112	69	128
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	101	69	129
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	102	64	129
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	92.0	62	129
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	105	76	123
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	94.6	58	129
EP068: Mirex	2385-85-5	0.05	mg/kg	<0.05	0.5 mg/kg	107	76	124
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2366830)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	97.8	72	134
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	84.4	63	141
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	68.6	10	136
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	82.3	62	130
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	89.2	70	124
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	86.4	70	121
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	79.4	60	126
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	110	65	126
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	93.2	73	122
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	102	67	126
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	77.9	59	126
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	84.3	67	124
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	84.5	57	130
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	82.2	70	122
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	72.8	54	133
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	78.3	70	123
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	82.1	67	123
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	91.7	71	129
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	71.9	31	141
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2366833)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	105	72	134

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2366833) - continued								
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	83.5	63	141
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	75.0	10	136
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	91.3	62	130
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	102	70	124
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	99.8	70	121
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	84.8	60	126
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	101	65	126
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	107	73	122
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	106	67	126
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	86.2	59	126
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	99.2	67	124
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	87.8	57	130
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	96.7	70	122
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	79.5	54	133
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	97.5	70	123
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	96.6	67	123
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	101	71	129
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	71.0	31	141
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2366839)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	113	72	134
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.1	63	141
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	65.3	10	136
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	106	62	130
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	105	70	124
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	105	70	121
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	102	60	126
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	99.8	65	126
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	110	73	122
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	84.7	67	126
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	98.3	59	126
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	102	67	124
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	91.0	57	130
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	98.6	70	122
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	77.2	54	133
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	98.0	70	123
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	99.1	67	123
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	99.4	71	129
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	73.1	31	141
EP068C: Triazines (QCLot: 2366830)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP068C: Triazines (QCLot: 2366830) - continued								
EP068: Atrazine	1912-24-9	0.05	mg/kg	<0.05	0.5 mg/kg	99.1	72	123
EP068C: Triazines (QCLot: 2366833)								
EP068: Atrazine	1912-24-9	0.05	mg/kg	<0.05	0.5 mg/kg	114	72	123
EP068C: Triazines (QCLot: 2366839)								
EP068: Atrazine	1912-24-9	0.05	mg/kg	<0.05	0.5 mg/kg	114	72	123
EP068D: Pyrethroids (QCLot: 2366830)								
EP068: Bifenthrin	82657-04-3	0.05	mg/kg	<0.05	0.5 mg/kg	89.1	68	129
EP068D: Pyrethroids (QCLot: 2366833)								
EP068: Bifenthrin	82657-04-3	0.05	mg/kg	<0.05	0.5 mg/kg	103	68	129
EP068D: Pyrethroids (QCLot: 2366839)								
EP068: Bifenthrin	82657-04-3	0.05	mg/kg	<0.05	0.5 mg/kg	96.9	68	129
EP075(SIM)A: Phenolic Compounds (QCLot: 2366831)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	1.5 mg/kg	105	77	125
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.5 mg/kg	106	78	126
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.5 mg/kg	104	77	125
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	3 mg/kg	103	76	130
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	93.8	53	118
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.5 mg/kg	99.2	71	128
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.5 mg/kg	102	73	126
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.5 mg/kg	106	73	128
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	1.5 mg/kg	97.4	69	123
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.5 mg/kg	93.4	64	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.5 mg/kg	85.1	70	128
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	3 mg/kg	70.4	20	113
EP075(SIM)A: Phenolic Compounds (QCLot: 2366836)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	1.5 mg/kg	99.2	77	125
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.5 mg/kg	100	78	126
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.5 mg/kg	104	77	125
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	3 mg/kg	109	76	130
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	100	53	118
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.5 mg/kg	104	71	128
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.5 mg/kg	98.8	73	126
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.5 mg/kg	97.6	73	128
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	1.5 mg/kg	86.2	69	123
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.5 mg/kg	86.0	64	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.5 mg/kg	89.2	70	128
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	3 mg/kg	49.4	20	113
EP075(SIM)A: Phenolic Compounds (QCLot: 2366838)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low	Recovery Limits (%) High
EP075(SIM)A: Phenolic Compounds (QCLot: 2366838) - continued								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	1.5 mg/kg	97.0	77	125
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.5 mg/kg	100	78	126
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.5 mg/kg	100	77	125
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	3 mg/kg	108	76	130
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	100	53	118
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.5 mg/kg	101	71	128
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.5 mg/kg	98.4	73	126
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.5 mg/kg	96.4	73	128
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	1.5 mg/kg	84.9	69	123
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.5 mg/kg	85.4	64	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.5 mg/kg	86.2	70	128
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	3 mg/kg	60.5	20	113
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2366831)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.5 mg/kg	107	77	129
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.5 mg/kg	103	74	130
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.5 mg/kg	107	78	129
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	103	78	128
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.5 mg/kg	109	83	130
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	1.5 mg/kg	114	76	129
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.5 mg/kg	109	79	134
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	1.5 mg/kg	110	84	135
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	106	72	125
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	1.5 mg/kg	110	76	135
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	1.5 mg/kg	95.9	69	123
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	1.5 mg/kg	101	77	131
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.5 mg/kg	94.6	65	116
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.5 mg/kg	90.6	65	124
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.5 mg/kg	90.6	66	127
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.5 mg/kg	90.4	65	124
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2366836)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.5 mg/kg	103	77	129
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.5 mg/kg	99.4	74	130
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.5 mg/kg	106	78	129
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	102	78	128
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.5 mg/kg	108	83	130
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	1.5 mg/kg	111	76	129
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.5 mg/kg	106	79	134
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	1.5 mg/kg	110	84	135

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2366836) - continued								
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	101	72	125
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	1.5 mg/kg	108	76	135
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	1.5 mg/kg	85.8	69	123
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	1.5 mg/kg	106	77	131
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.5 mg/kg	87.0	65	116
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.5 mg/kg	93.0	65	124
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.5 mg/kg	95.9	66	127
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.5 mg/kg	103	65	124
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2366838)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.5 mg/kg	103	77	129
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.5 mg/kg	98.9	74	130
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.5 mg/kg	101	78	129
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	98.6	78	128
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.5 mg/kg	105	83	130
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	1.5 mg/kg	108	76	129
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.5 mg/kg	104	79	134
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	1.5 mg/kg	108	84	135
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	102	72	125
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	1.5 mg/kg	105	76	135
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	1.5 mg/kg	85.2	69	123
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	1.5 mg/kg	102	77	131
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.5 mg/kg	88.2	65	116
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.5 mg/kg	90.9	65	124
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.5 mg/kg	93.6	66	127
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.5 mg/kg	96.7	65	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2366824)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	94.8	61	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2366832)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	806 mg/kg	102	72	122
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	3006 mg/kg	110	84	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1584 mg/kg	103	79	119
EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2366835)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	806 mg/kg	82.6	72	122
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	3006 mg/kg	97.2	84	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1584 mg/kg	88.8	79	119

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2366835) - continued								
EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2366837)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	806 mg/kg	98.0	72	122
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	3006 mg/kg	106	84	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1584 mg/kg	100	79	119
EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2366824)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	89.6	60	125
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2366832)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1160 mg/kg	106	77	121
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3978 mg/kg	105	83	121
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	313 mg/kg	103	65	123
EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2366835)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1160 mg/kg	88.9	77	121
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3978 mg/kg	94.2	83	121
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	313 mg/kg	66.6	65	123
EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2366837)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1160 mg/kg	101	77	121
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3978 mg/kg	102	83	121
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	313 mg/kg	101	65	123
EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
EP080: BTEXN (QCLot: 2366824)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	91.5	63	119
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	97.6	67	126
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	94.7	66	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	101	68	128
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	105	73	128
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	92.5	61	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 2369560)								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	108	90	110
EG020A-T: Beryllium	7440-41-7	0.001	mg/L	<0.001	0.1 mg/L	103	88	113

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 2369560) - continued								
EG020A-T: Barium	7440-39-3	0.001	mg/L	<0.001	0.1 mg/L	108	88	112
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	102	86	111
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	107	87	109
EG020A-T: Cobalt	7440-48-4	0.001	mg/L	<0.001	0.1 mg/L	106	88	113
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	103	87	108
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	108	88	109
EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	109	88	111
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	105	87	111
EG020A-T: Selenium	7782-49-2	0.01	mg/L	<0.01	0.1 mg/L	108	85	113
EG020A-T: Vanadium	7440-62-2	0.01	mg/L	<0.01	0.1 mg/L	109	88	112
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	102	87	113
EG020A-T: Boron	7440-42-8	0.05	mg/L	<0.05	0.5 mg/L	107	88	118
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2367516)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	92.2	76	115
EP068A: Organochlorine Pesticides (OC) (QCLot: 2367114)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	2.5 µg/L	87.4	56	118
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	2.5 µg/L	81.6	49	114
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	2.5 µg/L	91.6	60	117
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	2.5 µg/L	81.6	53	121
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	2.5 µg/L	87.8	59	117
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	2.5 µg/L	79.4	54	120
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	2.5 µg/L	79.3	54	118
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	2.5 µg/L	83.3	58	121
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	2.5 µg/L	90.2	52	124
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	2.5 µg/L	80.1	55	122
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	2.5 µg/L	85.0	55	121
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	2.5 µg/L	79.4	55	122
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	2.5 µg/L	83.8	52	122
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	2.5 µg/L	78.7	56	131
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	2.5 µg/L	87.0	57	121
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	2.5 µg/L	82.3	55	125
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	2.5 µg/L	76.8	58	126
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	2.5 µg/L	83.0	50	126
EP068: 4.4`-DDT	50-29-3	2	µg/L	<2.0	2.5 µg/L	76.4	51	132
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	2.5 µg/L	81.2	58	121
EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	2.5 µg/L	81.0	50	134
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2367114)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	2.5 µg/L	77.0	47	127

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2367114) - continued								
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	2.5 µg/L	84.6	42	129
EP068: Monocrotophos	6923-22-4	2	µg/L	<2.0	2.5 µg/L	10.4	10	43
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	2.5 µg/L	81.4	45	115
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	2.5 µg/L	82.2	56	119
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	2.5 µg/L	85.2	57	119
EP068: Parathion-methyl	298-00-0	2	µg/L	<2.0	2.5 µg/L	95.7	51	131
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	2.5 µg/L	90.2	57	125
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	2.5 µg/L	88.1	57	120
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	2.5 µg/L	93.3	54	122
EP068: Parathion	56-38-2	2	µg/L	<2.0	2.5 µg/L	93.4	49	138
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	2.5 µg/L	80.8	57	119
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	2.5 µg/L	88.1	53	130
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	2.5 µg/L	77.0	56	121
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	2.5 µg/L	117	48	138
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	2.5 µg/L	79.7	54	123
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	2.5 µg/L	81.1	56	126
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	2.5 µg/L	78.3	54	126
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	2.5 µg/L	84.5	23	160
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2367015)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	86.1	65	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2367015)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	86.5	64	124
EP080: BTEXN (QCLot: 2367015)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	89.9	69	123
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	92.3	73	124
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	91.0	71	125
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	90.0	72	129
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	92.9	76	129
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	104	70	125

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2366929)							
EM1907943-005	SP02/0-0.15	EG005T: Arsenic	7440-38-2	50 mg/kg	88.7	78	124
		EG005T: Barium	7440-39-3	50 mg/kg	88.2	71	135
		EG005T: Beryllium	7440-41-7	50 mg/kg	90.3	85	125
		EG005T: Cadmium	7440-43-9	50 mg/kg	98.2	84	116
		EG005T: Chromium	7440-47-3	50 mg/kg	83.2	79	121
		EG005T: Copper	7440-50-8	50 mg/kg	87.3	82	124
		EG005T: Lead	7439-92-1	50 mg/kg	82.1	76	124
		EG005T: Manganese	7439-96-5	50 mg/kg	80.6	68	136
		EG005T: Nickel	7440-02-0	50 mg/kg	82.3	78	120
		EG005T: Selenium	7782-49-2	50 mg/kg	80.0	71	125
		EG005T: Vanadium	7440-62-2	50 mg/kg	81.5	76	124
		EG005T: Zinc	7440-66-6	50 mg/kg	84.8	74	128
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2366931)							
EM1907943-025	SP21/0-0.15	EG005T: Arsenic	7440-38-2	50 mg/kg	89.6	78	124
		EG005T: Barium	7440-39-3	50 mg/kg	98.2	71	135
		EG005T: Beryllium	7440-41-7	50 mg/kg	93.1	85	125
		EG005T: Cadmium	7440-43-9	50 mg/kg	85.2	84	116
		EG005T: Chromium	7440-47-3	50 mg/kg	88.9	79	121
		EG005T: Copper	7440-50-8	50 mg/kg	87.8	82	124
		EG005T: Lead	7439-92-1	50 mg/kg	86.3	76	124
		EG005T: Manganese	7439-96-5	50 mg/kg	94.4	68	136
		EG005T: Nickel	7440-02-0	50 mg/kg	82.1	78	120
		EG005T: Selenium	7782-49-2	50 mg/kg	79.4	71	125
		EG005T: Vanadium	7440-62-2	50 mg/kg	83.0	76	124
		EG005T: Zinc	7440-66-6	50 mg/kg	# Not Determined	74	128
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2366944)							
EM1907650-008	Anonymous	EG005T: Cadmium	7440-43-9	50 mg/kg	95.1	84	116
		EG005T: Copper	7440-50-8	50 mg/kg	98.3	82	124
		EG005T: Nickel	7440-02-0	50 mg/kg	95.6	78	120
EM1907650-008	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	90.6	78	124
		EG005T: Beryllium	7440-41-7	50 mg/kg	98.8	85	125
		EG005T: Lead	7439-92-1	50 mg/kg	90.8	76	124
		EG005T: Selenium	7782-49-2	50 mg/kg	72.7	71	125
		EG005T: Zinc	7440-66-6	50 mg/kg	98.1	74	128
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2366930)							
EM1907943-005	SP02/0-0.15	EG035T: Mercury	7439-97-6	0.5 mg/kg	103	76	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2366932)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2366932) - continued							
EM1907943-025	SP21/0-0.15	EG035T: Mercury	7439-97-6	0.5 mg/kg	107	76	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2366943)							
EM1907650-008	Anonymous	EG035T: Mercury	7439-97-6	0.5 mg/kg	87.9	76	116
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 2366949)							
EM1907943-004	SP01/0-0.15	EG048G: Hexavalent Chromium	18540-29-9	40 mg/kg	61.1	58	114
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 2366964)							
EM1907943-007	SP04/0-0.15	EK028SF: Weak Acid Dissociable Cyanide	----	20 mg/kg	104	70	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 2366829)							
EM1907943-007	SP04/0-0.15	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	115	44	144
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 2366834)							
EM1907943-028	SP24/0-0.15	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	136	44	144
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 2366840)							
EM1907943-045	SP40/0-0.15	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	102	44	144
EP068A: Organochlorine Pesticides (OC) (QCLot: 2366830)							
EM1907943-005	SP02/0-0.15	EP068: gamma-BHC	58-89-9	0.5 mg/kg	91.3	22	139
		EP068: Heptachlor	76-44-8	0.5 mg/kg	88.3	18	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	78.6	23	136
		EP068: Dieldrin	60-57-1	0.5 mg/kg	116	42	136
		EP068: Endrin	72-20-8	0.5 mg/kg	90.7	23	146
		EP068: 4.4`-DDT	50-29-3	0.5 mg/kg	71.2	20	133
EP068A: Organochlorine Pesticides (OC) (QCLot: 2366833)							
EM1907943-024	SP20/0-0.15	EP068: gamma-BHC	58-89-9	0.5 mg/kg	112	22	139
		EP068: Heptachlor	76-44-8	0.5 mg/kg	90.4	18	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	97.7	23	136
		EP068: Dieldrin	60-57-1	0.5 mg/kg	96.0	42	136
		EP068: Endrin	72-20-8	0.5 mg/kg	92.5	23	146
		EP068: 4.4`-DDT	50-29-3	0.5 mg/kg	81.6	20	133
EP068A: Organochlorine Pesticides (OC) (QCLot: 2366839)							
EM1907943-044	SP39/0-0.15	EP068: gamma-BHC	58-89-9	0.5 mg/kg	104	22	139
		EP068: Heptachlor	76-44-8	0.5 mg/kg	88.5	18	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	94.8	23	136
		EP068: Dieldrin	60-57-1	0.5 mg/kg	96.4	42	136
		EP068: Endrin	72-20-8	0.5 mg/kg	96.5	23	146
		EP068: 4.4`-DDT	50-29-3	0.5 mg/kg	66.5	20	133
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2366830)							
EM1907943-005	SP02/0-0.15						

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2366830) - continued							
EM1907943-005	SP02/0-0.15	EP068: Diazinon	333-41-5	0.5 mg/kg	96.5	49	135
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	91.0	41	127
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	85.5	47	133
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	83.5	45	133
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	75.6	40	128
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2366833)							
EM1907943-024	SP20/0-0.15	EP068: Diazinon	333-41-5	0.5 mg/kg	102	49	135
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	95.8	41	127
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	89.4	47	133
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	84.6	45	133
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	76.0	40	128
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2366839)							
EM1907943-044	SP39/0-0.15	EP068: Diazinon	333-41-5	0.5 mg/kg	99.2	49	135
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	93.4	41	127
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	91.0	47	133
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	86.8	45	133
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	84.8	40	128
EP075(SIM)A: Phenolic Compounds (QCLot: 2366831)							
EM1907943-013	SP09/0-0.15	EP075(SIM): Phenol	108-95-2	3 mg/kg	106	63	117
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	104	65	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	101	40	134
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	96.6	56	122
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	87.6	15	139
EP075(SIM)A: Phenolic Compounds (QCLot: 2366836)							
EM1907943-038	SP33/0-0.15	EP075(SIM): Phenol	108-95-2	3 mg/kg	95.1	63	117
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	93.9	65	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	106	40	134
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	87.9	56	122
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	88.0	15	139
EP075(SIM)A: Phenolic Compounds (QCLot: 2366838)							
EM1907943-043	SP38/0-0.15	EP075(SIM): Phenol	108-95-2	3 mg/kg	96.2	63	117
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	97.6	65	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	65.2	40	134
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	95.0	56	122
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	101	15	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2366831)							
EM1907943-013	SP09/0-0.15	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	109	67	117

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2366831) - continued							
EM1907943-013	SP09/0-0.15	EP075(SIM): Pyrene	129-00-0	3 mg/kg	120	52	148
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2366836)							
EM1907943-038	SP33/0-0.15	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	101	67	117
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	111	52	148
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2366838)							
EM1907943-043	SP38/0-0.15	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	102	67	117
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	114	52	148
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2366824)							
EM1907943-004	SP01/0-0.15	EP080: C6 - C9 Fraction	----	28 mg/kg	83.8	42	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2366832)							
EM1907943-007	SP04/0-0.15	EP071: C10 - C14 Fraction	----	806 mg/kg	99.4	53	123
		EP071: C15 - C28 Fraction	----	3006 mg/kg	108	70	124
		EP071: C29 - C36 Fraction	----	1584 mg/kg	102	64	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2366835)							
EM1907943-038	SP33/0-0.15	EP071: C10 - C14 Fraction	----	806 mg/kg	73.1	53	123
		EP071: C15 - C28 Fraction	----	3006 mg/kg	96.3	70	124
		EP071: C29 - C36 Fraction	----	1584 mg/kg	89.6	64	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2366837)							
EM1907938-002	Anonymous	EP071: C10 - C14 Fraction	----	806 mg/kg	89.2	53	123
		EP071: C15 - C28 Fraction	----	3006 mg/kg	110	70	124
		EP071: C29 - C36 Fraction	----	1584 mg/kg	96.8	64	118
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2366824)							
EM1907943-004	SP01/0-0.15	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	79.8	39	129
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2366832)							
EM1907943-007	SP04/0-0.15	EP071: >C10 - C16 Fraction	----	1160 mg/kg	103	65	123
		EP071: >C16 - C34 Fraction	----	3978 mg/kg	103	67	121
		EP071: >C34 - C40 Fraction	----	313 mg/kg	102	44	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2366835)							
EM1907943-038	SP33/0-0.15	EP071: >C10 - C16 Fraction	----	1160 mg/kg	84.2	65	123
		EP071: >C16 - C34 Fraction	----	3978 mg/kg	94.0	67	121
		EP071: >C34 - C40 Fraction	----	313 mg/kg	69.4	44	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2366837)							
EM1907938-002	Anonymous	EP071: >C10 - C16 Fraction	----	1160 mg/kg	111	65	123
		EP071: >C16 - C34 Fraction	----	3978 mg/kg	101	67	121
		EP071: >C34 - C40 Fraction	----	313 mg/kg	74.0	44	126

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%) MS	Recovery Limits (%) Low	High
EP080: BTEXN (QCLot: 2366824)							
EM1907943-004	SP01/0-0.15	EP080: Benzene	71-43-2	2 mg/kg	93.3	50	136
		EP080: Toluene	108-88-3	2 mg/kg	96.1	56	139

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%) MS	Recovery Limits (%) Low	High
EG020T: Total Metals by ICP-MS (QCLot: 2369560)							
EM1907920-002	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	97.7	82	118
		EG020A-T: Beryllium	7440-41-7	1 mg/L	93.6	79	121
		EG020A-T: Barium	7440-39-3	1 mg/L	99.6	80	114
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	94.8	75	129
		EG020A-T: Chromium	7440-47-3	1 mg/L	101	80	118
		EG020A-T: Cobalt	7440-48-4	1 mg/L	99.0	82	120
		EG020A-T: Copper	7440-50-8	1 mg/L	96.6	81	115
		EG020A-T: Lead	7439-92-1	1 mg/L	100	83	121
		EG020A-T: Manganese	7439-96-5	1 mg/L	103	73	123
		EG020A-T: Nickel	7440-02-0	1 mg/L	96.7	80	118
		EG020A-T: Vanadium	7440-62-2	1 mg/L	98.6	81	119
		EG020A-T: Zinc	7440-66-6	1 mg/L	95.2	74	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2367516)							
EM1907901-022	Anonymous	EG035T: Mercury	7439-97-6	0.01 mg/L	99.3	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2367015)							
EM1907021-005	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	68.4	43	125
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2367015)							
EM1907021-005	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	65.2	44	122
EP080: BTEXN (QCLot: 2367015)							
EM1907021-005	Anonymous	EP080: Benzene	71-43-2	20 µg/L	92.8	68	130
		EP080: Toluene	108-88-3	20 µg/L	90.6	72	132

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM1907943**	Page	: 1 of 13
Client	: **ENVIRONMENTAL SITE ASSESSMENTS PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR SETON LILLAS	Telephone	: +6138549 9644
Project	: COSTA GROUP - LARA	Date Samples Received	: 24-May-2019
Site	: ----	Issue Date	: 27-May-2019
Sampler	: SL	No. of samples received	: 49
Order number	:	No. of samples analysed	: 49

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EG005(ED093)T: Total Metals by ICP-AES	EM1907943--025	SP21/0-0.15	**Zinc**	7440-66-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Pesticides by GCMS	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Pesticides by GCMS	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / *Container / Client Sample ID(s)*	*Sample Date*	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C) - Continued								
SP01/0-0.15,	SP02/0-0.15,	**23-May-2019**	**----**	----	----	**24-May-2019**	06-Jun-2019	✓
SP03/0-0.15,	SP04/0-0.15,							
SP05/0-0.15,	QC04,							
SP06/0-0.15,	SP07/0-0.15,							
SP08/0-0.15,	SP09/0-0.15,							
SP10/0-0.15,	SP11/0-0.15,							
SP12/0-0.15,	SP13/0-0.15,							
SP14/0-0.15,	SP15/0-0.15,							
SP16/0-0.15,	SP17/0-0.15,							
SP18/0-0.15,	SP19/0-0.15,							
SP20/0-0.15,	SP21/0-0.15,							
SP22/0-0.15,	SP23/0-0.15,							
SP24/0-0.15,	SP25/0-0.15,							
QC06,	SP26/0-0.15,							
SP27/0-0.15,	SP28/0-0.15,							
SP29/0-0.15,	SP30/0-0.15,							
SP31/0-0.15,	SP32/0-0.15,							
SP33/0-0.15,	SP34/0-0.15,							
SP35/0-0.15,	SP36/0-0.15,							
SP37/0-0.15,	SP38/0-0.15,							
SP39/0-0.15,	SP40/0-0.15,							
SP41/0-0.15,	SP42/0-0.15,							
SP43/0-0.15								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
SP01/0-0.15, SP02/0-0.15, SP03/0-0.15, SP04/0-0.15, SP05/0-0.15, QC04, SP06/0-0.15, SP07/0-0.15, SP08/0-0.15, SP09/0-0.15, SP10/0-0.15, SP11/0-0.15, SP12/0-0.15, SP13/0-0.15, SP14/0-0.15, SP15/0-0.15, SP16/0-0.15, SP17/0-0.15, SP18/0-0.15, SP19/0-0.15, SP20/0-0.15, SP21/0-0.15, SP22/0-0.15, SP23/0-0.15, SP24/0-0.15, SP25/0-0.15, QC06, SP26/0-0.15, SP27/0-0.15, SP28/0-0.15, SP29/0-0.15, SP30/0-0.15, SP31/0-0.15, SP32/0-0.15, SP33/0-0.15, SP34/0-0.15, SP35/0-0.15, SP36/0-0.15, SP37/0-0.15, SP38/0-0.15, SP39/0-0.15, SP40/0-0.15, SP41/0-0.15, SP42/0-0.15, SP43/0-0.15	**23-May-2019**	**25-May-2019**	19-Nov-2019	✓	**26-May-2019**	19-Nov-2019	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
SP01/0-0.15, SP02/0-0.15, SP03/0-0.15, SP04/0-0.15, SP05/0-0.15, QC04, SP06/0-0.15, SP07/0-0.15, SP08/0-0.15, SP09/0-0.15, SP10/0-0.15, SP11/0-0.15, SP12/0-0.15, SP13/0-0.15, SP14/0-0.15, SP15/0-0.15, SP16/0-0.15, SP17/0-0.15, SP18/0-0.15, SP19/0-0.15, SP20/0-0.15, SP21/0-0.15, SP22/0-0.15, SP23/0-0.15, SP24/0-0.15, SP25/0-0.15, QC06, SP26/0-0.15, SP27/0-0.15, SP28/0-0.15, SP29/0-0.15, SP30/0-0.15, SP31/0-0.15, SP32/0-0.15, SP33/0-0.15, SP34/0-0.15, SP35/0-0.15, SP36/0-0.15, SP37/0-0.15, SP38/0-0.15, SP39/0-0.15, SP40/0-0.15, SP41/0-0.15, SP42/0-0.15, SP43/0-0.15	**23-May-2019**	**25-May-2019**	20-Jun-2019	✓	**26-May-2019**	20-Jun-2019	✓
EG048: Hexavalent Chromium (Alkaline Digest)							
Soil Glass Jar - Unpreserved (EG048G)							
SP01/0-0.15, SP04/0-0.15, SP09/0-0.15, SP12/0-0.15, SP18/0-0.15, SP24/0-0.15, SP33/0-0.15, SP38/0-0.15, SP40/0-0.15, SP42/0-0.15	**23-May-2019**	**24-May-2019**	20-Jun-2019	✓	**24-May-2019**	31-May-2019	✓
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK028SF)							
SP01/0-0.15, SP04/0-0.15, SP09/0-0.15, SP12/0-0.15, SP18/0-0.15, SP24/0-0.15, SP33/0-0.15, SP38/0-0.15, SP40/0-0.15, SP42/0-0.15	**23-May-2019**	**24-May-2019**	06-Jun-2019	✓	**27-May-2019**	07-Jun-2019	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved (EP066)								
SP01/0-0.15,	SP04/0-0.15,	**23-May-2019**	**24-May-2019**	06-Jun-2019	✓	**24-May-2019**	03-Jul-2019	✓
SP09/0-0.15,	SP12/0-0.15,							
SP18/0-0.15,	SP24/0-0.15,							
SP33/0-0.15,	SP38/0-0.15,							
SP40/0-0.15,	SP42/0-0.15							
EP068A: Organochlorine Pesticides (OC)								
Soil Glass Jar - Unpreserved (EP068)								
SP01/0-0.15,	SP02/0-0.15,	**23-May-2019**	**24-May-2019**	06-Jun-2019	✓	**24-May-2019**	03-Jul-2019	✓
SP03/0-0.15,	SP04/0-0.15,							
SP05/0-0.15,	QC04,							
SP06/0-0.15,	SP07/0-0.15,							
SP08/0-0.15,	SP09/0-0.15,							
SP10/0-0.15,	SP11/0-0.15,							
SP12/0-0.15,	SP13/0-0.15,							
SP14/0-0.15,	SP15/0-0.15,							
SP16/0-0.15,	SP17/0-0.15,							
SP18/0-0.15,	SP19/0-0.15,							
SP20/0-0.15,	SP21/0-0.15,							
SP22/0-0.15,	SP23/0-0.15,							
SP24/0-0.15,	SP25/0-0.15,							
QC06,	SP26/0-0.15,							
SP27/0-0.15,	SP28/0-0.15,							
SP29/0-0.15,	SP30/0-0.15,							
SP31/0-0.15,	SP32/0-0.15,							
SP33/0-0.15,	SP34/0-0.15,							
SP35/0-0.15,	SP36/0-0.15,							
SP37/0-0.15,	SP38/0-0.15,							
SP39/0-0.15,	SP40/0-0.15,							
SP41/0-0.15,	SP42/0-0.15,							
SP43/0-0.15								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP068B: Organophosphorus Pesticides (OP)								
Soil Glass Jar - Unpreserved (EP068)								
SP01/0-0.15,	SP02/0-0.15,	**23-May-2019**	**24-May-2019**	06-Jun-2019	✓	**24-May-2019**	03-Jul-2019	✓
SP03/0-0.15,	SP04/0-0.15,							
SP05/0-0.15,	QC04,							
SP06/0-0.15,	SP07/0-0.15,							
SP08/0-0.15,	SP09/0-0.15,							
SP10/0-0.15,	SP11/0-0.15,							
SP12/0-0.15,	SP13/0-0.15,							
SP14/0-0.15,	SP15/0-0.15,							
SP16/0-0.15,	SP17/0-0.15,							
SP18/0-0.15,	SP19/0-0.15,							
SP20/0-0.15,	SP21/0-0.15,							
SP22/0-0.15,	SP23/0-0.15,							
SP24/0-0.15,	SP25/0-0.15,							
QC06,	SP26/0-0.15,							
SP27/0-0.15,	SP28/0-0.15,							
SP29/0-0.15,	SP30/0-0.15,							
SP31/0-0.15,	SP32/0-0.15,							
SP33/0-0.15,	SP34/0-0.15,							
SP35/0-0.15,	SP36/0-0.15,							
SP37/0-0.15,	SP38/0-0.15,							
SP39/0-0.15,	SP40/0-0.15,							
SP41/0-0.15,	SP42/0-0.15,							
SP43/0-0.15								
EP068C: Triazines								
Soil Glass Jar - Unpreserved (EP068)								
SP01/0-0.15,	SP04/0-0.15,	**23-May-2019**	**24-May-2019**	06-Jun-2019	✓	**24-May-2019**	03-Jul-2019	✓
SP09/0-0.15,	SP12/0-0.15,							
SP18/0-0.15,	SP24/0-0.15,							
SP33/0-0.15,	SP38/0-0.15,							
SP40/0-0.15,	SP42/0-0.15							
EP068D: Pyrethroids								
Soil Glass Jar - Unpreserved (EP068)								
SP01/0-0.15,	SP04/0-0.15,	**23-May-2019**	**24-May-2019**	06-Jun-2019	✓	**24-May-2019**	03-Jul-2019	✓
SP09/0-0.15,	SP12/0-0.15,							
SP18/0-0.15,	SP24/0-0.15,							
SP33/0-0.15,	SP38/0-0.15,							
SP40/0-0.15,	SP42/0-0.15							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
SP01/0-0.15, SP04/0-0.15, SP09/0-0.15, SP12/0-0.15, SP18/0-0.15, SP24/0-0.15, SP33/0-0.15, SP38/0-0.15, SP40/0-0.15, SP42/0-0.15	**23-May-2019**	**24-May-2019**	06-Jun-2019	✓	**24-May-2019**	03-Jul-2019	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
SP01/0-0.15, SP04/0-0.15, SP09/0-0.15, SP12/0-0.15, SP18/0-0.15, SP24/0-0.15, SP33/0-0.15, SP38/0-0.15, SP40/0-0.15, SP42/0-0.15	**23-May-2019**	**24-May-2019**	06-Jun-2019	✓	**24-May-2019**	03-Jul-2019	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
SP01/0-0.15, SP04/0-0.15, SP09/0-0.15, SP12/0-0.15, SP18/0-0.15, SP24/0-0.15, SP33/0-0.15, SP38/0-0.15, SP40/0-0.15, SP42/0-0.15	**23-May-2019**	**24-May-2019**	06-Jun-2019	✓	**24-May-2019**	06-Jun-2019	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
SP01/0-0.15, SP04/0-0.15, SP09/0-0.15, SP12/0-0.15, SP18/0-0.15, SP24/0-0.15, SP33/0-0.15, SP38/0-0.15, SP40/0-0.15, SP42/0-0.15	**23-May-2019**	**24-May-2019**	06-Jun-2019	✓	**24-May-2019**	06-Jun-2019	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
SP01/0-0.15, SP04/0-0.15, SP09/0-0.15, SP12/0-0.15, SP18/0-0.15, SP24/0-0.15, SP33/0-0.15, SP38/0-0.15, SP40/0-0.15, SP42/0-0.15	**23-May-2019**	**24-May-2019**	06-Jun-2019	✓	**24-May-2019**	06-Jun-2019	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG020A-T)							
QC03, QC08	**23-May-2019**	**27-May-2019**	19-Nov-2019	✓	**27-May-2019**	19-Nov-2019	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS								
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG035T)								
QC03,	QC08	**23-May-2019**	**----**	----	----	**27-May-2019**	20-Jun-2019	✓
EP068A: Organochlorine Pesticides (OC)								
Amber Glass Bottle - Unpreserved (EP068)								
QC03,	QC08	**23-May-2019**	**24-May-2019**	30-May-2019	✓	**24-May-2019**	03-Jul-2019	✓
EP068B: Organophosphorus Pesticides (OP)								
Amber Glass Bottle - Unpreserved (EP068)								
QC03,	QC08	**23-May-2019**	**24-May-2019**	30-May-2019	✓	**24-May-2019**	03-Jul-2019	✓
EP080/071: Total Petroleum Hydrocarbons								
Amber VOC Vial - Sulfuric Acid (EP080)								
QC01,	QC02	**23-May-2019**	**24-May-2019**	06-Jun-2019	✓	**24-May-2019**	06-Jun-2019	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
Amber VOC Vial - Sulfuric Acid (EP080)								
QC01,	QC02	**23-May-2019**	**24-May-2019**	06-Jun-2019	✓	**24-May-2019**	06-Jun-2019	✓
EP080: BTEXN								
Amber VOC Vial - Sulfuric Acid (EP080)								
QC01,	QC02	**23-May-2019**	**24-May-2019**	06-Jun-2019	✓	**24-May-2019**	06-Jun-2019	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	11	18.18	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	6	55	10.91	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	3	11	27.27	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	5	45	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	3	10	30.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	6	52	11.54	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	6	52	11.54	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	3	12	25.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	11	18.18	10.00	✓	NEPM 2013 B3 & ALS QC Standard
WAD Cyanide by Segmented Flow Analyser	EK028SF	2	10	20.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	11	18.18	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	3	11	27.27	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	3	45	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	3	10	30.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	52	5.77	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	52	5.77	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	3	12	25.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	11	9.09	5.00	✓	NEPM 2013 B3 & ALS QC Standard
WAD Cyanide by Segmented Flow Analyser	EK028SF	1	10	10.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	11	9.09	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	3	11	27.27	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	3	45	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	3	10	30.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	52	5.77	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	52	5.77	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	3	12	25.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	11	9.09	5.00	✓	NEPM 2013 B3 & ALS QC Standard
WAD Cyanide by Segmented Flow Analyser	EK028SF	1	10	10.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	11	9.09	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	3	11	27.27	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	3	45	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	3	10	30.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	52	5.77	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Total Metals by ICP-AES	EG005T	4	52	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	3	12	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
WAD Cyanide by Segmented Flow Analyser	EK028SF	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Pesticides by GCMS	EP068	0	2	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	3	**33.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	8	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Pesticides by GCMS	EP068	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Pesticides by GCMS	EP068	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Pesticides by GCMS	EP068	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	In house: Referenced to USEPA SW846, Method 3060A. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
WAD Cyanide by Segmented Flow Analyser	EK028SF	SOIL	In house: Referenced to APHA 4500-CN-O. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Hydrogen cyanide is liberated from a slightly acidified (pH 4.5) and is dialysed. Tight cyanide complexes that would not be amenable to oxidation by chlorine are not converted. Iron cyanide complexes are precipitated with zinc acetate. Liberated HCN diffuses through a membrane into a stream of sodium hydroxide where it is carried as CN- The cyanide in caustic solution is buffered to pH 5.2 and further converted to cyanogen chloride by reaction with chloramine-T. Cyanogen chloride subsequently reacts with 4 ¿pyridine carboxylic and 1,3 - dimethylbarbituric acids to give a red colour complex. This colour is measured at 600 nm. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270D Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270D Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (2013) Schedule B(3) (Method 504,505)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015A Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM amended 2013.
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270D. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 502 and 507)

Analytical Methods	Method	Matrix	Method Descriptions
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260B. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM amended 2013.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Pesticides by GCMS	EP068	WATER	In house: Referenced to USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for CN in Soils	CN-PR	SOIL	In house: APHA 4500 CN. Samples are extracted by end-over-end tumbling with NaOH.
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	In house: Referenced to USEPA SW846, Method 3060A.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (2013) Schedule B(3) (Method 202)
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (2013) Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for sparging.

(10)

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CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Page 1 of 1

Company Name : Environmental Site Assessments	Contact Name: Seton Lillas	Purchase Order :	COC Number :
Office Address : PO Box 3106, Waurn Ponds VIC 3216	Project Manager : As Above	PROJECT Number :	Eurofins | mgt quote ID : #150911ESA
	Email for results : office@esagroup.com.au	PROJECT Name : COSTA GROUP - LARA	Data output format:

Special Directions & Comments :

Eurofins | mgt DI water batch number:

Analytes

	Sample ID	Date	Matrix	OC/OP PESTICIDES	15 METALS
1	QC05	23/5/19	S	X	X
2	QC07	"	"	X	X
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Some common holding times (with correct preservation).
For further information contact the lab

Waters		Soils	
BTEX, MAH, VOC	14 days	BTEX, MAH, VOC	14 days
TRH, PAH, Phenols, Pesticides	7 days	TRH, PAH, Phenols, Pesticides	14 days
Heavy Metals	6 months	Heavy Metals	6 months
Mercury, CrVI	28 days	Mercury, CrVI	28 days
Microbiological testing	24 hours	Microbiological testing	72 hours
BOD, Nitrate, Nitrite, Total N	2 days	Anions	28 days
Solids - TSS, TDS etc	7 days	SPOCAS, pH Field and FOX, CrS	24 hours
Ferrous iron	7 days	ASLP, TCLP	7 days

Containers:

	1LP	250P	125P	1LA	40mL vial	125mL A	Jar		Sample comments:
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									

Relinquished By:	Laboratory Staff Received By:	Turn around time	Method Of Shipment	Temperature on arrival:
S. Lillas	[illegible]	1 DAY ☐ 2 DAY ☒ 3 DAY ☐	☒ Courier	
Date & Time:: 23/5/19 12.44	Date & Time: 24/5, 9.05	5 DAY ☐ 10 DAY ☐ Other:	☐ Hand Delivered	Report number:
Signature:	Signature:		☐ Postal	657494
			Courier Consignment # :	

QS3009_R1 Issue Date: 22 August 2013 Page 1 of 1

Jalpa Patel
24/5/19 2:15pm

Relinquished 4 – [illegible] 24/5/19 @ 11.50 a.m.

Environmental Site Assessments P/L
2 Homestead Crt
Highton
VIC 3216

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **- All Reports/SRA's (cc All SRA/Summary/Reports)**

Report **657494-S**
Project name COSTA GROUP - LARA
Received Date May 24, 2019

Client Sample ID			**QC05**	**QC07**
Sample Matrix			**Soil**	**Soil**
Eurofins | mgt Sample No.			**M19-My38255**	**M19-My38256**
Date Sampled			**May 23, 2019**	**May 23, 2019**
Test/Reference	LOR	Unit		
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
a-BHC	0.05	mg/kg	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05
d-BHC	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
g-BHC (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	1	mg/kg	< 1	< 1
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
Dibutylchlorendate (surr.)	1	%	71	71
Tetrachloro-m-xylene (surr.)	1	%	64	63
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

Client Sample ID			QC05	QC07
Sample Matrix			Soil	Soil
Eurofins | mgt Sample No.			M19-My38255	M19-My38256
Date Sampled			May 23, 2019	May 23, 2019
Test/Reference	LOR	Unit		
Organophosphorus Pesticides				
Diazinon	0.2	mg/kg	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2
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	%	69	69
Chromium (hexavalent)	1	mg/kg	< 1	< 1
Chromium (trivalent)	5	mg/kg	45	29
% Moisture	1	%	18	14
Heavy Metals				
Arsenic	2	mg/kg	5.5	3.8
Barium	10	mg/kg	120	120
Beryllium	2	mg/kg	< 2	< 2
Boron	10	mg/kg	< 10	< 10
Cadmium	0.4	mg/kg	< 0.4	< 0.4
Chromium	5	mg/kg	45	29
Cobalt	5	mg/kg	12	11
Copper	5	mg/kg	12	10
Lead	5	mg/kg	13	14
Manganese	5	mg/kg	350	440
Mercury	0.1	mg/kg	< 0.1	< 0.1
Nickel	5	mg/kg	30	18
Vanadium	10	mg/kg	59	38
Zinc	5	mg/kg	27	110

Sample History

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

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
Organochlorine Pesticides	Melbourne	May 24, 2019	14 Day
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Organophosphorus Pesticides	Melbourne	May 24, 2019	14 Day
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
Chromium (hexavalent)	Melbourne	May 28, 2019	28 Day
- Method: APHA 3500-Cr Hexavalent Chromium- (Extraction:- USEPA3060)			
Heavy Metals	Melbourne	May 24, 2019	180 Day
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Melbourne	May 24, 2019	14 Day
- Method: LTM-GEN-7080 Moisture			

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NATA # 1261 Site # 20794

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Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Company Name: Environmental Site Assessments P/L
Address: 2 Homestead Crt
Highton
VIC 3216

Project Name: COSTA GROUP - LARA

Order No.:
Report #: 657494
Phone:
Fax:

Received: May 24, 2019 2:15 PM
Due: May 28, 2019
Priority: 2 Day
Contact Name: - All Reports/SRA's (cc All

Eurofins | mgt Analytical Services Manager : Cindi Guo

Sample Detail						Organochlorine Pesticides	Organophosphorus Pesticides	NEPM 1999 Metals : Metals M15	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	QC05	May 23, 2019		Soil	M19-My38255	X	X	X	X
2	QC07	May 23, 2019		Soil	M19-My38256	X	X	X	X
Test Counts						2	2	2	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure, April 2011 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. This report replaces any interim results previously issued.

Holding Times

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

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

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

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

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

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

Units

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

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.2 2018
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.2 where no positive PFAS results have been reported have been reviewed and no data was affected.

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

QC Data General Comments

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

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 1			1	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	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
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							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Boron	mg/kg	< 10			10	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Vanadium	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	91			70-130	Pass	
4.4'-DDD	%	91			70-130	Pass	
4.4'-DDE	%	111			70-130	Pass	
4.4'-DDT	%	80			70-130	Pass	
a-BHC	%	102			70-130	Pass	
Aldrin	%	89			70-130	Pass	
b-BHC	%	82			70-130	Pass	
d-BHC	%	79			70-130	Pass	
Dieldrin	%	93			70-130	Pass	
Endosulfan I	%	98			70-130	Pass	
Endosulfan II	%	82			70-130	Pass	
Endosulfan sulphate	%	89			70-130	Pass	
Endrin	%	77			70-130	Pass	
Endrin aldehyde	%	93			70-130	Pass	
Endrin ketone	%	103			70-130	Pass	
g-BHC (Lindane)	%	103			70-130	Pass	
Heptachlor	%	89			70-130	Pass	
Heptachlor epoxide	%	101			70-130	Pass	
Hexachlorobenzene	%	101			70-130	Pass	
Methoxychlor	%	88			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							
Diazinon	%	110			70-130	Pass	
Dimethoate	%	79			70-130	Pass	
Ethion	%	109			70-130	Pass	
Fenitrothion	%	118			70-130	Pass	
Methyl parathion	%	114			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Mevinphos			%	102			70-130	Pass	
LCS - % Recovery									
Chromium (hexavalent)			%	98			70-130	Pass	
LCS - % Recovery									
Heavy Metals									
Arsenic			%	114			80-120	Pass	
Barium			%	100			80-120	Pass	
Beryllium			%	112			80-120	Pass	
Boron			%	97			80-120	Pass	
Cadmium			%	104			80-120	Pass	
Chromium			%	109			80-120	Pass	
Cobalt			%	113			80-120	Pass	
Copper			%	109			80-120	Pass	
Lead			%	108			80-120	Pass	
Manganese			%	113			80-120	Pass	
Mercury			%	109			75-125	Pass	
Nickel			%	111			80-120	Pass	
Vanadium			%	112			80-120	Pass	
Zinc			%	116			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	M19-My28090	NCP	%	91			70-130	Pass	
4.4'-DDD	M19-My28090	NCP	%	79			70-130	Pass	
4.4'-DDE	M19-My28090	NCP	%	93			70-130	Pass	
4.4'-DDT	M19-My28061	NCP	%	80			70-130	Pass	
a-BHC	M19-My28090	NCP	%	77			70-130	Pass	
Aldrin	M19-My28090	NCP	%	80			70-130	Pass	
b-BHC	M19-My28090	NCP	%	82			70-130	Pass	
d-BHC	M19-My28090	NCP	%	96			70-130	Pass	
Dieldrin	M19-My28090	NCP	%	78			70-130	Pass	
Endosulfan I	M19-My28090	NCP	%	101			70-130	Pass	
Endosulfan II	M19-My28090	NCP	%	109			70-130	Pass	
Endosulfan sulphate	M19-My28090	NCP	%	77			70-130	Pass	
Endrin	M19-My28090	NCP	%	83			70-130	Pass	
Endrin aldehyde	M19-My28090	NCP	%	83			70-130	Pass	
Endrin ketone	M19-My28090	NCP	%	90			70-130	Pass	
g-BHC (Lindane)	M19-My28090	NCP	%	91			70-130	Pass	
Heptachlor	M19-My28090	NCP	%	91			70-130	Pass	
Heptachlor epoxide	M19-My28090	NCP	%	85			70-130	Pass	
Hexachlorobenzene	M19-My28090	NCP	%	85			70-130	Pass	
Methoxychlor	S19-My22752	NCP	%	87			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	M19-My28100	NCP	%	115			70-130	Pass	
Dimethoate	M19-My28100	NCP	%	72			70-130	Pass	
Ethion	M19-My28100	NCP	%	100			70-130	Pass	
Fenitrothion	M19-My28100	NCP	%	115			70-130	Pass	
Methyl parathion	M19-My28100	NCP	%	101			70-130	Pass	
Mevinphos	M19-My28100	NCP	%	88			70-130	Pass	
Spike - % Recovery									
				Result 1					
Chromium (hexavalent)	M19-My38570	NCP	%	92			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heavy Metals				Result 1					
Arsenic	S19-My00861	NCP	%	98			75-125	Pass	
Barium	S19-My00861	NCP	%	78			75-125	Pass	
Beryllium	S19-My00861	NCP	%	99			75-125	Pass	
Boron	S19-My00861	NCP	%	81			75-125	Pass	
Cadmium	S19-My00861	NCP	%	94			75-125	Pass	
Chromium	S19-My00861	NCP	%	78			75-125	Pass	
Cobalt	S19-My00861	NCP	%	96			75-125	Pass	
Copper	S19-My00861	NCP	%	88			75-125	Pass	
Mercury	S19-My00861	NCP	%	99			70-130	Pass	
Nickel	S19-My00861	NCP	%	95			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M19-My38474	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M19-My38474	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M19-My38474	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M19-My38474	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	M19-My38474	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M19-My38474	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	M19-My38474	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	M19-My38474	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M19-My38474	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M19-My38474	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M19-My38474	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M19-My38474	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M19-My38474	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M19-My38474	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M19-My38474	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	M19-My38474	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M19-My38474	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M19-My38474	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M19-My38474	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M19-My38474	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	M19-My38474	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	

Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Fenthion	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	M19-My38474	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	M19-My38474	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tokuthion	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	M19-My38474	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	M19-My38924	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
% Moisture	M19-My38192	NCP	%	6.4	7.4	15	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S19-My00861	NCP	mg/kg	8.4	8.4	<1	30%	Pass	
Barium	S19-My00861	NCP	mg/kg	93	93	<1	30%	Pass	
Beryllium	S19-My00861	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Boron	S19-My00861	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Cadmium	S19-My00861	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S19-My00861	NCP	mg/kg	30	31	1.0	30%	Pass	
Cobalt	S19-My00861	NCP	mg/kg	9.6	9.6	<1	30%	Pass	
Copper	S19-My00861	NCP	mg/kg	17	17	<1	30%	Pass	
Lead	S19-My00861	NCP	mg/kg	72	73	<1	30%	Pass	
Manganese	S19-My00861	NCP	mg/kg	740	740	<1	30%	Pass	
Mercury	S19-My00861	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S19-My00861	NCP	mg/kg	9.5	9.8	3.0	30%	Pass	
Vanadium	S19-My00861	NCP	mg/kg	58	58	1.0	30%	Pass	
Zinc	S19-My00861	NCP	mg/kg	78	78	1.0	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference

Authorised By

Cindi Guo	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)
Julie Kay	Senior Analyst-Inorganic (VIC)

Glenn Jackson
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

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

Appendix C Environmental Site Assessments Pty Ltd Further Soil Investigation Report (2023)

Environmental Site Assessments Pty Ltd

Unit 4, 6-10 Apparel Close
Breakwater VIC 3219
Australia

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Environmental
SITE ASSESMENTS

FURTHER SOIL INVESTIGATION

76-156 Canterbury Road East, 705-775 & 785-805 Princes Hwy, Lara

Prepared for

Lara Farms Pty Ltd

Document Control

Environmental Site Assessments Pty Ltd

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Report Title:	Further Soil Investigation - 76-156 Canterbury Road East, 705-775 & 785-805 Princes Hwy, Lara
Doc. Ref:	ESA/2023/005
Client:	Lara Farms Pty Ltd
Signatures:	Prepared and Authorised by: BSc *Waik.* CEnvP Principal Environmental Scientist

Revision Status

Revision #	Status	Date	Author
1	Final	12 January 2023	Seton Lillas

Documents Distribution

Revision #	Number of copies	Type	Recipient	Position and Company
1	1	Email		Development Manager – Costa Property Group
1	1	Email		Environmental Auditor – AAA Environmental

Contents

Appendices

1.0 INTRODUCTION

Environmental Site Assessments Pty Ltd ('ESA') was engaged by Lara Farms Pty Ltd ('the Client') to undertake a further investigation of soils at 76-156 Canterbury Road East, 705-775 & 785-805 Princes Hwy, Lara ('the Site'). The client intends to develop the site for a sensitive ('low-density') land use.

As part of their planning permit conditions the client is required to undertake a Preliminary Risk Screen Assessment ('PRSA') of the site. The client has engaged EPA Accredited Auditor Mr David Nunn of AAA Environmental to oversee the PRSA.

ESA previously undertook an assessment of the site that is detailed in the report "Environmental Assessment - 76-156 Canterbury Road East, 705-775 Princes Hwy & 785-805 Princes Hwy, Lara – ESA/447/2019 (09/12/2022) – Environmental Site Assessments Pty Ltd".

The findings of the environmental assessment were as follows:

Conclusions	There is a Low likelihood of chemical contamination of soil in the paddocks due to application of fertilisers and/or herbicides. There is a Low likelihood of contamination of soil at the site due to industrial waste. There is a Low probability of occurrence of Acid Sulfate soils on-site. The site is surrounded by low-risk properties. There is no apparent soil staining, soil discolouration or odours at the site. There is no apparent asbestos contamination. There is no apparent Prescribed Industrial Waste or Putrescible Waste. There is no apparent imported fill on-site.
Risk of Contamination	Based on all available information, this soil at the site has a Low risk of contamination. All soils analysed were BELOW the upper thresholds for NEPM HIL A, HSL A/B and ESLs (Urban Residential). As per the Ministerial Direction No. 1, Zone 1 of the site is suitable for a sensitive use (defined as residential, child-care centre, pre-school centre or primary school), agriculture or public open space.

1.1 Scope of Work Undertaken

Based on the project understanding, ESA undertook the following scope of works:

- The collection of surface soil samples from across the site using a hand auger;
- Analysis of samples for contaminants of potential concern ('COPCs'); and
- Preparation of a report that contains the findings, conclusions and recommendations.

2.0 SOIL INVESTIGATION PROGRAM

This round of soil sampling on-site was undertaken on 6 January 2023 by ESA staff using a hand auger. Samples were collected from the head of the hand auger using a nitrile gloved hand. Gloves were changed between samples. The sample locations are shown in **Appendix 1**. Decontamination of the auger occurred after each sample was collected. The following decontamination procedure was employed:

- The equipment was washed with non-phosphate detergent and tap water, using a brush if necessary;
- The equipment was rinsed with tap-water;
- The equipment was rinsed with deionised water; and
- The equipment was air dried or with the assistance disposable paper towel.

A Photoionisation Detector ('PID') was employed to screen samples for Volatile Organic Compounds ('VOCs'). The following methodology was employed:

- A sample of soil was carefully collected with minimal disturbance that could cause loss of volatile constituents;

- The sample was immediately extruded into a plastic bag and sealed;
- The sealed bag containing the sample was crushed between the fingers to disperse the sample and release volatile constituents;
- The inlet tube of the PID was then inserted through a small opening in the bag into the headspace over the sample; and
- The PID response (in ppm) was measured within 2-3 seconds and the result recorded on the field form.

The PID factory calibration certificate is attached to **Appendix 2**. All samples were analysed using the PID and the results are shown in Table 2.0 below. Table 2.0 also illustrates the samples that were collected, and the analysis undertaken.

Sample ID	Sampling Point	Depth of Sample (m BGL)	Lab Analysis	PID (PPM) / Odour / Visual Contamination	Description
SP44/0-0.15	SP44	0-0.15	pH	0.0 / Nil / Nil	CLAYEY SILT: Medium Plasticity, Orange/Brown, Loose, Moist.
SP45/0-0.15	SP45	0-0.15	pH	0.0 / Nil / Nil	CLAYEY SILT: Medium Plasticity, Orange/Brown, Loose, Moist.
SP46/0-0.15	SP46	0-0.15	pH	0.0 / Nil / Nil	CLAYEY SILT: Medium Plasticity, Orange/Brown, Loose, Moist.
SP47/0-0.15	SP47	0-0.15	NEPM Suite & pH	0.0 / Nil / Nil	CLAYEY SILT: Medium Plasticity, Orange/Brown, Loose, Moist.
SP48/0-0.15	SP48	0-0.15	pH, OCPs, 8 Metals, Herbicides	0.0 / Nil / Nil	CLAYEY SILT: Medium Plasticity, Orange/Brown, Loose, Moist.
SP49/0-0.15	SP49	0-0.15	OCPs and 8 Metals	0.0 / Nil / Nil	CLAYEY SILT: Medium Plasticity, Orange/Brown, Loose, Moist.
SP50/0-0.15	SP50	0-0.15	OCPs and 8 Metals	0.0 / Nil / Nil	CLAYEY SILT: Medium Plasticity, Orange/Brown, Loose, Moist.
SP51/0-0.15	SP51	0-0.15	NEPM Suite & pH	0.0 / Nil / Nil	CLAYEY SILT: Medium Plasticity, Orange/Brown, Loose, Moist.
SP52/0-0.15	SP52	0-0.15	OCPs and 8 Metals	0.0 / Nil / Nil	CLAYEY SILT: Medium Plasticity, Orange/Brown, Loose, Moist.
SP53/0-0.15	SP53	0-0.15	OCPs and 8 Metals	0.0 / Nil / Nil	CLAYEY SILT: Medium Plasticity, Orange/Brown, Loose, Moist.
SP54/0-0.15	SP54	0-0.15	pH, OCPs, 8 Metals, Herbicides	0.0 / Nil / Nil	CLAYEY SILT: Medium Plasticity, Orange/Brown, Loose, Moist.
SP55/0-0.15	SP55	0-0.15	pH, OCPs, 8 Metals, Herbicides	0.0 / Nil / Nil	CLAYEY SILT: Medium Plasticity, Orange/Brown, Loose, Moist.
SP56/0-0.15	SP56	0-0.15	NEPM Suite & pH	0.0 / Nil / Nil	CLAYEY SILT: Medium Plasticity, Orange/Brown, Loose, Moist.
SP57/0-0.15 QC01/060123 QC02/060123	SP57	0-0.15	OCPs and 8 Metals	0.0 / Nil / Nil	CLAYEY SILT: Medium Plasticity, Orange/Brown, Loose, Moist.
SP58/0-0.15	SP58	0-0.15	OCPs and 8 Metals	0.0 / Nil / Nil	CLAYEY SILT: Medium Plasticity, Orange/Brown, Loose, Moist.
SP59/0-0.15	SP59	0-0.15	pH, OCPs, 8 Metals, Herbicides	0.0 / Nil / Nil	CLAYEY SILT: Medium Plasticity, Orange/Brown, Loose, Moist.
SP60/0-0.15	SP60	0-0.15	NEPM Suite & pH	0.0 / Nil / Nil	CLAYEY SILT: Medium Plasticity, Orange/Brown, Loose, Moist.

Sample ID	Sampling Point	Depth of Sample (m BGL)	Lab Analysis	PID (PPM) / Odour / Visual Contamination	Description
SP61/0-0.15	SP61	0-0.15	OCPs and 8 Metals	0.0 / Nil / Nil	CLAYEY SILT: Medium Plasticity, Orange/Brown, Loose, Moist.
SP62/0-0.15	SP62	0-0.15	OCPs and 8 Metals	0.0 / Nil / Nil	CLAYEY SILT: Medium Plasticity, Orange/Brown, Loose, Moist.

Table 2.0 - Sample Details

The laboratories used for conducting the soil analysis were Eurofins Scientific ('Eurofins') and ALS Environmental ('ALS'). Both laboratories are NATA certified for the analysis undertaken.

All chain of custody forms, certificates of analysis and laboratory QA/QC documents are in **Appendix 3**. The laboratory report numbers are 953941 & EM2300116.

2.1 Results of Analysis

All results were compared with:

- National Environment Protection (Assessment of Site Contamination) Measure 1999 (As Amended) HIL A, HSL A/B and ESLs/EILs (Urban Residential); and
- AS 2159-2009 - Piling - Design and installation.

The comparison tables for laboratory results are attached as **Appendix 4**.

The results were as follows:

- There were two pH results in excess of the HIL A upper threshold and EILs (6-8);
- There were no results in excess of HSL A/B or ESLs (Urban Residential);
- The soils were classified as "Mild/Non-Aggressive" for concrete piles and "Non-Aggressive" for steel piles; and
- All soils encountered were aesthetically suitable for a sensitive use and no Asbestos Containing Material ('ACM') was encountered.

2.2 Background Data and Statistical Analysis

According to the Victorian Background Database (https://soilexplorer.org.au/) the following data for surface newer volcanic group soils in Greater Geelong is available:

pH (units)

Minimum = 4.1

Mean = 5.47

Max = 7.9

95%UCLaverages were calculated for pH and are found in **Appendix 4**. The result was as follows:

- pH = 7.444.

2.3 Discussion of Results

There were pH results (5.3 & 5.9) obtained for the site that were outside of the HIL A and EIL criteria range (6 – 8). However, these results fall within the expected range for surface newer volcanic group soils in Greater Geelong (4.1 – 7.9). The 95%UCLaverage for pH for the site was 7.444 which is within the HIL A and EIL criteria range.

As such, these pH results are likely to be naturally occurring and hence, not pollution.

2.4 Sampling Methodology and Quality Control

2.4.1 Relevant Guidelines and Standards

The sampling program was undertaken in accordance with the following guidelines, standards, and policies:

- Australia Standard (AS 4482.1) - Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil, Part 1: Non-volatile and Semi-volatile compounds (Standards Australia, 2005).

- Australia Standard (AS 4482.2) - Guide to the Sampling and Investigation of Potentially Contaminated Soil, Part 2: Volatile Substances (Standards Australia, 1999).
- National Environment Protection (Assessment of Site Contamination) Measure 1999 (As Amended).
- State Government of Victoria - Environmental Reference Standards (26 May 2021).

2.4.2 Environmental Site Assessments Quality Assurance (QA) Program

Environmental Site Assessments has developed and implemented a Quality Assurance Program in general accordance with the following guidelines:

- Australia Standard (AS 4482.1) - Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil, Part 1: Non-volatile and Semi-volatile compounds (Standards Australia, 2005).
- National Environment Protection Council (NEPC) - National Environment Protection (Assessment of Site Contamination) Measure (NEPM) - Schedule B3 Guideline on Laboratory Analysis of Potentially Contaminated Soils, 1999 (As Amended).

As part of the Quality Assurance Program, Environmental Site Assessments ensures that the following methodology is employed:

- The use of appropriately qualified and trained environmental scientists to perform intrusive works;
- The use of standardised field sheets to record the findings of the site investigations;
- The collection and analysis of Quality Control samples as per AS 4482.1;
- The use of Chain of Custody procedures to ensure that sample integrity is maintained through the transport and handling stages; and
- Only using NATA accredited laboratories for the analysis of samples collected during the investigation activities.

As per the Environmental Site Assessments Quality Assurance Program, the following data quality indicators were used for the assessment of the laboratory analytical data:

- All sample analysis to be conducted using NATA registered methods in accordance with NEPM 1999 (Amended) guidelines.
- Laboratory method blank analysis required to be below the Limit of Reporting (LOR); and
- Surrogate compound concentrations required to be spiked at similar concentration to sample result.

2.4.3 Environmental Site Assessments Quality Control ('QC') Program

The overall precision of field quality control samples, laboratory split samples and laboratory duplicates is generally assessed by their Relative Percentage Difference ('RPD'), given by:

$$\frac{(C1 - C2)\ x\ 100}{\frac{(C1 + C2)}{2}}$$

Where:

C1 is the primary sample concentration.

C2 is the duplicate sample concentration.

The RPD of duplicated analysis were calculated and compared to the following criteria for acceptability. The acceptance criteria are listed in AS4482.1 (2005):

- Less than 30-50% for field duplicates (blind replicate and split samples);
- The significance of other field quality control samples (equipment rinsate samples, trip blank samples, trip spike samples and field blanks) need to be evaluated with respect to the actual field samples;
- Less than 30% for laboratory duplicates where the detection is less than 10 times the LOR;
- Less than 20% for laboratory duplicates where the detection is greater than 10 times the LOR;
- RPDs for control spike duplicates will be compared to an acceptable limit of 20%;
- RPDs for matrix spike duplicates will be compared to an acceptable limit of 20%; and
- Percentage recoveries of control spikes and matrix spikes will be compared to an acceptable range of 70% – 130%. Where this range is exceeded, reference to the laboratories internal data quality objective limits will be made. In addition, percentage recoveries of surrogates will also be compared to the USEPA surrogate recovery limits.

2.4.4 Field Quality Control Samples

The comparison tables for the field quality control samples are in **Appendix 4**.

2.4.4.1 Assessment of Field Variability (Blind Replicate and Split samples)

Two quality control soil samples were collected for every twenty primary soil samples analysed.

Quality control samples were preserved, packaged, and sealed in the same manner as the primary samples. A separate sample number was assigned to each QC sample, and it was submitted blind to the laboratory.

- One blind (QC01/060123) and one split sample (QC02/060123) were collected as part of the soil sampling program.
- The blind sample was submitted to Eurofins whilst the split sample was submitted to ALS.
- The RPDs were calculated for these samples.
- For the blind sample there were no elevated RPDs.
- For the split sample there were no elevated RPDs.

2.4.4.2 Trip Blanks

Trip blanks were prepared to evaluate if the transport and handling procedures had introduced contaminants into the samples, and if cross contamination in the form of VOC migration had occurred between the collected samples. Trip blanks were placed in every cooler box containing soil samples undertaking volatile analysis.

No trip blanks were collected as part of this investigation as volatiles were not a COPC.

2.4.4.3 Equipment Blanks

Equipment rinsate blanks evaluate field sampling and decontamination procedures. Disposable equipment intended for one-time use was not decontaminated but was packaged for appropriate disposal. Disposable gloves were utilised and replaced between individual sample collections.

One equipment rinsate blank was collected per matrix each day that sampling equipment was used. Equipment rinsate blanks were obtained by passing deionised water through or over the sampling devices used that day.

The equipment rinsate blanks were preserved and packaged in the manner described for the environmental samples. The time that the rinsate was collected was recorded. A separate sample number was assigned to each sample, and it was be submitted blind to the laboratory.

One equipment blank (RB01/060123) was collected as part of the sampling program and analysed for OCPs and 8 Metals. All results were below the LOR.

2.4.5 Laboratory Quality Control

As part of their NATA accreditation, laboratories perform internal duplicate analysis of samples for comparison of results to demonstrate precision. Laboratory standards including matrix spike samples, laboratory control samples and surrogates are also conducted as a basis to demonstrate accuracy. In addition, internal laboratory blank samples are run to assess the potential for laboratory equipment errors. The laboratories QC results are attached in **Appendix 3**.

Eurofins

- NO Method Blank value outliers occur.
- NO Laboratory Control outliers occur.
- NO Duplicate outliers occur.
- Matrix Spike outliers exist for Arsenic (Soil), Selenium (Soil) and Zinc (Water).
- NO Surrogate Recovery outliers occur.

ALS

- NO Method Blank value outliers occur.
- NO Laboratory Control outliers occur.
- NO Duplicate outliers occur.
- Matrix Spike outliers exist for Arsenic.
- NO Surrogate Recovery outliers occur.

2.4.5.1 Sample Holding Times and Sample Receipt Temperature

No analysis holding time outliers exist. The documented temperature of samples upon receipt at the respective laboratory was within an acceptable range.

2.4.5.2 Conclusion

A review of the laboratory reports indicates that the laboratories have met their internal acceptance criteria for the quality control samples.

2.4.6 Sample Documentation

All samples collected were labelled in a clear and precise way for proper identification in the field and for tracking in the laboratory. The samples had identifiable and unique numbers.

The sample labels contained the following information:

- Company name;
- Name of sampler;
- Sample ID; and
- Date/time sample was collected.

Chain-of-custody forms were used to document sample collection and transport to laboratories for analysis. All sample transports for analysis were accompanied by a chain-of-custody form.

Forms were completed and sent with the samples for each laboratory and each transport (i.e., each day). If multiple coolers were sent to a single laboratory on a single day, forms were completed and sent with the samples for each cooler.

The chain-of-custody forms identified the contents of each transport and maintained the custodial integrity of the samples. The coolers in which samples were stored were sealed with self-adhesive custody seals. All custody seals were signed.

2.4.7 Packaging and Transport

All sample containers were placed in a plastic cooler.

The following outlines the packaging procedures that were followed for samples:

- When ice was used, it was packed in zip-locked, double plastic bags. The drain plug of the cooler was sealed with fiberglass tape to prevent melting ice from leaking out of the cooler;
- The bottom of the cooler was lined with bubble wrap to prevent breakage during transport;
- All glass sample containers were enclosed in bubble wrap to prevent breakage;
- Where required, empty space in the cooler was filled with bubble wrap to prevent movement and breakage during transport;
- Ice used to cool samples was placed on top and around the samples to chill them to the correct temperature; and
- Each cooler was securely taped shut with signed custody seals.

2.4.8 Field Notes

The following information was recorded during the collection of samples:

- Sample location and description;
- Sampling area sketch showing sample location and measured distances (where required);
- Sampler's name(s);
- Date and time of sample collection;
- Sample ID;
- Type of soil/material encountered (Fill, Natural etc.);
- GPS Coordinates;
- Photoionisation Detector ('PID') readings;
- Field observations and details related to analysis or integrity of samples (e.g., weather conditions, noticeable odours, colours etc.);
- Soil descriptions as per AS1726-1993; and
- Sample preservation details.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 Conclusions

- The site was historically used for farming purposes.
- A previous investigation undertaken by ESA concluded that the site soils had a low risk of contamination.
- Additional soil samples were collected on-site on 6 January 2023 by ESA to provide information to assist a PRSA.
- Samples were analysed for COPCs at NATA accredited laboratories.
- The results were compared with:
    - National Environment Protection (Assessment of Site Contamination) Measure 1999 (As Amended) HIL A, HSL A/B and ESLs/EILs (Urban Residential); and
    - AS 2159-2009 - Piling - Design and installation.
- The results were as follows:

  - There were two pH results in excess of the HIL A upper threshold and EILs (6-8);
  - There were no results in excess of HSL A/B or ESLs (Urban Residential); and
  - The soils were classified as “Mild/Non-Aggressive” for concrete piles and “Non-Aggressive” for steel piles.
- All soils encountered were aesthetically suitable for a sensitive use and no Asbestos Containing Material (‘ACM’) was observed.
- ESA asserts that the low soil pH values exceeding HIL A and EILs are naturally occurring and hence, not pollution.

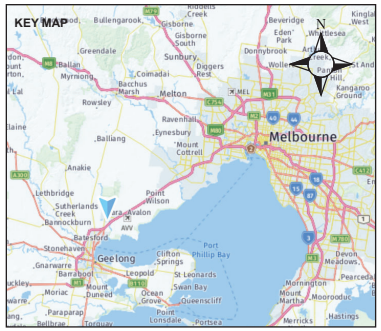
3.2 Recommendations

- No further investigation is required.

4.0 REFERENCES

- Department of Environment, Land, Water and Planning – Potentially Contaminated Land – Planning Practice Note 30 (July 2021).
- EPA Victoria - Publication 1828.2 – Waste Disposal Categories – Characteristics and Thresholds
- Friebel and Nadebaum (2011). CRC Care Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater.
- Ministerial Direction No. 1 – Potentially Contaminated Land (‘Direction No. 1’).
- National Environment Protection (Assessment of Site Contamination) Measure 1999 (As Amended).
- Standards Australia (2005). Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 1: Non-volatile and Semi-Volatile Compounds. Australian Standard AS 4482.1-2005.
- Standards Australia (1999). Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 2: Volatile Substances. Australian Standard AS 4482.2-1999.
- Standards Australia (1993) – Geotechnical Site Investigations AS 1726-1993.
- State Government of Victoria - Environment Protection Act 2017.
- State Government of Victoria – Environment Protection Regulations 2021.
- State Government of Victoria - Environment Reference Standard (26 May 2021).

Appendix 1: Sample Locations



LEGEND

- Sample Point (23 May 2019)
- Sample Point (6 January 2023)

CLIENT
LARA FARMS PTY LTD

PROJECT
FURTHER SOIL INVESTIGATION

TITLE
SAMPLE LOCATIONS

CONSULTANT

Environmental SITE ASSESMENTS

DD-MM-YYYY	12-01-2023
DESIGNED	SL
PREPARED	SL
APPROVED	SL

PROJECT NO.	REV.	FIGURE
ESA/2022/005	1	1

0 Metres 180

Environmental
SITE ASSESMENTS

Appendix 2: PID Factory Calibration Certificate

AES
sensing safety

Calibration and Service Report – PID

Company:	Environmental Site Assessment	**Manufacturer:**	RAE	**Serial #:**	595-000843
Contact:	Seton Lillas	**Instrument:**	MINIRAE LITE SN: 595-000843	**Asset #:**	
Address:	Factory 4 6-10 Apparel Close Breakwater VIC 3219	**Model:**	MINIRAE LITE	**Part #:**	059-A126-100
		Configuration:	VOC	**Sold:**	25.03.2013
		Wireless:	-	**Last Cal:**	26.04.2022
Phone:	0433 747 187	**Network ID:**	-	**Job #:**	143806
Fax:		**Unit ID:**	-	**Cal Spec:**	
Email:	seton@envirositeassessments.c	**Details:**		**Order #:**	0028

Calibration Certificate

Sensor	Type	Serial No.	Span Gas	Concentration	Traceability Lot #	CF	Reading	
							Zero	Span
Oxygen								
LEL								
PID	050-0000-004. 10.6EV 1/2 INCH LAMP	1062R129024	Isobutylene	100 PPM	4311-1-1		0	100.2
Battery	059-3051-000. LI-ION BATTERY FOR MINIRAE							
Toxic 1								
Toxic 2								
Toxic 3								
Toxic 4	-.							
Toxic 5								
Toxic 6								

Calibrated/Repaired by: STEVE PEARSE Date: 24.10.2022 Next Due: 24.04.2023

Environmental
SITE ASSESMENTS

Appendix 3: Chain of Custody Forms, Certificates of Analysis and Laboratory QA/QC Documents

CHAIN OF CUSTODY RECORD

Eurofins | Environment Testing ABN 50 005 085 521

1/3

☐ Sydney Laboratory
Unit F3 Bld,F 16 Mars Road Lane Cove West NSW 2066
02 9900 8400 EnviroSampleNSW@eurofins.com

☐ Brisbane Laboratory
Unit 1 21 Smallwood Place Murarrie QLD 4172
07 3902 4600 EnviroSampleQLD@eurofins.com

☐ Perth Laboratory
Unit 2 91 Leach Highway Kewdale WA 6105
08 9251 9600 EnviroSampleWA@eurofins.com

☑ Melbourne Laboratory
6 Monterey Road Dandenong South VIC 3175
03 8564 5000 EnviroSampleVic@eurofins.com

Company	Environmental Site Assessments Pty Ltd	Project №	Lara Farms Pty Ltd	Project Manager	Seton Lillas
Address	Unit 4, 6-10 Apparel Close, Breakwater VIC 3219	Project Name	91-125 Coriyule Road, Curlewis	EDD Format (Esdat, EQuIS etc)	Esdat
Contact Name	Seton Lillas				
Phone №	0433747187				
Special Directions					
Purchase Order					
Quote ID №	220819ESAV				

Sampler(s)	Seton Lillas
Handed over by	Courier
Email for Invoice	accounts@esagroup.com.au
Email for Results	office@esagroup.com.au

Analyses: When metals are requested, please specify "Total" or "Filtered". SUITE codes must be used to attract SUITE pricing

Containers: Change container type & size if necessary

Required Turnaround Time (TAT): Default will be 5 days if not ticked. ♦ Surcharge will apply

☐ Overnight (reporting by 9am)♦
☐ Same day♦ ☐ 1 day♦
☐ 2 days♦ ☐ 3 days♦
☑ 5 days (Standard)
☐ Other( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix Soil (S) Water (W)	NEPM Suite	pH	OCPs + 8 Metals	Acid Herbicides (2,4,5-T, 2,4-D, MCPA, MCPB, Mecoprop, Picloram)	Atrazine, Chlorpyrifos, Bifenthrin	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
	SP44/0-0.15	06/01/23 10:04	S		+												
	SP45/0-0.15	" 10:10			+												
	SP46/0-0.15	" 10:13			+												
	SP47/0-0.15	" 10:17		+	+												
	SP48/0-0.15	" 10:20			+	+	+	+									
	SP49/0-0.15	" 10:23				+											
	SP50/0-0.15	" 10:28				+											
	SP51/0-0.15	" 10:32		+	+												
	SP52/0-0.15	" 10:34				+											
	SP53/0-0.15	" 10:37				+											
	Total Counts			2	6	5	1	1									

Method of Shipment	☑ Courier (#) ☐ Hand Delivered ☐ Postal	Name	S. Lillas	Signature		Date	6/1/23	Time	12.00
Laboratory Use Only	Received By: Jake	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	6/1	Time	4:45	Temperature 4.4° ice
	Received By:	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Report № 953941

CHAIN OF CUSTODY RECORD

Eurofins | Environment Testing ABN 50 005 085 521

2/3

☐ **Sydney Laboratory** Unit F3 Bld.F 16 Mars Road Lane Cove West NSW 2066 02 9900 8400 EnviroSampleNSW@eurofins.com

☐ **Brisbane Laboratory** Unit 1 21 Smallwood Place Murarrie QLD 4172 07 3902 4600 EnviroSampleQLD@eurofins.com

☐ **Perth Laboratory** Unit 2 91 Leach Highway Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com

☑ **Melbourne Laboratory** 6 Monterey Road Dandenong South VIC 3175 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Environmental Site Assessments Pty Ltd	Project №	1
Address	Unit 4, 6-10 Apparel Close, Breakwater VIC 3219	Project Name	91-125 Coriyule Road, Curlewis
Contact Name	Seton Lillas		
Phone №	0433747187		
Special Directions			
Purchase Order			
Quote ID №	220819ESAV		

Project Manager	Seton Lillas
EDD Format (Esdat, EQuIS, etc)	Esdat
Sampler(s)	Seton Lillas
Handed over by	
Email for Invoice	accounts@esagroup.com.au
Email for Results	office@esagroup.com.au

Containers (Change container type & size if necessary)

Required Turnaround Time (TAT) (Default will be 5 days if not ticked)

♦ Surcharge will apply

☐ Overnight (reporting by 9am)♦ ☐ Same day♦ ☐ 1 day♦ ☐ 2 days♦ ☐ 3 days♦ ☐ 5 days (Standard) ☐ Other( )

Analyses (Where metals are to be filtered, please specify 'Total' or 'Filtered'. QUIS codes must be used to attract LOR's priority)

№	Client Sample ID	Sampled Date/Time (d/m/y hh:mm)	Matrix Soil (S) Water (W)	NEPM Suite 2	pH 6	OCPs + 8 Metals	Acid Herbicides (2,4-D, 2,4-T, MCPA, MCPB, Mecoprop, Picloram)	Atrazine, Chlorpyrifos, Bifenthrin	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
	SP54 0-0.15	06/01/23 10:39	S		x	x	x	x									
	SP55 0-0.15	" 10:57	"		x	x	x	x									
	SP56 0-0.15	" 10:44	"	x	x												
	SP57 0-0.15	" 10:41	"			x											
	QC01 060123	" 10:41	"			x											
	SP58 0-0.15	" 10:45	"			x											
	SP59 0-0.15	" 10:52	"		x	x	x	x									
	SP60 0-0.15	" 10:50	"	x	x												
	SP61 0-0.15	" 10:46	"			x											
	SP62 0-0.15	" 10:48	"			x											
	Total Counts			4	11	13	4	4									

Method of Shipment	☐ Courier (#)	☐ Hand Delivered	☐ Postal	Name		Signature		Date		Time	
Laboratory Use Only	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Temperature	
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Report №	

CHAIN OF CUSTODY RECORD

Eurofins | Environment Testing ABN 50 005 085 521

3/3

☐ **Sydney Laboratory** Unit F3 Bld.F 16 Mars Road Lane Cove West NSW 2066 02 9900 8400 EnviroSampleNSW@eurofins.com

☐ **Brisbane Laboratory** Unit 1 21 Smallwood Place Murarrie QLD 4172 07 3902 4600 EnviroSampleQLD@eurofins.com

☐ **Perth Laboratory** Unit 2 91 Leach Highway Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com

☑ **Melbourne Laboratory** 6 Monterey Road Dandenong South VIC 3175 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Environmental Site Assessments Pty Ltd	Project №		Project Manager	Seton Lillas
Address	Unit 4, 6-10 Apparel Close, Breakwater VIC 3219	Project Name		EDD Format (ESdat, EQuIS etc)	Esdat
Contact Name	Seton Lillas				
Phone №	433747187				
Special Directions					
Purchase Order					
Quote ID №	191029ESAV				

Sampler(s)	Seton Lillas
Handed over by	
Email for Invoice	accounts@esagroup.com.au
Email for Results	office@esagroup.com.au

Required Turnaround Time (TAT) Default will be 5 days if not booked.

♦Surcharge will apply

☐ Overnight (reporting by 9am)♦
☐ Same day♦ ☐ 1 day♦
☐ 2 days♦ ☐ 3 days♦
☐ 5 days (Standard)
☐ Other( )

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	Analyses: OCPs + 8 Metals	Containers (Change container type & size if necessary): 500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
11	RB01/060123	06/01/23 11:05	W	X									
12													
13													
14													
15													
16													
17													
18													
19													
20													
			Total Counts	11									

Method of Shipment	☐ Courier (#)	☐ Hand Delivered	☐ Postal	Name		Signature		Date		Time	
Laboratory Use Only	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Temperature	
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Report №	

Eurofins Environment Testing Australia Pty Ltd

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | Environment Testing Standard Terms and Conditions unless agreed otherwise. A copy is available on request.

#AU_CAU001_EnviroSampleVic

From: Seton Lillas <office@esagroup.com.au>
Sent: Friday, 6 January 2023 7:12 PM
To: #AU_CAU001_EnviroSampleVic
Subject: Re: Eurofins Sample Receipt Advice - Report 953941 : Site 91-125 CORIYULE ROAD CURLEWIS (LARA FARMS PTY LTD)

Hi there,

Can you please remove reference to Coriyule Road? I accidentally left that on the COC.

Kind Regards,
ENVIRONMENTAL SITE ASSESSMENTS

Seton Lillas
Managing Director

p. 0433 747 187
e. office@esagroup.com.au

On 6 Jan 2023, at 6:42 pm, EnviroSampleVic@eurofins.com wrote:

Dear Valued Client,

Please find attached a Sample Receipt Advice (SRA), a Summary Sheet and a scanned copy of your Chain-of-Custody (COC). It is important that you check this documentation to ensure that the details are correct such as the Client Job Number, Turn Around Time, any comments in the Notes section and sample numbers as well as the requested analysis. If there are any irregularities then please contact your Eurofins Analytical Services Manager as soon as possible to make certain that they get changed.

Regards

Jake Beaumont
Sample Receipt

Eurofins Environment Testing Australia P/L
6 Montery Road
Dandenong South 3175
AUSTRALIA
View our latest EnviroNotes
How did we do? Provide your feedback here

eurofins | Environment Testing

Certificate of Analysis

Environmental Site Assessments P/L
2 Homestead Crt
Highton
VIC 3216

NATA Accredited
Accreditation Number 1261
Site Number 1254

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: **- All Reports/SRA's (Seton)**

Report **953941-S**
Project name LARA FARMS PTY LTD
Received Date Jan 06, 2023

Client Sample ID			**SP44/0.0-0.15**	**SP45/0.0-0.15**	**SP46/0.0-0.15**	**SP47/0.0-0.15**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M23-Ja0002990**	**M23-Ja0002991**	**M23-Ja0002992**	**M23-Ja0002993**
Date Sampled			**Jan 06, 2023**	**Jan 06, 2023**	**Jan 06, 2023**	**Jan 06, 2023**
Test/Reference	LOR	Unit				
pH (1:5 Aqueous extract at 25 °C as rec.)	0.1	pH Units	8.0	5.3	7.9	5.9
% Moisture	1	%	7.1	8.8	3.6	6.1
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (free)	5	mg/kg	-	-	-	< 5
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	-	-	-	< 20
TRH C10-C14	20	mg/kg	-	-	-	< 20
TRH C15-C28	50	mg/kg	-	-	-	< 50
TRH C29-C36	50	mg/kg	-	-	-	52
TRH C10-C36 (Total)	50	mg/kg	-	-	-	52
TRH C6-C10	20	mg/kg	-	-	-	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	-	-	-	< 20
TRH >C10-C16	50	mg/kg	-	-	-	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	-	-	-	< 50
TRH >C16-C34	100	mg/kg	-	-	-	< 100
TRH >C34-C40	100	mg/kg	-	-	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	-	-	-	< 100
BTEX						
Benzene	0.1	mg/kg	-	-	-	< 0.1
Toluene	0.1	mg/kg	-	-	-	< 0.1
Ethylbenzene	0.1	mg/kg	-	-	-	< 0.1
m&p-Xylenes	0.2	mg/kg	-	-	-	< 0.2
o-Xylene	0.1	mg/kg	-	-	-	< 0.1
Xylenes - Total*	0.3	mg/kg	-	-	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	-	-	-	137
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	-	-	-	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	1.2
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	-	< 0.5

Client Sample ID			SP44/0.0-0.15	SP45/0.0-0.15	SP46/0.0-0.15	SP47/0.0-0.15
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M23-Ja0002990	M23-Ja0002991	M23-Ja0002992	M23-Ja0002993
Date Sampled			Jan 06, 2023	Jan 06, 2023	Jan 06, 2023	Jan 06, 2023
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene	0.5	mg/kg	-	-	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Chrysene	0.5	mg/kg	-	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	< 0.5
Fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	< 0.5
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	< 0.5
Pyrene	0.5	mg/kg	-	-	-	< 0.5
Total PAH*	0.5	mg/kg	-	-	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	-	103
p-Terphenyl-d14 (surr.)	1	%	-	-	-	100
Organochlorine Pesticides						
Bifenthrin	0.05	mg/kg	-	-	-	< 0.05
Organophosphorus Pesticides						
Chlorpyrifos	0.2	mg/kg	-	-	-	< 0.2
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.1
Total PCB*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	51
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	69
Triazines						
Atrazine	0.2	mg/kg	-	-	-	< 0.2
NEPM 2013 Acid Herbicides						
Picloram	0.5	mg/kg	-	-	-	< 0.5
2.4-D	0.5	mg/kg	-	-	-	< 0.5
2.4.5-T	0.5	mg/kg	-	-	-	< 0.5
MCPA	0.5	mg/kg	-	-	-	< 0.5
MCPB	0.5	mg/kg	-	-	-	< 0.5
Mecoprop	0.5	mg/kg	-	-	-	< 0.5
Warfarin (surr.)	1	%	-	-	-	111
NEPM 2013 Organochlorine Pesticides						
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Mirex	0.05	mg/kg	-	-	-	< 0.05
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
Aldrin	0.05	mg/kg	-	-	-	< 0.05
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1

Client Sample ID			SP44/0.0-0.15	SP45/0.0-0.15	SP46/0.0-0.15	SP47/0.0-0.15
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M23-Ja0002990	M23-Ja0002991	M23-Ja0002992	M23-Ja0002993
Date Sampled			Jan 06, 2023	Jan 06, 2023	Jan 06, 2023	Jan 06, 2023
Test/Reference	LOR	Unit				
NEPM 2013 Organochlorine Pesticides						
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	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
Dibutylchlorendate (surr.)	1	%	-	-	-	51
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	69
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	< 0.05
NEPM 2013 Phenols						
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 0.4
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Phenol	0.5	mg/kg	-	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	-	100
Heavy Metals						
Arsenic	2	mg/kg	-	-	-	4.1
Beryllium	2	mg/kg	-	-	-	< 2
Boron	10	mg/kg	-	-	-	[G01] < 20
Cadmium	0.4	mg/kg	-	-	-	< 0.4
Chromium	5	mg/kg	-	-	-	41
Cobalt	5	mg/kg	-	-	-	10
Copper	5	mg/kg	-	-	-	8.7
Lead	5	mg/kg	-	-	-	12
Manganese	5	mg/kg	-	-	-	220
Mercury	0.1	mg/kg	-	-	-	< 0.1
Nickel	5	mg/kg	-	-	-	16
Selenium	2	mg/kg	-	-	-	< 2
Zinc	5	mg/kg	-	-	-	18

Client Sample ID			SP48/0.0-0.15	SP49/0.0-0.15	SP50/0.0-0.15	SP51/0.0-0.15
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M23-Ja0002994	M23-Ja0002995	M23-Ja0002996	M23-Ja0002997
Date Sampled			Jan 06, 2023	Jan 06, 2023	Jan 06, 2023	Jan 06, 2023
Test/Reference	LOR	Unit				
pH (1:5 Aqueous extract at 25 °C as rec.)	0.1	pH Units	8.0	-	-	6.4
% Moisture	1	%	9.6	10	19	12
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (free)	5	mg/kg	-	-	-	< 5

Client Sample ID			SP48/0.0-0.15	SP49/0.0-0.15	SP50/0.0-0.15	SP51/0.0-0.15
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M23-Ja0002994	M23-Ja0002995	M23-Ja0002996	M23-Ja0002997
Date Sampled			Jan 06, 2023	Jan 06, 2023	Jan 06, 2023	Jan 06, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	-	-	-	< 20
TRH C10-C14	20	mg/kg	-	-	-	< 20
TRH C15-C28	50	mg/kg	-	-	-	< 50
TRH C29-C36	50	mg/kg	-	-	-	110
TRH C10-C36 (Total)	50	mg/kg	-	-	-	110
TRH C6-C10	20	mg/kg	-	-	-	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	-	-	-	< 20
TRH >C10-C16	50	mg/kg	-	-	-	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	-	-	-	< 50
TRH >C16-C34	100	mg/kg	-	-	-	< 100
TRH >C34-C40	100	mg/kg	-	-	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	-	-	-	< 100
BTEX						
Benzene	0.1	mg/kg	-	-	-	< 0.1
Toluene	0.1	mg/kg	-	-	-	< 0.1
Ethylbenzene	0.1	mg/kg	-	-	-	< 0.1
m&p-Xylenes	0.2	mg/kg	-	-	-	< 0.2
o-Xylene	0.1	mg/kg	-	-	-	< 0.1
Xylenes - Total*	0.3	mg/kg	-	-	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	-	-	-	137
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	-	-	-	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	1.2
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Chrysene	0.5	mg/kg	-	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	< 0.5
Fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	< 0.5
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	< 0.5
Pyrene	0.5	mg/kg	-	-	-	< 0.5
Total PAH*	0.5	mg/kg	-	-	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	-	93
p-Terphenyl-d14 (surr.)	1	%	-	-	-	92

Client Sample ID			SP48/0.0-0.15	SP49/0.0-0.15	SP50/0.0-0.15	SP51/0.0-0.15
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M23-Ja0002994	M23-Ja0002995	M23-Ja0002996	M23-Ja0002997
Date Sampled			Jan 06, 2023	Jan 06, 2023	Jan 06, 2023	Jan 06, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Bifenthrin	0.05	mg/kg	< 0.05	-	-	< 0.05
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	-
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	-
Dibutylchlorendate (surr.)	1	%	70	105	110	-
Tetrachloro-m-xylene (surr.)	1	%	63	112	128	-
Organophosphorus Pesticides						
Chlorpyrifos	0.2	mg/kg	< 0.2	-	-	< 0.2
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.1
Total PCB*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	55
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	60
Triazines						
Atrazine	0.2	mg/kg	< 0.2	-	-	< 0.2
NEPM 2013 Acid Herbicides						
Picloram	0.5	mg/kg	-	-	-	< 0.5
2.4-D	0.5	mg/kg	-	-	-	< 0.5
2.4.5-T	0.5	mg/kg	-	-	-	< 0.5
MCPA	0.5	mg/kg	-	-	-	< 0.5

Client Sample ID			SP48/0.0-0.15	SP49/0.0-0.15	SP50/0.0-0.15	SP51/0.0-0.15
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M23-Ja0002994	M23-Ja0002995	M23-Ja0002996	M23-Ja0002997
Date Sampled			Jan 06, 2023	Jan 06, 2023	Jan 06, 2023	Jan 06, 2023
Test/Reference	LOR	Unit				
NEPM 2013 Acid Herbicides						
MCPB	0.5	mg/kg	-	-	-	< 0.5
Mecoprop	0.5	mg/kg	-	-	-	< 0.5
Warfarin (surr.)	1	%	-	-	-	72
NEPM 2013 Organochlorine Pesticides						
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Mirex	0.05	mg/kg	-	-	-	< 0.05
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
Aldrin	0.05	mg/kg	-	-	-	< 0.05
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	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
Dibutylchlorendate (surr.)	1	%	-	-	-	55
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	60
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	< 0.05
NEPM 2013 Phenols						
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 0.4
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Phenol	0.5	mg/kg	-	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	-	89
Heavy Metals						
Arsenic	2	mg/kg	4.7	5.0	4.3	5.2
Beryllium	2	mg/kg	-	-	-	< 2
Boron	10	mg/kg	-	-	-	[G01] < 20
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	65	71	80	79
Cobalt	5	mg/kg	-	-	-	24
Copper	5	mg/kg	15	17	19	19
Lead	5	mg/kg	15	12	15	15
Manganese	5	mg/kg	-	-	-	400
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	30	48	52	51
Selenium	2	mg/kg	-	-	-	< 2
Zinc	5	mg/kg	30	33	27	32
Acid Herbicides						
Picloram	0.5	mg/kg	< 0.5	-	-	-
2.4-D	0.5	mg/kg	< 0.5	-	-	-
2.4-DB	0.5	mg/kg	< 0.5	-	-	-
2.4.5-T	0.5	mg/kg	< 0.5	-	-	-

Client Sample ID			SP48/0.0-0.15	SP49/0.0-0.15	SP50/0.0-0.15	SP51/0.0-0.15
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M23-Ja0002994	M23-Ja0002995	M23-Ja0002996	M23-Ja0002997
Date Sampled			Jan 06, 2023	Jan 06, 2023	Jan 06, 2023	Jan 06, 2023
Test/Reference	LOR	Unit				
Acid Herbicides						
2.4.5-TP	0.5	mg/kg	< 0.5	-	-	-
Actril (loxynil)	0.5	mg/kg	< 0.5	-	-	-
Dicamba	0.5	mg/kg	< 0.5	-	-	-
Dichlorprop	0.5	mg/kg	< 0.5	-	-	-
Dinitro-o-cresol	0.5	mg/kg	< 0.5	-	-	-
Dinoseb	0.5	mg/kg	< 0.5	-	-	-
MCPA	0.5	mg/kg	< 0.5	-	-	-
MCPB	0.5	mg/kg	< 0.5	-	-	-
Mecoprop	0.5	mg/kg	< 0.5	-	-	-
Warfarin (surr.)	1	%	65	-	-	-

Client Sample ID			SP52/0.0-0.15	SP53/0.0-0.15	SP54/0.0-0.15	SP55/0.0-0.15
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M23-Ja0002998	M23-Ja0002999	M23-Ja0003000	M23-Ja0003001
Date Sampled			Jan 06, 2023	Jan 06, 2023	Jan 06, 2023	Jan 06, 2023
Test/Reference	LOR	Unit				
pH (1:5 Aqueous extract at 25 °C as rec.)	0.1	pH Units	-	-	7.2	6.9
% Moisture	1	%	17	11	20	13
Organochlorine Pesticides						
Bifenthrin	0.05	mg/kg	-	-	< 0.05	< 0.05
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
Dibutylchlorendate (surr.)	1	%	137	94	135	138
Tetrachloro-m-xylene (surr.)	1	%	112	97	97	106

Client Sample ID			SP52/0.0-0.15	SP53/0.0-0.15	SP54/0.0-0.15	SP55/0.0-0.15
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M23-Ja0002998	M23-Ja0002999	M23-Ja0003000	M23-Ja0003001
Date Sampled			Jan 06, 2023	Jan 06, 2023	Jan 06, 2023	Jan 06, 2023
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Chlorpyrifos	0.2	mg/kg	-	-	< 0.2	< 0.2
Triazines						
Atrazine	0.2	mg/kg	-	-	< 0.2	< 0.2
Heavy Metals						
Arsenic	2	mg/kg	3.5	4.9	5.1	4.7
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	65	64	81	67
Copper	5	mg/kg	17	19	26	19
Lead	5	mg/kg	12	15	16	21
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	51	37	62	42
Zinc	5	mg/kg	26	31	45	41
Acid Herbicides						
Picloram	0.5	mg/kg	-	-	< 0.5	< 0.5
2.4-D	0.5	mg/kg	-	-	< 0.5	< 0.5
2.4-DB	0.5	mg/kg	-	-	< 0.5	< 0.5
2.4.5-T	0.5	mg/kg	-	-	< 0.5	< 0.5
2.4.5-TP	0.5	mg/kg	-	-	< 0.5	< 0.5
Actril (loxynil)	0.5	mg/kg	-	-	< 0.5	< 0.5
Dicamba	0.5	mg/kg	-	-	< 0.5	< 0.5
Dichlorprop	0.5	mg/kg	-	-	< 0.5	< 0.5
Dinitro-o-cresol	0.5	mg/kg	-	-	< 0.5	< 0.5
Dinoseb	0.5	mg/kg	-	-	< 0.5	< 0.5
MCPA	0.5	mg/kg	-	-	< 0.5	< 0.5
MCPB	0.5	mg/kg	-	-	< 0.5	< 0.5
Mecoprop	0.5	mg/kg	-	-	< 0.5	< 0.5
Warfarin (surr.)	1	%	-	-	65	62

Client Sample ID			SP56/0.0-0.15	SP57/0.0-0.15	QC01/060123	SP58/0.0-0.15
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M23-Ja0003002	M23-Ja0003003	M23-Ja0003004	M23-Ja0003005
Date Sampled			Jan 06, 2023	Jan 06, 2023	Jan 06, 2023	Jan 06, 2023
Test/Reference	LOR	Unit				
pH (1:5 Aqueous extract at 25 °C as rec.)	0.1	pH Units	6.6	-	-	-
% Moisture	1	%	11	18	15	19
Chromium (hexavalent)	1	mg/kg	< 1	-	-	-
Cyanide (free)	5	mg/kg	< 5	-	-	-
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	-	-	-
TRH C10-C14	20	mg/kg	< 20	-	-	-
TRH C15-C28	50	mg/kg	< 50	-	-	-
TRH C29-C36	50	mg/kg	60	-	-	-
TRH C10-C36 (Total)	50	mg/kg	60	-	-	-
TRH C6-C10	20	mg/kg	< 20	-	-	-
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	-	-	-
TRH >C10-C16	50	mg/kg	< 50	-	-	-

Client Sample ID			SP56/0.0-0.15	SP57/0.0-0.15	QC01/060123	SP58/0.0-0.15
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M23-Ja0003002	M23-Ja0003003	M23-Ja0003004	M23-Ja0003005
Date Sampled			Jan 06, 2023	Jan 06, 2023	Jan 06, 2023	Jan 06, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	-	-	-
TRH >C16-C34	100	mg/kg	< 100	-	-	-
TRH >C34-C40	100	mg/kg	< 100	-	-	-
TRH >C10-C40 (total)*	100	mg/kg	< 100	-	-	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	-	-	-
Toluene	0.1	mg/kg	< 0.1	-	-	-
Ethylbenzene	0.1	mg/kg	< 0.1	-	-	-
m&p-Xylenes	0.2	mg/kg	< 0.2	-	-	-
o-Xylene	0.1	mg/kg	< 0.1	-	-	-
Xylenes - Total*	0.3	mg/kg	< 0.3	-	-	-
4-Bromofluorobenzene (surr.)	1	%	108	-	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	-	-	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	-	-
Acenaphthene	0.5	mg/kg	< 0.5	-	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	-
Anthracene	0.5	mg/kg	< 0.5	-	-	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	-	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	-	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-	-
Chrysene	0.5	mg/kg	< 0.5	-	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	-
Fluoranthene	0.5	mg/kg	< 0.5	-	-	-
Fluorene	0.5	mg/kg	< 0.5	-	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	-
Naphthalene	0.5	mg/kg	< 0.5	-	-	-
Phenanthrene	0.5	mg/kg	< 0.5	-	-	-
Pyrene	0.5	mg/kg	< 0.5	-	-	-
Total PAH*	0.5	mg/kg	< 0.5	-	-	-
2-Fluorobiphenyl (surr.)	1	%	97	-	-	-
p-Terphenyl-d14 (surr.)	1	%	88	-	-	-
Organochlorine Pesticides						
Bifenthrin	0.05	mg/kg	< 0.05	-	-	-
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

Client Sample ID			SP56/0.0-0.15	SP57/0.0-0.15	QC01/060123	SP58/0.0-0.15
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M23-Ja0003002	M23-Ja0003003	M23-Ja0003004	M23-Ja0003005
Date Sampled			Jan 06, 2023	Jan 06, 2023	Jan 06, 2023	Jan 06, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
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
Dibutylchlorendate (surr.)	1	%	-	67	80	69
Tetrachloro-m-xylene (surr.)	1	%	-	98	73	105
Organophosphorus Pesticides						
Chlorpyrifos	0.2	mg/kg	< 0.2	-	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	-
Total PCB*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	132	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	127	-	-	-
Triazines						
Atrazine	0.2	mg/kg	< 0.2	-	-	-
NEPM 2013 Acid Herbicides						
Picloram	0.5	mg/kg	< 0.5	-	-	-
2.4-D	0.5	mg/kg	< 0.5	-	-	-
2.4.5-T	0.5	mg/kg	< 0.5	-	-	-
MCPA	0.5	mg/kg	< 0.5	-	-	-
MCPB	0.5	mg/kg	< 0.5	-	-	-
Mecoprop	0.5	mg/kg	< 0.5	-	-	-
Warfarin (surr.)	1	%	60	-	-	-
NEPM 2013 Organochlorine Pesticides						
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Mirex	0.05	mg/kg	< 0.05	-	-	-
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	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-

Client Sample ID			SP56/0.0-0.15	SP57/0.0-0.15	QC01/060123	SP58/0.0-0.15
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M23-Ja0003002	M23-Ja0003003	M23-Ja0003004	M23-Ja0003005
Date Sampled			Jan 06, 2023	Jan 06, 2023	Jan 06, 2023	Jan 06, 2023
Test/Reference	LOR	Unit				
NEPM 2013 Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	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	-	-	-
Dibutylchlorendate (surr.)	1	%	132	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	127	-	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	-
NEPM 2013 Phenols						
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	-
Pentachlorophenol	1	mg/kg	< 1	-	-	-
Phenol	0.5	mg/kg	< 0.5	-	-	-
Phenol-d6 (surr.)	1	%	133	-	-	-
Heavy Metals						
Arsenic	2	mg/kg	3.5	3.8	4.0	3.9
Beryllium	2	mg/kg	< 2	-	-	-
Boron	10	mg/kg	[G01] < 20	-	-	-
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	50	57	59	55
Cobalt	5	mg/kg	21	-	-	-
Copper	5	mg/kg	13	17	18	17
Lead	5	mg/kg	16	13	13	13
Manganese	5	mg/kg	440	-	-	-
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	25	31	33	32
Selenium	2	mg/kg	< 2	-	-	-
Zinc	5	mg/kg	21	24	28	25

Client Sample ID			SP59/0.0-0.15	SP60/0.0-0.15	SP61/0.0-0.15	SP62/0.0-0.15
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M23-Ja0003006	M23-Ja0003007	M23-Ja0003008	M23-Ja0003009
Date Sampled			Jan 06, 2023	Jan 06, 2023	Jan 06, 2023	Jan 06, 2023
Test/Reference	LOR	Unit				
pH (1:5 Aqueous extract at 25 °C as rec.)	0.1	pH Units	7.5	6.9	-	-
% Moisture	1	%	11	18	20	7.3
Chromium (hexavalent)	1	mg/kg	-	< 1	-	-
Cyanide (free)	5	mg/kg	-	< 5	-	-

Client Sample ID			SP59/0.0-0.15	SP60/0.0-0.15	SP61/0.0-0.15	SP62/0.0-0.15
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M23-Ja0003006	M23-Ja0003007	M23-Ja0003008	M23-Ja0003009
Date Sampled			Jan 06, 2023	Jan 06, 2023	Jan 06, 2023	Jan 06, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	-	< 20	-	-
TRH C10-C14	20	mg/kg	-	< 20	-	-
TRH C15-C28	50	mg/kg	-	< 50	-	-
TRH C29-C36	50	mg/kg	-	< 50	-	-
TRH C10-C36 (Total)	50	mg/kg	-	< 50	-	-
TRH C6-C10	20	mg/kg	-	< 20	-	-
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	-	< 20	-	-
TRH >C10-C16	50	mg/kg	-	< 50	-	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	-	< 50	-	-
TRH >C16-C34	100	mg/kg	-	< 100	-	-
TRH >C34-C40	100	mg/kg	-	< 100	-	-
TRH >C10-C40 (total)*	100	mg/kg	-	< 100	-	-
BTEX						
Benzene	0.1	mg/kg	-	< 0.1	-	-
Toluene	0.1	mg/kg	-	< 0.1	-	-
Ethylbenzene	0.1	mg/kg	-	< 0.1	-	-
m&p-Xylenes	0.2	mg/kg	-	< 0.2	-	-
o-Xylene	0.1	mg/kg	-	< 0.1	-	-
Xylenes - Total*	0.3	mg/kg	-	< 0.3	-	-
4-Bromofluorobenzene (surr.)	1	%	-	97	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	-	< 0.5	-	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	-	-
Acenaphthene	0.5	mg/kg	-	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	-
Anthracene	0.5	mg/kg	-	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	< 0.5	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	-	-
Chrysene	0.5	mg/kg	-	< 0.5	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	-
Fluoranthene	0.5	mg/kg	-	< 0.5	-	-
Fluorene	0.5	mg/kg	-	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	-	-
Naphthalene	0.5	mg/kg	-	< 0.5	-	-
Phenanthrene	0.5	mg/kg	-	< 0.5	-	-
Pyrene	0.5	mg/kg	-	< 0.5	-	-
Total PAH*	0.5	mg/kg	-	< 0.5	-	-
2-Fluorobiphenyl (surr.)	1	%	-	106	-	-
p-Terphenyl-d14 (surr.)	1	%	-	102	-	-

Client Sample ID			SP59/0.0-0.15	SP60/0.0-0.15	SP61/0.0-0.15	SP62/0.0-0.15
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M23-Ja0003006	M23-Ja0003007	M23-Ja0003008	M23-Ja0003009
Date Sampled			Jan 06, 2023	Jan 06, 2023	Jan 06, 2023	Jan 06, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Bifenthrin	0.05	mg/kg	< 0.05	< 0.05	-	-
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
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
Dibutylchlorendate (surr.)	1	%	130	-	121	68
Tetrachloro-m-xylene (surr.)	1	%	139	-	95	103
Organophosphorus Pesticides						
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	-
Total PCB*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	88	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	135	-	-
Triazines						
Atrazine	0.2	mg/kg	< 0.2	< 0.2	-	-
NEPM 2013 Acid Herbicides						
Picloram	0.5	mg/kg	-	< 0.5	-	-
2.4-D	0.5	mg/kg	-	< 0.5	-	-
2.4.5-T	0.5	mg/kg	-	< 0.5	-	-
MCPA	0.5	mg/kg	-	< 0.5	-	-

Client Sample ID			SP59/0.0-0.15	SP60/0.0-0.15	SP61/0.0-0.15	SP62/0.0-0.15
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M23-Ja0003006	M23-Ja0003007	M23-Ja0003008	M23-Ja0003009
Date Sampled			Jan 06, 2023	Jan 06, 2023	Jan 06, 2023	Jan 06, 2023
Test/Reference	LOR	Unit				
NEPM 2013 Acid Herbicides						
MCPB	0.5	mg/kg	-	< 0.5	-	-
Mecoprop	0.5	mg/kg	-	< 0.5	-	-
Warfarin (surr.)	1	%	-	73	-	-
NEPM 2013 Organochlorine Pesticides						
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Mirex	0.05	mg/kg	-	< 0.05	-	-
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	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	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	-	-
Dibutylchlorendate (surr.)	1	%	-	88	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	135	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
NEPM 2013 Phenols						
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	-
Pentachlorophenol	1	mg/kg	-	< 1	-	-
Phenol	0.5	mg/kg	-	< 0.5	-	-
Phenol-d6 (surr.)	1	%	-	100	-	-
Heavy Metals						
Arsenic	2	mg/kg	3.5	3.7	3.6	3.4
Beryllium	2	mg/kg	-	< 2	-	-
Boron	10	mg/kg	-	[G01] < 20	-	-
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	43	50	50	46
Cobalt	5	mg/kg	-	25	-	-
Copper	5	mg/kg	14	15	16	15
Lead	5	mg/kg	18	15	13	14
Manganese	5	mg/kg	-	580	-	-
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	26	30	27	25
Selenium	2	mg/kg	-	< 2	-	-
Zinc	5	mg/kg	36	27	28	33
Acid Herbicides						
Picloram	0.5	mg/kg	< 0.5	-	-	-
2.4-D	0.5	mg/kg	< 0.5	-	-	-
2.4-DB	0.5	mg/kg	< 0.5	-	-	-
2.4.5-T	0.5	mg/kg	< 0.5	-	-	-

Client Sample ID			SP59/0.0-0.15	SP60/0.0-0.15	SP61/0.0-0.15	SP62/0.0-0.15
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M23-Ja0003006	M23-Ja0003007	M23-Ja0003008	M23-Ja0003009
Date Sampled			Jan 06, 2023	Jan 06, 2023	Jan 06, 2023	Jan 06, 2023
Test/Reference	LOR	Unit				
Acid Herbicides						
2.4.5-TP	0.5	mg/kg	< 0.5	-	-	-
Actril (loxynil)	0.5	mg/kg	< 0.5	-	-	-
Dicamba	0.5	mg/kg	< 0.5	-	-	-
Dichlorprop	0.5	mg/kg	< 0.5	-	-	-
Dinitro-o-cresol	0.5	mg/kg	< 0.5	-	-	-
Dinoseb	0.5	mg/kg	< 0.5	-	-	-
MCPA	0.5	mg/kg	< 0.5	-	-	-
MCPB	0.5	mg/kg	< 0.5	-	-	-
Mecoprop	0.5	mg/kg	< 0.5	-	-	-
Warfarin (surr.)	1	%	58	-	-	-

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
pH (1:5 Aqueous extract at 25 °C as rec.)	Melbourne	Jan 09, 2023	7 Days
- Method: LTM-GEN-7090 pH in soil by ISE			
Organochlorine Pesticides	Melbourne	Jan 09, 2023	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)			
Metals M8	Melbourne	Jan 09, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Acid Herbicides	Melbourne	Jan 09, 2023	14 Days
- Method: LTM-ORG-2180 Phenoxy Acid Herbicides			
% Moisture	Melbourne	Jan 06, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			
NEPM Screen Table 1(A) HIL's for Soil Contaminants - Basic Suite - Excluding Methyl Mercury/PBDE			
Chromium (hexavalent)	Melbourne	Jan 09, 2023	28 Days
- Method: LTM-INO-4100 Hexavalent Chromium by Spectrometric detection			
Cyanide (free)	Melbourne	Jan 09, 2023	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jan 09, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jan 09, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jan 09, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jan 09, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jan 09, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organophosphorus Pesticides	Melbourne	Jan 09, 2023	14 Days
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS (USEPA 8270)			
Polychlorinated Biphenyls	Melbourne	Jan 09, 2023	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082)			
Triazines	Melbourne	Jan 09, 2023	14 Days
- Method: LTM-ORG-2210 Triazine Herbicides in Soil and Water by GC-MS/MS			
NEPM 2013 Acid Herbicides	Melbourne	Jan 09, 2023	14 Days
- Method: MGT 530			
NEPM 2013 Organochlorine Pesticides	Melbourne	Jan 09, 2023	14 Days
- Method: USEPA 8081 Organochlorine Pesticides			
NEPM 2013 Phenols	Melbourne	Jan 09, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
NEPM 2013 Metals : Metals M12	Melbourne	Jan 09, 2023	28 Days
- Method: LTM-MET-3030 by ICP-OES (hydride ICP-OES for Mercury)			
Heavy Metals	Melbourne	Jan 09, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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Company Name: Environmental Site Assessments P/L
Address: 2 Homestead Crt
Highton
VIC 3216

Project Name: LARA FARMS PTY LTD

Order No.:
Report #: 953941
Phone:
Fax:

Received: Jan 6, 2023 4:45 PM
Due: Jan 13, 2023
Priority: 5 Day
Contact Name: - All Reports/SRA's (Seton)

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Atrazine	Bifenthrin	Chlorpyrifos	pH (1:5 Aqueous extract at 25 °C as rec.)	Picloram	Organochlorine Pesticides	Acid Herbicides	Metals M8	Moisture Set	NEPM Screen Table 1(A) HIL's for Soil Contaminants - Basic Suite - Excluding
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X
External Laboratory															
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**										
1	SP44/0.0-0.15	Jan 06, 2023	10:09AM	Soil	M23-Ja0002990				X					X	
2	SP45/0.0-0.15	Jan 06, 2023	10:10AM	Soil	M23-Ja0002991				X					X	
3	SP46/0.0-0.15	Jan 06, 2023	10:13AM	Soil	M23-Ja0002992				X					X	
4	SP47/0.0-0.15	Jan 06, 2023	10:17AM	Soil	M23-Ja0002993				X					X	X
5	SP48/0.0-0.15	Jan 06, 2023	10:20AM	Soil	M23-Ja0002994	X	X	X	X	X	X	X	X	X	
6	SP49/0.0-0.15	Jan 06, 2023	10:23AM	Soil	M23-Ja0002995						X		X	X	
7	SP50/0.0-0.15	Jan 06, 2023	10:28AM	Soil	M23-Ja0002996						X		X	X	
8	SP51/0.0-0.15	Jan 06, 2023	10:32AM	Soil	M23-Ja0002997				X					X	X
9	SP52/0.0-0.15	Jan 06, 2023	10:34AM	Soil	M23-Ja0002998						X		X	X	
10	SP53/0.0-0.15	Jan 06, 2023	10:37AM	Soil	M23-Ja0002999						X		X	X	
11	SP54/0.0-0.15	Jan 06, 2023	10:39AM	Soil	M23-Ja0003000	X	X	X	X	X	X	X	X	X	
12	SP55/0.0-0.15	Jan 06, 2023	10:51AM	Soil	M23-Ja0003001	X	X	X	X	X	X	X	X	X	
13	SP56/0.0-0.15	Jan 06, 2023	10:54AM	Soil	M23-Ja0003002				X					X	X
14	SP57/0.0-0.15	Jan 06, 2023	10:41AM	Soil	M23-Ja0003003						X		X	X	

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Project Name: LARA FARMS PTY LTD

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Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Atrazine	Bifenthrin	Chlorpyrifos	pH (1:5 Aqueous extract at 25 °C as rec.)	Picloram	Organochlorine Pesticides	Acid Herbicides	Metals M8	Moisture Set	NEPM Screen Table 1(A) HIL's for Soil Contaminants - Basic Suite - Excluding
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X
15	QC01/060123	Jan 06, 2023	10:41AM	Soil	M23-Ja0003004						X		X	X	
16	SP58/0.0-0.15	Jan 06, 2023	10:45AM	Soil	M23-Ja0003005						X		X	X	
17	SP59/0.0-0.15	Jan 06, 2023	10:52AM	Soil	M23-Ja0003006	X	X	X	X	X	X	X	X	X	
18	SP60/0.0-0.15	Jan 06, 2023	10:50AM	Soil	M23-Ja0003007				X					X	X
19	SP61/0.0-0.15	Jan 06, 2023	10:46AM	Soil	M23-Ja0003008						X		X	X	
20	SP62/0.0-0.15	Jan 06, 2023	10:48AM	Soil	M23-Ja0003009						X		X	X	
21	RB01/060123	Jan 06, 2023	11:05AM	Water	M23-Ja0003010						X		X		
Test Counts						4	4	4	11	4	14	4	14	20	4

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
CFU: Colony forming unit

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 (*bis*-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							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
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	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
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	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Bifenthrin	mg/kg	< 0.05			0.05	Pass	
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	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
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	
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							
Chlorpyrifos	mg/kg	< 0.2			0.2	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Triazines							
Atrazine	mg/kg	< 0.2			0.2	Pass	
Method Blank							
NEPM 2013 Acid Herbicides							
Picloram	mg/kg	< 0.5			0.5	Pass	
2.4-D	mg/kg	< 0.5			0.5	Pass	
2.4.5-T	mg/kg	< 0.5			0.5	Pass	
MCPA	mg/kg	< 0.5			0.5	Pass	
MCPB	mg/kg	< 0.5			0.5	Pass	
Mecoprop	mg/kg	< 0.5			0.5	Pass	
Method Blank							
NEPM 2013 Organochlorine Pesticides							
Mirex	mg/kg	< 0.05			0.05	Pass	
Method Blank							
NEPM 2013 Phenols							
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Boron	mg/kg	< 10			10	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	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	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Acid Herbicides							
2.4-DB	mg/kg	< 0.5			0.5	Pass	
2.4.5-TP	mg/kg	< 0.5			0.5	Pass	
Actril (loxynil)	mg/kg	< 0.5			0.5	Pass	
Dicamba	mg/kg	< 0.5			0.5	Pass	
Dichlorprop	mg/kg	< 0.5			0.5	Pass	
Dinitro-o-cresol	mg/kg	< 0.5			0.5	Pass	
Dinoseb	mg/kg	< 0.5			0.5	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	117			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	114			70-130	Pass	
TRH C10-C14	%	101			70-130	Pass	
TRH C6-C10	%	109			70-130	Pass	
TRH >C10-C16	%	101			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	85			70-130	Pass	
Toluene	%	85			70-130	Pass	
Ethylbenzene	%	99			70-130	Pass	
m&p-Xylenes	%	89			70-130	Pass	
Xylenes - Total*	%	89			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	96			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	95			70-130	Pass	
Acenaphthylene	%	92			70-130	Pass	
Anthracene	%	72			70-130	Pass	
Benz(a)anthracene	%	101			70-130	Pass	
Benzo(a)pyrene	%	110			70-130	Pass	
Benzo(b&j)fluoranthene	%	91			70-130	Pass	
Benzo(g.h.i)perylene	%	93			70-130	Pass	
Benzo(k)fluoranthene	%	91			70-130	Pass	
Chrysene	%	124			70-130	Pass	
Dibenz(a.h)anthracene	%	99			70-130	Pass	
Fluoranthene	%	87			70-130	Pass	
Fluorene	%	81			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	101			70-130	Pass	
Naphthalene	%	82			70-130	Pass	
Phenanthrene	%	78			70-130	Pass	
Pyrene	%	115			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Bifenthrin	%	80			70-130	Pass	
Chlordanes - Total	%	91			70-130	Pass	
4.4'-DDD	%	96			70-130	Pass	
4.4'-DDE	%	83			70-130	Pass	
4.4'-DDT	%	91			70-130	Pass	
a-HCH	%	98			70-130	Pass	
Aldrin	%	87			70-130	Pass	
b-HCH	%	103			70-130	Pass	
d-HCH	%	81			70-130	Pass	
Dieldrin	%	76			70-130	Pass	
Endosulfan I	%	116			70-130	Pass	
Endosulfan II	%	80			70-130	Pass	
Endosulfan sulphate	%	73			70-130	Pass	
Endrin	%	118			70-130	Pass	
Endrin aldehyde	%	122			70-130	Pass	
Endrin ketone	%	80			70-130	Pass	
g-HCH (Lindane)	%	120			70-130	Pass	
Heptachlor	%	76			70-130	Pass	
Heptachlor epoxide	%	112			70-130	Pass	
Hexachlorobenzene	%	109			70-130	Pass	
Methoxychlor	%	121			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	88			70-130	Pass	
LCS - % Recovery							
NEPM 2013 Acid Herbicides							
Picloram	%	99			70-130	Pass	
2.4-D	%	90			70-130	Pass	
2.4.5-T	%	93			70-130	Pass	
MCPA	%	78			70-130	Pass	
MCPB	%	78			70-130	Pass	
Mecoprop	%	81			70-130	Pass	
LCS - % Recovery							
NEPM 2013 Organochlorine Pesticides							
Mirex	%	116			70-130	Pass	
LCS - % Recovery							
NEPM 2013 Phenols							
2-Methylphenol (o-Cresol)	%	47			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	58			25-140	Pass	
Pentachlorophenol	%	47			25-140	Pass	
Phenol	%	57			25-140	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	113			80-120	Pass	
Beryllium	%	110			80-120	Pass	
Boron	%	105			80-120	Pass	
Cadmium	%	109			80-120	Pass	
Chromium	%	117			80-120	Pass	
Cobalt	%	119			80-120	Pass	
Copper	%	105			80-120	Pass	
Lead	%	115			80-120	Pass	
Manganese	%	114			80-120	Pass	
Mercury	%	108			80-120	Pass	
Nickel	%	103			80-120	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Selenium			%	110			80-120	Pass	
Zinc			%	106			80-120	Pass	
LCS - % Recovery									
Acid Herbicides									
2.4-DB			%	89			70-130	Pass	
2.4.5-TP			%	70			70-130	Pass	
Actril (Ioxynil)			%	93			70-130	Pass	
Dicamba			%	86			70-130	Pass	
Dichlorprop			%	90			70-130	Pass	
Dinitro-o-cresol			%	87			70-130	Pass	
Dinoseb			%	96			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M23-Ja0002775	NCP	%	119			70-130	Pass	
TRH >C10-C16	M23-Ja0002775	NCP	%	119			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M23-Ja0002157	NCP	%	117			70-130	Pass	
Acenaphthylene	M23-Ja0002157	NCP	%	105			70-130	Pass	
Anthracene	M23-Ja0002157	NCP	%	94			70-130	Pass	
Benz(a)anthracene	M23-Ja0002157	NCP	%	78			70-130	Pass	
Benzo(a)pyrene	M23-Ja0002157	NCP	%	128			70-130	Pass	
Benzo(b&j)fluoranthene	M23-Ja0002157	NCP	%	108			70-130	Pass	
Benzo(g.h.i)perylene	M23-Ja0002157	NCP	%	98			70-130	Pass	
Benzo(k)fluoranthene	M23-Ja0002157	NCP	%	124			70-130	Pass	
Chrysene	M23-Ja0002157	NCP	%	119			70-130	Pass	
Dibenz(a.h)anthracene	M22-De0055669	NCP	%	72			70-130	Pass	
Fluoranthene	M23-Ja0002157	NCP	%	102			70-130	Pass	
Fluorene	M23-Ja0002157	NCP	%	93			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M23-Ja0002157	NCP	%	89			70-130	Pass	
Naphthalene	M23-Ja0002157	NCP	%	95			70-130	Pass	
Phenanthrene	M23-Ja0002157	NCP	%	81			70-130	Pass	
Pyrene	M23-Ja0002157	NCP	%	93			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Bifenthrin	M22-De0055699	NCP	%	103			70-130	Pass	
Chlordanes - Total	M22-De0055699	NCP	%	73			70-130	Pass	
4.4'-DDD	M22-De0055699	NCP	%	110			70-130	Pass	
4.4'-DDE	M22-De0055699	NCP	%	80			70-130	Pass	
4.4'-DDT	M22-De0055699	NCP	%	79			70-130	Pass	
Aldrin	M22-De0055699	NCP	%	99			70-130	Pass	
Dieldrin	M22-De0055699	NCP	%	74			70-130	Pass	
Endosulfan I	M22-De0055699	NCP	%	74			70-130	Pass	
Endosulfan II	M22-De0055699	NCP	%	92			70-130	Pass	
Endosulfan sulphate	M22-De0055699	NCP	%	73			70-130	Pass	
Endrin	M22-De0055699	NCP	%	73			70-130	Pass	
Heptachlor	M22-De0055699	NCP	%	94			70-130	Pass	
Hexachlorobenzene	M22-De0055699	NCP	%	71			70-130	Pass	
Methoxychlor	M22-De0055699	NCP	%	89			70-130	Pass	
Spike - % Recovery									
NEPM 2013 Organochlorine Pesticides				Result 1					
Mirex	M22-De0055699	NCP	%	100			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
NEPM 2013 Phenols				Result 1					
2-Methylphenol (o-Cresol)	M23-Ja0002157	NCP	%	51			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-Ja0002157	NCP	%	37			30-130	Pass	
Pentachlorophenol	M22-De0048391	NCP	%	99			30-130	Pass	
Phenol	M23-Ja0002157	NCP	%	65			30-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Manganese	M23-Ja0002403	NCP	%	85			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
a-HCH	M22-De0055699	NCP	%	92			70-130	Pass	
b-HCH	M22-De0055699	NCP	%	94			70-130	Pass	
d-HCH	M22-De0055699	NCP	%	78			70-130	Pass	
Endrin aldehyde	M22-De0055699	NCP	%	99			70-130	Pass	
Endrin ketone	M22-De0055699	NCP	%	98			70-130	Pass	
g-HCH (Lindane)	M22-De0055699	NCP	%	96			70-130	Pass	
Heptachlor epoxide	M22-De0055699	NCP	%	70			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M23-Ja0002996	CP	%	73			75-125	Fail	Q08
Beryllium	M23-Ja0002996	CP	%	79			75-125	Pass	
Boron	M23-Ja0002996	CP	%	93			75-125	Pass	
Cadmium	M23-Ja0002996	CP	%	106			75-125	Pass	
Chromium	M23-Ja0002996	CP	%	96			75-125	Pass	
Cobalt	M23-Ja0002996	CP	%	86			75-125	Pass	
Copper	M23-Ja0002996	CP	%	77			75-125	Pass	
Lead	M23-Ja0002996	CP	%	89			75-125	Pass	
Mercury	M23-Ja0002996	CP	%	113			75-125	Pass	
Nickel	M23-Ja0002996	CP	%	82			75-125	Pass	
Selenium	M23-Ja0002996	CP	%	70			75-125	Fail	Q08
Zinc	M23-Ja0002996	CP	%	79			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M23-Ja0003007	CP	%	104			70-130	Pass	
TRH C6-C10	M23-Ja0003007	CP	%	99			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M23-Ja0003007	CP	%	73			70-130	Pass	
Toluene	M23-Ja0003007	CP	%	73			70-130	Pass	
Ethylbenzene	M23-Ja0003007	CP	%	85			70-130	Pass	
m&p-Xylenes	M23-Ja0003007	CP	%	76			70-130	Pass	
o-Xylene	M23-Ja0003007	CP	%	79			70-130	Pass	
Xylenes - Total*	M23-Ja0003007	CP	%	77			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M23-Ja0003007	CP	%	77			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M23-Ja0002991	CP	%	8.8	7.5	15	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
pH (1:5 Aqueous extract at 25 °C as rec.)	M23-Ja0002992	CP	pH Units	7.9	7.8	pass	30%	Pass	

Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	M23-Ja0002477	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M23-Ja0002995	CP	mg/kg	5.0	4.8	3.1	30%	Pass	
Beryllium	M23-Ja0002995	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Boron	M23-Ja0002995	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Cadmium	M23-Ja0002995	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M23-Ja0002995	CP	mg/kg	71	73	3.0	30%	Pass	
Cobalt	M23-Ja0002995	CP	mg/kg	23	23	1.2	30%	Pass	
Copper	M23-Ja0002995	CP	mg/kg	17	17	<1	30%	Pass	
Lead	M23-Ja0002995	CP	mg/kg	12	12	3.3	30%	Pass	
Manganese	M23-Ja0002995	CP	mg/kg	570	580	3.3	30%	Pass	
Mercury	M23-Ja0002995	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	M23-Ja0002995	CP	mg/kg	48	48	<1	30%	Pass	
Selenium	M23-Ja0002995	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Zinc	M23-Ja0002995	CP	mg/kg	33	33	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M23-Ja0002996	CP	mg/kg	4.3	4.2	3.9	30%	Pass	
Beryllium	M23-Ja0002996	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Boron	M23-Ja0002996	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Cadmium	M23-Ja0002996	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M23-Ja0002996	CP	mg/kg	80	79	1.5	30%	Pass	
Cobalt	M23-Ja0002996	CP	mg/kg	27	26	2.1	30%	Pass	
Copper	M23-Ja0002996	CP	mg/kg	19	18	1.5	30%	Pass	
Lead	M23-Ja0002996	CP	mg/kg	15	15	<1	30%	Pass	
Manganese	M23-Ja0002996	CP	mg/kg	560	550	1.4	30%	Pass	
Mercury	M23-Ja0002996	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	M23-Ja0002996	CP	mg/kg	52	52	<1	30%	Pass	
Selenium	M23-Ja0002996	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Zinc	M23-Ja0002996	CP	mg/kg	27	27	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M23-Ja0003001	CP	%	13	13	4.5	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M23-Ja0003002	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M23-Ja0003002	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M23-Ja0003002	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M23-Ja0003002	CP	mg/kg	60	58	<1	30%	Pass	
TRH C6-C10	M23-Ja0003002	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M23-Ja0003002	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M23-Ja0003002	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M23-Ja0003002	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M23-Ja0003002	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M23-Ja0003002	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M23-Ja0003002	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M23-Ja0003002	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M23-Ja0003002	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M23-Ja0003002	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M23-Ja0003002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M23-Ja0003002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M23-Ja0003002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M23-Ja0003002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M23-Ja0003002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M23-Ja0003002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M23-Ja0003002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M23-Ja0003002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M23-Ja0003002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M23-Ja0003002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M23-Ja0003002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M23-Ja0003002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M23-Ja0003002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M23-Ja0003002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M23-Ja0003002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M23-Ja0003002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M23-Ja0003002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Bifenthrin	M23-Ja0003002	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Chlordanes - Total	M23-Ja0003002	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M23-Ja0003002	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M23-Ja0003002	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M23-Ja0003002	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M23-Ja0003002	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M23-Ja0003002	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M23-Ja0003002	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M23-Ja0003002	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M23-Ja0003002	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M23-Ja0003002	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M23-Ja0003002	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M23-Ja0003002	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M23-Ja0003002	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M23-Ja0003002	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M23-Ja0003002	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M23-Ja0003002	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M23-Ja0003002	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M23-Ja0003002	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M23-Ja0003002	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M23-Ja0003002	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M23-Ja0003002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Chlorpyrifos	M23-Ja0003002	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M23-Ja0003002	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M23-Ja0003002	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M23-Ja0003002	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M23-Ja0003002	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M23-Ja0003002	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M23-Ja0003002	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M23-Ja0003002	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M23-Ja0003002	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	

Duplicate									
Triazines				Result 1	Result 2	RPD			
Atrazine	M23-Ja0003002	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
NEPM 2013 Organochlorine Pesticides				Result 1	Result 2	RPD			
Mirex	M23-Ja0003002	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
NEPM 2013 Phenols				Result 1	Result 2	RPD			
2-Methylphenol (o-Cresol)	M23-Ja0003002	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-Ja0003002	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Pentachlorophenol	M23-Ja0003002	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Phenol	M23-Ja0003002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M23-Ja0003002	CP	mg/kg	3.5	3.5	<1	30%	Pass	
Beryllium	M23-Ja0003002	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Boron	M23-Ja0003002	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Cadmium	M23-Ja0003002	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M23-Ja0003002	CP	mg/kg	50	45	9.8	30%	Pass	
Cobalt	M23-Ja0003002	CP	mg/kg	21	21	3.0	30%	Pass	
Copper	M23-Ja0003002	CP	mg/kg	13	12	10	30%	Pass	
Lead	M23-Ja0003002	CP	mg/kg	16	15	3.4	30%	Pass	
Manganese	M23-Ja0003002	CP	mg/kg	440	470	7.3	30%	Pass	
Mercury	M23-Ja0003002	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	M23-Ja0003002	CP	mg/kg	25	22	12	30%	Pass	
Selenium	M23-Ja0003002	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Zinc	M23-Ja0003002	CP	mg/kg	21	21	<1	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
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
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.

Authorised by:

Catherine Wilson	Analytical Services Manager
Scott Beddoes	Senior Analyst-Metal
Joseph Edouard	Senior Analyst-Organic
Edward Lee	Senior Analyst-Organic
Vivian Wang	Senior Analyst-Volatile
Scott Beddoes	Senior Analyst-Inorganic

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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Certificate of Analysis

Environmental Site Assessments P/L
2 Homestead Crt
Highton
VIC 3216

NATA Accredited
Accreditation Number 1261
Site Number 1254

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: **- All Reports/SRA's (Seton)**

Report **953941-W**
Project name LARA FARMS PTY LTD
Received Date Jan 06, 2023

Client Sample ID			**RB01/060123**
Sample Matrix			**Water**
Eurofins Sample No.			**M23-Ja0003010**
Date Sampled			**Jan 06, 2023**
Test/Reference	LOR	Unit	
Organochlorine Pesticides			
Chlordanes - Total	0.002	mg/L	< 0.002
4.4'-DDD	0.0002	mg/L	< 0.0002
4.4'-DDE	0.0002	mg/L	< 0.0002
4.4'-DDT	0.0002	mg/L	< 0.0002
a-HCH	0.0002	mg/L	< 0.0002
Aldrin	0.0002	mg/L	< 0.0002
b-HCH	0.0002	mg/L	< 0.0002
d-HCH	0.0002	mg/L	< 0.0002
Dieldrin	0.0002	mg/L	< 0.0002
Endosulfan I	0.0002	mg/L	< 0.0002
Endosulfan II	0.0002	mg/L	< 0.0002
Endosulfan sulphate	0.0002	mg/L	< 0.0002
Endrin	0.0002	mg/L	< 0.0002
Endrin aldehyde	0.0002	mg/L	< 0.0002
Endrin ketone	0.0002	mg/L	< 0.0002
g-HCH (Lindane)	0.0002	mg/L	< 0.0002
Heptachlor	0.0002	mg/L	< 0.0002
Heptachlor epoxide	0.0002	mg/L	< 0.0002
Hexachlorobenzene	0.0002	mg/L	< 0.0002
Methoxychlor	0.0002	mg/L	< 0.0002
Toxaphene	0.005	mg/L	< 0.005
Aldrin and Dieldrin (Total)*	0.0002	mg/L	< 0.0002
DDT + DDE + DDD (Total)*	0.0002	mg/L	< 0.0002
Vic EPA IWRG 621 OCP (Total)*	0.002	mg/L	< 0.002
Vic EPA IWRG 621 Other OCP (Total)*	0.002	mg/L	< 0.002
Dibutylchlorendate (surr.)	1	%	72
Tetrachloro-m-xylene (surr.)	1	%	81
Heavy Metals			
Arsenic	0.001	mg/L	< 0.001
Cadmium	0.0002	mg/L	< 0.0002
Chromium	0.001	mg/L	< 0.001
Copper	0.001	mg/L	< 0.001
Lead	0.001	mg/L	< 0.001
Mercury	0.0001	mg/L	< 0.0001
Nickel	0.001	mg/L	< 0.001
Zinc	0.005	mg/L	< 0.005

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
Organochlorine Pesticides	Melbourne	Jan 10, 2023	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)			
Metals M8	Melbourne	Jan 07, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

Company Name: Environmental Site Assessments P/L
Address: 2 Homestead Crt
Highton
VIC 3216

Project Name: LARA FARMS PTY LTD

Order No.:
Report #: 953941
Phone:
Fax:

Received: Jan 6, 2023 4:45 PM
Due: Jan 13, 2023
Priority: 5 Day
Contact Name: - All Reports/SRA's (Seton)

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Atrazine	Bifenthrin	Chlorpyrifos	pH (1:5 Aqueous extract at 25 °C as rec.)	Picloram	Organochlorine Pesticides	Acid Herbicides	Metals M8	Moisture Set	NEPM Screen Table 1(A) HIL's for Soil Contaminants - Basic Suite - Excluding
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X
External Laboratory															
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**										
1	SP44/0.0-0.15	Jan 06, 2023	10:09AM	Soil	M23-Ja0002990				X					X	
2	SP45/0.0-0.15	Jan 06, 2023	10:10AM	Soil	M23-Ja0002991				X					X	
3	SP46/0.0-0.15	Jan 06, 2023	10:13AM	Soil	M23-Ja0002992				X					X	
4	SP47/0.0-0.15	Jan 06, 2023	10:17AM	Soil	M23-Ja0002993				X					X	X
5	SP48/0.0-0.15	Jan 06, 2023	10:20AM	Soil	M23-Ja0002994	X	X	X	X	X	X	X	X	X	
6	SP49/0.0-0.15	Jan 06, 2023	10:23AM	Soil	M23-Ja0002995						X		X	X	
7	SP50/0.0-0.15	Jan 06, 2023	10:28AM	Soil	M23-Ja0002996						X		X	X	
8	SP51/0.0-0.15	Jan 06, 2023	10:32AM	Soil	M23-Ja0002997				X					X	X
9	SP52/0.0-0.15	Jan 06, 2023	10:34AM	Soil	M23-Ja0002998						X		X	X	
10	SP53/0.0-0.15	Jan 06, 2023	10:37AM	Soil	M23-Ja0002999						X		X	X	
11	SP54/0.0-0.15	Jan 06, 2023	10:39AM	Soil	M23-Ja0003000	X	X	X	X	X	X	X	X	X	
12	SP55/0.0-0.15	Jan 06, 2023	10:51AM	Soil	M23-Ja0003001	X	X	X	X	X	X	X	X	X	
13	SP56/0.0-0.15	Jan 06, 2023	10:54AM	Soil	M23-Ja0003002				X					X	X
14	SP57/0.0-0.15	Jan 06, 2023	10:41AM	Soil	M23-Ja0003003						X		X	X	

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Received: Jan 6, 2023 4:45 PM
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Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Atrazine	Bifenthrin	Chlorpyrifos	pH (1:5 Aqueous extract at 25 °C as rec.)	Picloram	Organochlorine Pesticides	Acid Herbicides	Metals M8	Moisture Set	NEPM Screen Table 1(A) HIL's for Soil Contaminants - Basic Suite - Excluding
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X
15	QC01/060123	Jan 06, 2023	10:41AM	Soil	M23-Ja0003004						X		X	X	
16	SP58/0.0-0.15	Jan 06, 2023	10:45AM	Soil	M23-Ja0003005						X		X	X	
17	SP59/0.0-0.15	Jan 06, 2023	10:52AM	Soil	M23-Ja0003006	X	X	X	X	X	X	X	X	X	
18	SP60/0.0-0.15	Jan 06, 2023	10:50AM	Soil	M23-Ja0003007				X					X	X
19	SP61/0.0-0.15	Jan 06, 2023	10:46AM	Soil	M23-Ja0003008						X		X	X	
20	SP62/0.0-0.15	Jan 06, 2023	10:48AM	Soil	M23-Ja0003009						X		X	X	
21	RB01/060123	Jan 06, 2023	11:05AM	Water	M23-Ja0003010						X		X		
Test Counts						4	4	4	11	4	14	4	14	20	4

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
CFU: Colony forming unit

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 (*bis*-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							
Organochlorine Pesticides							
Chlordanes - Total	mg/L	< 0.002			0.002	Pass	
4.4'-DDD	mg/L	< 0.0002			0.0002	Pass	
4.4'-DDE	mg/L	< 0.0002			0.0002	Pass	
4.4'-DDT	mg/L	< 0.0002			0.0002	Pass	
a-HCH	mg/L	< 0.0002			0.0002	Pass	
Aldrin	mg/L	< 0.0002			0.0002	Pass	
b-HCH	mg/L	< 0.0002			0.0002	Pass	
d-HCH	mg/L	< 0.0002			0.0002	Pass	
Dieldrin	mg/L	< 0.0002			0.0002	Pass	
Endosulfan I	mg/L	< 0.0002			0.0002	Pass	
Endosulfan II	mg/L	< 0.0002			0.0002	Pass	
Endosulfan sulphate	mg/L	< 0.0002			0.0002	Pass	
Endrin	mg/L	< 0.0002			0.0002	Pass	
Endrin aldehyde	mg/L	< 0.0002			0.0002	Pass	
Endrin ketone	mg/L	< 0.0002			0.0002	Pass	
g-HCH (Lindane)	mg/L	< 0.0002			0.0002	Pass	
Heptachlor	mg/L	< 0.0002			0.0002	Pass	
Heptachlor epoxide	mg/L	< 0.0002			0.0002	Pass	
Hexachlorobenzene	mg/L	< 0.0002			0.0002	Pass	
Methoxychlor	mg/L	< 0.0002			0.0002	Pass	
Toxaphene	mg/L	< 0.005			0.005	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	83			70-130	Pass	
4.4'-DDD	%	93			70-130	Pass	
4.4'-DDE	%	92			70-130	Pass	
4.4'-DDT	%	97			70-130	Pass	
a-HCH	%	96			70-130	Pass	
Aldrin	%	78			70-130	Pass	
b-HCH	%	103			70-130	Pass	
d-HCH	%	107			70-130	Pass	
Dieldrin	%	82			70-130	Pass	
Endosulfan I	%	107			70-130	Pass	
Endosulfan II	%	121			70-130	Pass	
Endosulfan sulphate	%	113			70-130	Pass	
Endrin	%	72			70-130	Pass	
Endrin aldehyde	%	115			70-130	Pass	
Endrin ketone	%	103			70-130	Pass	
g-HCH (Lindane)	%	90			70-130	Pass	
Heptachlor	%	94			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heptachlor epoxide			%	89			70-130	Pass	
Hexachlorobenzene			%	84			70-130	Pass	
Methoxychlor			%	110			70-130	Pass	
LCS - % Recovery									
Heavy Metals									
Arsenic			%	105			80-120	Pass	
Cadmium			%	106			80-120	Pass	
Chromium			%	107			80-120	Pass	
Copper			%	103			80-120	Pass	
Lead			%	107			80-120	Pass	
Mercury			%	109			80-120	Pass	
Nickel			%	104			80-120	Pass	
Zinc			%	109			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M23-Ja0002302	NCP	%	103			75-125	Pass	
Cadmium	M23-Ja0002302	NCP	%	93			75-125	Pass	
Chromium	M23-Ja0002302	NCP	%	108			75-125	Pass	
Copper	M23-Ja0002296	NCP	%	90			75-125	Pass	
Lead	M23-Ja0002296	NCP	%	93			75-125	Pass	
Mercury	M23-Ja0002302	NCP	%	104			75-125	Pass	
Nickel	M23-Ja0002296	NCP	%	94			75-125	Pass	
Zinc	M23-Ja0002296	NCP	%	63			75-125	Fail	Q08
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M23-Ja0002302	NCP	mg/L	0.001	0.001	3.1	30%	Pass	
Cadmium	M23-Ja0002302	NCP	mg/L	0.0008	0.0008	<1	30%	Pass	
Chromium	M23-Ja0002302	NCP	mg/L	0.001	0.001	1.8	30%	Pass	
Copper	M23-Ja0002296	NCP	mg/L	0.009	0.008	3.4	30%	Pass	
Lead	M23-Ja0002302	NCP	mg/L	0.45	0.47	4.0	30%	Pass	
Mercury	M23-Ja0002302	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	M23-Ja0002302	NCP	mg/L	1.0	1.1	3.8	30%	Pass	
Zinc	M23-Ja0002302	NCP	mg/L	0.29	0.32	7.3	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
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.

Authorised by:

Catherine Wilson	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic
Scott Beddoes	Senior Analyst-Metal

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.

CHAIN OF CUSTODY

ALS Laboratory

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 12.00 6/1/23	DATE/TIME:	DATE/TIME:	DATE/TIME: 6/1/23 1540

CLIENT:	ENVIRONMENTAL SITE ASSESSMENTS PTY LTD	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☒ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):
PROJECT:	Lara Farms Pty Ltd		
SITE:			
PURCHASE ORDER NO.:		ALS QUOTE NO.:	MEBQ-159-15 V2
PROJECT MANAGER:	SETON LILLAS	CONTACT PH:	0433747187
SAMPLER:	SETON LILLAS	SAMPLER MOBILE:	0433747187
EMAIL REPORTS TO:	OFFICE@ESAGROUP.COM.AU	EMAIL INVOICE TO:	OFFICE@ESAGROUP.COM.AU

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS		MATRIX: Solid(S) Water(W)	CONTAINER INFORMATION		ANALYSIS REQUIRED										Additional Information
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	OCPs + S Metals										Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	QC02/060123		06/01/23	S		X										
				TOTAL		1										

Environmental Division
Melbourne
Work Order Reference
EM2300116

Telephone : + 61-3-8549 9600

CERTIFICATE OF ANALYSIS

Work Order	: **EM2300116**	Page	: 1 of 5
Client	: **ENVIRONMENTAL SITE ASSESSMENTS PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: ALL RESULTS ADDRESS	Contact	: Katie Davis
Address	: P.O. BOX 3106 WAURN PONDS VIC 3216	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: +61-3-8549 9600
Project	: Lara Farms Pty Ltd	Date Samples Received	: 06-Jan-2023 15:30
Order number	: ----	Date Analysis Commenced	: 09-Jan-2023
C-O-C number	: ----	Issue Date	: 12-Jan-2023 08:23
Sampler	: SETON LILLAS		
Site	: ----		
Quote number	: MEBQ/159/15 V2		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Arenie Vijayaratnam	Senior Inorganic Chemist	Melbourne Inorganics, Springvale, VIC
Sanjay Parekh	LCMS Coordinator	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QC02/060123	----	----	----	----
			Sampling date / time	06-Jan-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2300116-001	--------	--------	--------	--------
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**27.6**	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg	**50**	----	----	----	----
Copper	7440-50-8	5	mg/kg	**16**	----	----	----	----
Lead	7439-92-1	5	mg/kg	**14**	----	----	----	----
Nickel	7440-02-0	2	mg/kg	**27**	----	----	----	----
Zinc	7440-66-6	5	mg/kg	**17**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	----	----	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	----	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	----	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	----	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	----	----	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	----	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	----	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	----	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	----	----	----
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	----	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QC02/060123	----	----	----	----
			Sampling date / time	06-Jan-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2300116-001	--------	--------	--------	--------
				Result	----	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued								
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**97.3**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**96.6**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	62	128
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	40	139

QUALITY CONTROL REPORT

Work Order	: **EM2300116**	Page	: 1 of 5
Client	: **ENVIRONMENTAL SITE ASSESSMENTS PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: ALL RESULTS ADDRESS	Contact	: Katie Davis
Address	: P.O. BOX 3106 WAURN PONDS VIC 3216	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: +61-3-8549 9600
Project	: Lara Farms Pty Ltd	Date Samples Received	: 06-Jan-2023
Order number	: ----	Date Analysis Commenced	: 09-Jan-2023
C-O-C number	: ----	Issue Date	: 12-Jan-2023
Sampler	: SETON LILLAS		
Site	: ----		
Quote number	: MEBQ/159/15 V2		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Arenie Vijayaratnam	Senior Inorganic Chemist	Melbourne Inorganics, Springvale, VIC
Sanjay Parekh	LCMS Coordinator	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4807477)									
EM2300157-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	34	30	11.3	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	29	26	12.3	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	330	302	8.8	0% - 20%
		EG005T: Copper	7440-50-8	5	mg/kg	108	104	3.1	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	223	239	7.0	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	96	98	2.2	0% - 50%
EM2300157-025	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	17	16	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	11	11	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	12	29.9	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	17	18	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	38	35	6.1	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4806450)									
EM2300116-001	QC02/060123	EA055: Moisture Content	----	0.1	%	27.6	24.1	13.4	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4807478)									
EM2300157-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.5	0.8	43.7	No Limit
EM2300157-025	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4809076)									
EM2300116-001	QC02/060123	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4809076) - continued									
EM2300116-001	QC02/060123	EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4807477)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	88.6	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	62.0	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	93.2	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	89.2	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	102	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	91.3	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	75.6	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4807478)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	89.1	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 4809076)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	92.9	71.8	126
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	94.1	72.2	125
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	94.1	70.0	124
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	92.4	69.1	124
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.2	69.2	125
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	90.6	66.6	122
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	93.4	68.8	123
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	93.5	67.2	124
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	93.9	66.0	126
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.2	70.2	126
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	72.1	124
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	94.6	68.0	122
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	94.9	68.9	124
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.7	55.8	130
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	94.2	67.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.5	72.0	127
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	90.2	66.3	131
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	90.5	62.4	131
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	88.0	55.4	130
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	91.0	68.8	128
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	87.1	55.5	132

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4807477)							
EM2300157-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	# Not Determined	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	94.3	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	92.5	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	88.3	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	84.5	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	103	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	82.6	80.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4807478)							
EM2300157-001	Anonymous	EG035T: Mercury	7439-97-6	0.5 mg/kg	78.2	76.0	116

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2300116**	Page	: 1 of 4
Client	: **ENVIRONMENTAL SITE ASSESSMENTS PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: ALL RESULTS ADDRESS	Telephone	: +61-3-8549 9600
Project	: Lara Farms Pty Ltd	Date Samples Received	: 06-Jan-2023
Site	: ----	Issue Date	: 12-Jan-2023
Sampler	: SETON LILLAS	No. of samples received	: 1
Order number	: ----	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EG005(ED093)T: Total Metals by ICP-AES	EM2300157--001	Anonymous	**Arsenic**	7440-38-2	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Matrix Spikes (MS)					
Pesticides by GCMS	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / *Container / Client Sample ID(s)*	*Sample Date*	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055) QC02/060123	**06-Jan-2023**	**----**	----	----	**09-Jan-2023**	20-Jan-2023	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) QC02/060123	**06-Jan-2023**	**10-Jan-2023**	05-Jul-2023	✓	**11-Jan-2023**	05-Jul-2023	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) QC02/060123	**06-Jan-2023**	**10-Jan-2023**	03-Feb-2023	✓	**11-Jan-2023**	03-Feb-2023	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068) QC02/060123	**06-Jan-2023**	**11-Jan-2023**	20-Jan-2023	✓	**12-Jan-2023**	20-Feb-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Pesticides by GCMS	EP068	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Pesticides by GCMS	EP068	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Pesticides by GCMS	EP068	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	*Method*	*Matrix*	*Method Descriptions*
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).

Preparation Methods	*Method*	*Matrix*	*Method Descriptions*
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

Appendix 4: Comparison Tables

					OCP		BTEX							Halogenated Benzenes	Halogenated Phenols	Herbicides										
					Vic EPA IWRG 621 OCP (Total)*	Vic EPA IWRG 621 Other OCP (Total)*	Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene Total	C6-C10 less BTEX (F1)	Hexachlorobenzene	Pentachlorophenol	2,4,5-Trichlorophenoxy Acetic Acid	2,4,5-TP (Silvex)	Hedonal	2,4-Dichlorprop	4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)	Atrazine	Dicamba	Dinoseb	2-Methyl-4-chlorophenoxyacetic acid	2-Methyl-4-Chlorophenoxy Butanoic Acid	Mecoprop
					MG/KG	MG/KG	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.3	20	0.05	1	0.5	0.5	0.5	0.5	0.5	0.2	0.5	0.5	0.5	0.5	0.5
AS2159 2009 Concrete Piles In Soil																										
AS2159 2009 Steel Piles In Soil																										
NEPM 2013 Table 1A(1) HILs Res A Soil														10	100	600		900			320			600	600	600
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion																										
0-1m							0.5|0.6|0.7	NL|55	160|390|480			40|95|110	40|45|50												
NEPM 2013 Table 1B(6) ESLs for Urban Res							65		105				180													
0-2m							50	70|125	85			45|105	180													
NEPM 2013 EILs																										
0-2m																										
LocCode	**Sample_Depth_Range**	**Field_ID**	**Sampled_Date-Time**	**Env_Stds_Conditional_Matrix_Type**																						
SP44	0-0.15	SP44/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP45	0-0.15	SP45/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP46	0-0.15	SP46/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP47	0-0.15	SP47/0.0-0.15	6/01/2023	SILT	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.05	<1	<0.5	-	<0.5	-	-	<0.2	-	-	<0.5	<0.5	<0.5
SP48	0-0.15	SP48/0.0-0.15	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5
SP49	0-0.15	SP49/0.0-0.15	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
SP50	0-0.15	SP50/0.0-0.15	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
SP51	0-0.15	SP51/0.0-0.15	6/01/2023	SILT	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.05	<1	<0.5	-	<0.5	-	-	<0.2	-	-	<0.5	<0.5	<0.5
SP52	0-0.15	SP52/0.0-0.15	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
SP53	0-0.15	SP53/0.0-0.15	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
SP54	0-0.15	SP54/0.0-0.15	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5
SP55	0-0.15	SP55/0.0-0.15	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5
SP56	0-0.15	SP56/0.0-0.15	6/01/2023	SILT	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.05	<1	<0.5	-	<0.5	-	-	<0.2	-	-	<0.5	<0.5	<0.5
SP57	0-0.15	QC01/060123	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
SP57	0-0.15	QC02/060123	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
SP57	0-0.15	SP57/0.0-0.15	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
SP58	0-0.15	SP58/0.0-0.15	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
SP59	0-0.15	SP59/0.0-0.15	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5
SP60	0-0.15	SP60/0.0-0.15	6/01/2023	SILT	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.05	<1	<0.5	-	<0.5	-	-	<0.2	-	-	<0.5	<0.5	<0.5
SP61	0-0.15	SP61/0.0-0.15	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
SP62	0-0.15	SP62/0.0-0.15	6/01/2023	SILT	<0.1	<0.1	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-

NE Not Established

❶ CCME (2007) Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health

❷ US EPA Eco-Tox SSL

❸ ANZECC B levels

					Inorganics			Lead	Metals												Organochlorine Pesticides												
					Cyanide (Free)	Moisture Content (dried @ 103°C)	pH (aqueous extract)	Lead	Arsenic	Beryllium	Boron	Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Cobalt	Copper	Manganese	Mercury	Nickel	Selenium	Zinc	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	chlordane	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II
					mg/kg	%	pH_Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					5	1	0.1	5	2	2	10	0.4	1	5	5	5	5	0.1	5	2	5	0.05	0.05	0.05	0.05	0.05	0.1	0.05	0.05	0.05	0.05	0.05	0.05	0.05
AS2159 2009 Concrete Piles In Soil																																		
AS2159 2009 Steel Piles In Soil							>5																											
NEPM 2013 Table 1A(1) HILs Res A Soil					250		6-8❸	300	100	60	4500	20	100	NE	100	6000	3800	40	400	200	7400				6		50				240			
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion																																		
0-1m																																		
NEPM 2013 Table 1B(6) ESLs for Urban Res																																		
0-2m																																		
NEPM 2013 EILs																																		
0-2m							6-8❸	NE	100					NE	50❶	NE	220❷		NE		NE													
LocCode	**Sample_Depth_Range**	**Field_ID**	**Sampled_Date-Time**	**Env_Stds_Conditional_Matrix_Type**																														
SP44	0-0.15	SP44/0.0-0.15	6/01/2023	SILT	-	7.1	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP45	0-0.15	SP45/0.0-0.15	6/01/2023	SILT	-	8.8	5.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP46	0-0.15	SP46/0.0-0.15	6/01/2023	SILT	-	3.6	7.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP47	0-0.15	SP47/0.0-0.15	6/01/2023	SILT	<5	6.1	5.9	12	4.1	<2	<20	<0.4	<1	41	10	8.7	220	<0.1	16	<2	18	<0.05	-	<0.05	<0.05	-	<0.1	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP48	0-0.15	SP48/0.0-0.15	6/01/2023	SILT	-	9.6	8	15	4.7	-	-	<0.4	-	65	-	15	-	<0.1	30	-	30	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP49	0-0.15	SP49/0.0-0.15	6/01/2023	SILT	-	10	-	12	5	-	-	<0.4	-	71	-	17	-	<0.1	48	-	33	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP50	0-0.15	SP50/0.0-0.15	6/01/2023	SILT	-	19	-	15	4.3	-	-	<0.4	-	80	-	19	-	<0.1	52	-	27	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP51	0-0.15	SP51/0.0-0.15	6/01/2023	SILT	<5	12	6.4	15	5.2	<2	<20	<0.4	<1	79	24	19	400	<0.1	51	<2	32	<0.05	-	<0.05	<0.05	-	<0.1	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP52	0-0.15	SP52/0.0-0.15	6/01/2023	SILT	-	17	-	12	3.5	-	-	<0.4	-	65	-	17	-	<0.1	51	-	26	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP53	0-0.15	SP53/0.0-0.15	6/01/2023	SILT	-	11	-	15	4.9	-	-	<0.4	-	64	-	19	-	<0.1	37	-	31	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP54	0-0.15	SP54/0.0-0.15	6/01/2023	SILT	-	20	7.2	16	5.1	-	-	<0.4	-	81	-	26	-	<0.1	62	-	45	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP55	0-0.15	SP55/0.0-0.15	6/01/2023	SILT	-	13	6.9	21	4.7	-	-	<0.4	-	67	-	19	-	<0.1	42	-	41	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP56	0-0.15	SP56/0.0-0.15	6/01/2023	SILT	<5	11	6.6	16	3.5	<2	<20	<0.4	<1	50	21	13	440	<0.1	25	<2	21	<0.05	-	<0.05	<0.05	-	<0.1	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP57	0-0.15	QC01/060123	6/01/2023	SILT	-	15	-	13	4	-	-	<0.4	-	59	-	18	-	<0.1	33	-	28	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP57	0-0.15	QC02/060123	6/01/2023	SILT	-	27.6	-	14	<5	-	-	<1	-	50	-	16	-	<0.1	27	-	17	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05
SP57	0-0.15	SP57/0.0-0.15	6/01/2023	SILT	-	18	-	13	3.8	-	-	<0.4	-	57	-	17	-	<0.1	31	-	24	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP58	0-0.15	SP58/0.0-0.15	6/01/2023	SILT	-	19	-	13	3.9	-	-	<0.4	-	55	-	17	-	<0.1	32	-	25	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP59	0-0.15	SP59/0.0-0.15	6/01/2023	SILT	-	11	7.5	18	3.5	-	-	<0.4	-	43	-	14	-	<0.1	26	-	36	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP60	0-0.15	SP60/0.0-0.15	6/01/2023	SILT	<5	18	6.9	15	3.7	<2	<20	<0.4	<1	50	25	15	580	<0.1	30	<2	27	<0.05	-	<0.05	<0.05	-	<0.1	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP61	0-0.15	SP61/0.0-0.15	6/01/2023	SILT	-	20	-	13	3.6	-	-	<0.4	-	50	-	16	-	<0.1	27	-	28	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP62	0-0.15	SP62/0.0-0.15	6/01/2023	SILT	-	7.3	-	14	3.4	-	-	<0.4	-	46	-	15	-	<0.1	25	-	33	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

NE Not Established

❶ CCME (2007) Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health

❷ US EPA Eco-Tox SSL

❸ ANZECC B levels

												Organophosphorous Pesticides	Other	PAH	PAH/Phenols																
						Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene	Chlorpyrifos	Actril (Ioxynil)	Benzo[b+j]fluoranthene	2-methylphenol	3-&4-methylphenol	4,6-Dinitro-2-methylphenol	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Carcinogenic PAHs (as B(a)P TPE)	Fluoranthene	Fluorene
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.2	0.5	0.5	0.2	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
AS2159 2009 Concrete Piles In Soil																															
AS2159 2009 Steel Piles In Soil																															
NEPM 2013 Table 1A(1) HILs Res A Soil							10				6		300	20	160															3	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion																															
0-1m																															
NEPM 2013 Table 1B(6) ESLs for Urban Res																															
0-2m																									0.7						
NEPM 2013 EILs																															
0-2m																															
LocCode	Sample_Depth_Range	Field_ID	Sampled_Date-Time	Env_Stds_Conditional_Matrix_Type																											
SP44	0-0.15	SP44/0.0-0.15	6/01/2023	SILT		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP45	0-0.15	SP45/0.0-0.15	6/01/2023	SILT		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP46	0-0.15	SP46/0.0-0.15	6/01/2023	SILT		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP47	0-0.15	SP47/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	-	-	-	<0.05	-	<0.05	<0.5	<0.2	-	<0.5	<0.2	<0.4	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP48	0-0.15	SP48/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.2	<0.5	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP49	0-0.15	SP49/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP50	0-0.15	SP50/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP51	0-0.15	SP51/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	-	-	-	<0.05	-	<0.05	<0.5	<0.2	-	<0.5	<0.2	<0.4	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP52	0-0.15	SP52/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP53	0-0.15	SP53/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP54	0-0.15	SP54/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.2	<0.5	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP55	0-0.15	SP55/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.2	<0.5	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP56	0-0.15	SP56/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	-	-	-	<0.05	-	<0.05	<0.5	<0.2	-	<0.5	<0.2	<0.4	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP57	0-0.15	QC01/060123	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP57	0-0.15	QC02/060123	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP57	0-0.15	SP57/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP58	0-0.15	SP58/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP59	0-0.15	SP59/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.2	<0.5	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP60	0-0.15	SP60/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	-	-	-	<0.05	-	<0.05	<0.5	<0.2	-	<0.5	<0.2	<0.4	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP61	0-0.15	SP61/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP62	0-0.15	SP62/0.0-0.15	6/01/2023	SILT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NE Not Established
1 CCME (2007) Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health
2 US EPA Eco-Tox SSL
3 ANZECC B levels

											Pesticides		Polychlorinated Biphenyls								TPH										
				Indeno(1,2,3-c,d)pyrene	Naphthalene	PAHs (Sum of total)	Phenanthrene	Phenol	Picloram	Pyrene	Bifenthrin	Mirex	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	C10-C16	C16-C34	C34-C40	F2-NAPHTHALENE	C6 - C9	C10 - C14	C15 - C28	C29-C36	+C10 - C36 (Sum of total)	C10 - C40 (Sum of total)	C6-C10
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	50	100	100	50	20	20	50	50	50	100	20
AS2159 2009 Concrete Piles In Soil																															
AS2159 2009 Steel Piles In Soil																															
NEPM 2013 Table 1A(1) HILs Res A Soil						300		3000	4500		600	10								1											
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion																															
0-1m					3|4|5																		110|230|280							
NEPM 2013 Table 1B(6) ESLs for Urban Res																						1300	5600	120							
0-2m																						300	2800	120							
NEPM 2013 EILs																															
0-2m																															
LocCode	**Sample_Depth_Range**	**Field_ID**	**Sampled_Date-Time**	**Env_Stds_Conditional_Matrix_Type**																											
SP44	0-0.15	SP44/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP45	0-0.15	SP45/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP46	0-0.15	SP46/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP47	0-0.15	SP47/0.0-0.15	6/01/2023	SILT	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<50	<100	<100	<50	<20	<20	<50	52	52	<100	<20
SP48	0-0.15	SP48/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	<0.5	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP49	0-0.15	SP49/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP50	0-0.15	SP50/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP51	0-0.15	SP51/0.0-0.15	6/01/2023	SILT	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<50	<100	<100	<50	<20	<20	<50	110	110	<100	<20
SP52	0-0.15	SP52/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP53	0-0.15	SP53/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP54	0-0.15	SP54/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	<0.5	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP55	0-0.15	SP55/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	<0.5	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP56	0-0.15	SP56/0.0-0.15	6/01/2023	SILT	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<50	<100	<100	<50	<20	<20	<50	60	60	<100	<20
SP57	0-0.15	QC01/060123	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP57	0-0.15	QC02/060123	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP57	0-0.15	SP57/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP58	0-0.15	SP58/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP59	0-0.15	SP59/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	<0.5	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP60	0-0.15	SP60/0.0-0.15	6/01/2023	SILT	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<50	<100	<100	<50	<20	<20	<50	<50	<50	<100	<20
SP61	0-0.15	SP61/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP62	0-0.15	SP62/0.0-0.15	6/01/2023	SILT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NE Not Established

❶ CCME (2007) Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health

❷ US EPA Eco-Tox SSL

❸ ANZECC B levels

	A	B	C	D	E	F	G	H	I	J	K	L
1	**UCL Statistics for Uncensored Full Data Sets**											
2												
3	User Selected Options											
4	Date/Time of Computation			12/01/2023 9:50:06 AM								
5	From File			WorkSheet.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Number of Bootstrap Operations			2000								
9												
10												
11	**pH**											
12												
13	**General Statistics**											
14	Total Number of Observations					11	Number of Distinct Observations					9
15							Number of Missing Observations					0
16	Minimum					5.3	Mean					6.964
17	Maximum					8	Median					6.9
18	SD					0.879	Std. Error of Mean					0.265
19	Coefficient of Variation					0.126	Skewness					-0.508
20												
21	**Normal GOF Test**											
22	Shapiro Wilk Test Statistic					0.941	**Shapiro Wilk GOF Test**					
23	5% Shapiro Wilk Critical Value					0.85	Data appear Normal at 5% Significance Level					
24	Lilliefors Test Statistic					0.129	**Lilliefors GOF Test**					
25	5% Lilliefors Critical Value					0.267	Data appear Normal at 5% Significance Level					
26	**Data appear Normal at 5% Significance Level**											
27												
28	**Assuming Normal Distribution**											
29	**95% Normal UCL**						**95% UCLs (Adjusted for Skewness)**					
30	95% Student's-t UCL					7.444	95% Adjusted-CLT UCL (Chen-1995)					7.356
31							95% Modified-t UCL (Johnson-1978)					7.437
32												
33	**Gamma GOF Test**											
34	A-D Test Statistic					0.29	**Anderson-Darling Gamma GOF Test**					
35	5% A-D Critical Value					0.728	Detected data appear Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic					0.134	**Kolmogrov-Smirnoff Gamma GOF Test**					
37	5% K-S Critical Value					0.255	Detected data appear Gamma Distributed at 5% Significance Level					
38	**Detected data appear Gamma Distributed at 5% Significance Level**											
39												
40	**Gamma Statistics**											
41	k hat (MLE)					65.7	k star (bias corrected MLE)					47.85
42	Theta hat (MLE)					0.106	Theta star (bias corrected MLE)					0.146
43	nu hat (MLE)					1446	nu star (bias corrected)					1053
44	MLE Mean (bias corrected)					6.964	MLE Sd (bias corrected)					1.007
45							Approximate Chi Square Value (0.05)					978.3
46	Adjusted Level of Significance					0.0278	Adjusted Chi Square Value					966.6
47												
48	**Assuming Gamma Distribution**											
49	95% Approximate Gamma UCL (use when n>=50))					7.493	95% Adjusted Gamma UCL (use when n<50)					7.583
50												
51	**Lognormal GOF Test**											
52	Shapiro Wilk Test Statistic					0.929	**Shapiro Wilk Lognormal GOF Test**					
53	5% Shapiro Wilk Critical Value					0.85	Data appear Lognormal at 5% Significance Level					
54	Lilliefors Test Statistic					0.133	**Lilliefors Lognormal GOF Test**					
55	5% Lilliefors Critical Value					0.267	Data appear Lognormal at 5% Significance Level					
56	**Data appear Lognormal at 5% Significance Level**											
57												
58	**Lognormal Statistics**											

	A	B	C	D	E	F	G	H	I	J	K	L
59					Minimum of Logged Data	1.668					Mean of logged Data	1.933
60					Maximum of Logged Data	2.079					SD of logged Data	0.131
61												
62					Assuming Lognormal Distribution							
63					95% H-UCL	7.514					90% Chebyshev (MVUE) UCL	7.794
64					95% Chebyshev (MVUE) UCL	8.17					97.5% Chebyshev (MVUE) UCL	8.691
65					99% Chebyshev (MVUE) UCL	9.714						
66												
67					Nonparametric Distribution Free UCL Statistics							
68					Data appear to follow a Discernible Distribution at 5% Significance Level							
69												
70					Nonparametric Distribution Free UCLs							
71					95% CLT UCL	7.4					95% Jackknife UCL	7.444
72					95% Standard Bootstrap UCL	7.377					95% Bootstrap-t UCL	7.367
73					95% Hall's Bootstrap UCL	7.354					95% Percentile Bootstrap UCL	7.355
74					95% BCA Bootstrap UCL	7.336						
75					90% Chebyshev(Mean, Sd) UCL	7.759					95% Chebyshev(Mean, Sd) UCL	8.119
76					97.5% Chebyshev(Mean, Sd) UCL	8.619					99% Chebyshev(Mean, Sd) UCL	9.6
77												
78					Suggested UCL to Use							
79					95% Student's-t UCL	7.444						
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
83	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.											
84	For additional insight the user may want to consult a statistician.											
85												
86	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
87	reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.											
88												

Field Blanks (WATER)
Filter: SDG in('06 Jan 2023')

SDG	6-Jan-23
Field ID	RB01/060123
Sampled_Date/Time	6/01/2023 11:05
Sample Type	Rinsate

Chem_Group	ChemName	Units	EQL	
Halogenated Benzenes	Hexachlorobenzene	µg/l	0.2	<0.2
Lead	Lead	mg/l	0.001	<0.001
Metals	Arsenic	mg/l	0.001	<0.001
	Cadmium	mg/l	0.0002	<0.0002
	Chromium (III+VI)	mg/l	0.001	<0.001
	Copper	mg/l	0.001	<0.001
	Mercury	mg/l	0.0001	<0.0001
	Nickel	mg/l	0.001	<0.001
	Zinc	mg/l	0.005	<0.005
Organochlorine Pesticides	4,4-DDE	µg/l	0.2	<0.2
	a-BHC	µg/l	0.2	<0.2
	Aldrin	µg/l	0.2	<0.2
	Aldrin + Dieldrin	µg/l	0.2	<0.2
	b-BHC	µg/l	0.2	<0.2
	chlordane	µg/l	2	<2
	d-BHC	µg/l	0.2	<0.2
	DDD	µg/l	0.2	<0.2
	DDT	µg/l	0.2	<0.2
	DDT+DDE+DDD	µg/l	0.2	<0.2
	Dieldrin	µg/l	0.2	<0.2
	Endosulfan I	µg/l	0.2	<0.2
	Endosulfan II	µg/l	0.2	<0.2
	Endosulfan sulphate	µg/l	0.2	<0.2
	Endrin	µg/l	0.2	<0.2
	Endrin aldehyde	µg/l	0.2	<0.2
	Endrin ketone	µg/l	0.2	<0.2
	g-BHC (Lindane)	µg/l	0.2	<0.2
	Heptachlor	µg/l	0.2	<0.2
	Heptachlor epoxide	µg/l	0.2	<0.2
	Methoxychlor	µg/l	0.2	<0.2
	Toxaphene	mg/l	0.005	<0.005

Field Duplicates (SOIL)
Filter: SDG in('06 Jan 2023')

SDG	6-Jan-23	6-Jan-23		6-Jan-23	6-Jan-23	
Field ID	SP57/0.0-0.15	QC01/060123	**RPD**	SP57/0.0-0.15	QC02/060123	**RPD**
Sampled Date/Time	6/01/2023 10:41	6/01/2023 10:41		6/01/2023 10:41	6/01/2023 10:41	

Chem_Group	ChemName	Units	EQL						
OCP	Vic EPA IWRG 621 OCP (Total)*	mg/kg	0.1	<0.1	<0.1	0	<0.1		
	Vic EPA IWRG 621 Other OCP (Total)*	mg/kg	0.1	<0.1	<0.1	0	<0.1		
Halogenated Benzenes	Hexachlorobenzene	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
Inorganics	Moisture Content (dried @ 103°C)	%	1	18.0	15.0	18	18.0		
Lead	Lead	mg/kg	5	13.0	13.0	0	13.0	14.0	7
Metals	Arsenic	mg/kg	2 (Primary): 5 (Interlab)	3.8	4.0	5	3.8	<5.0	0
	Cadmium	mg/kg	0.4 (Primary): 1 (Interlab	<0.4	<0.4	0	<0.4	<1.0	0
	Chromium (III+VI)	mg/kg	5 (Primary): 2 (Interlab)	57.0	59.0	3	57.0	50.0	13
	Copper	mg/kg	5	17.0	18.0	6	17.0	16.0	6
	Mercury	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0
	Nickel	mg/kg	5 (Primary): 2 (Interlab)	31.0	33.0	6	31.0	27.0	14
	Zinc	mg/kg	5	24.0	28.0	15	24.0	17.0	34
Organochlorine Pesticides	4,4-DDE	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	a-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Aldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Aldrin + Dieldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	b-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	chlordane	mg/kg	0.1 (Primary): 0.05 (Inter	<0.1	<0.1	0	<0.1	<0.05	0
	d-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	DDD	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	DDT	mg/kg	0.05 (Primary): 0.2 (Inter	<0.05	<0.05	0	<0.05	<0.2	0
	DDT+DDE+DDD	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Dieldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan I	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan II	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan sulphate	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin aldehyde	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin ketone	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	g-BHC (Lindane)	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Heptachlor	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Heptachlor epoxide	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Methoxychlor	mg/kg	0.05 (Primary): 0.2 (Inter	<0.05	<0.05	0	<0.05	<0.2	0
	Toxaphene	mg/kg	0.5	<0.5	<0.5	0	<0.5		

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 80 (1-10 x EQL); 50 (10-30 x EQL); 30 (> 30 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Appendix D Environmental Site Assessments Pty Ltd Landfill Gas and Odour Validation Report (2023)

Environmental Site Assessments Pty Ltd

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Environmental
SITE ASSESMENTS

LANDFILL GAS AND ODOUR VALIDATION PROGRAM

76-156 Canterbury Road East, 705-775 & 785-805 Princes Hwy, Lara

Prepared for

Lara Farms Pty Ltd

Document Control

Environmental Site Assessments Pty Ltd

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Report Title:	Landfill Gas and Odour Validation Program - 76-156 Canterbury Road East, 705-775 & 785-805 Princes Hwy, Lara
Doc. Ref:	ESA/2023/013
Client:	Lara Farms Pty Ltd
Signatures:	Prepared and Authorised by: Seton Lillas BSc *Waik.* CEnvP Principal Environmental Scientist

Revision Status

Revision #	Status	Date	Author
1	Final	7 March 2023	Seton Lillas

Documents Distribution

Revision #	Number of copies	Type	Recipient	Position and Company
1	1	Email	Matt Deledio	Development Manager – Costa Property Group
1	1	Email	David Nunn	Environmental Auditor – AAA Environmental

Contents

Appendices

1.0 INTRODUCTION

Environmental Site Assessments Pty Ltd ('ESA') was engaged by Lara Farms Pty Ltd ('the Client') to undertake a Landfill Gas and Odour Validation Program at 76-156 Canterbury Road East, 705-775 & 785-805 Princes Hwy, Lara ('the Site'). The client intends to develop the site for a sensitive ('low-density') land use.

As part of their planning permit conditions the client is required to undertake a Preliminary Risk Screen Assessment ('PRSA') of the site. The client has engaged EPA Accredited Auditor Mr David Nunn of AAA Environmental to oversee the PRSA.

ESA previously undertook an assessment of the site that is detailed in the report "Environmental Assessment - 76-156 Canterbury Road East, 705-775 Princes Hwy & 785-805 Princes Hwy, Lara – ESA/447/2019 (09/12/2022) – Environmental Site Assessments Pty Ltd".

The findings of the environmental assessment were as follows:

Conclusions	There is a Low likelihood of chemical contamination of soil in the paddocks due to application of fertilisers and/or herbicides. There is a Low likelihood of contamination of soil at the site due to industrial waste. There is a Low probability of occurrence of Acid Sulfate soils on-site. The site is surrounded by low-risk properties. There is no apparent soil staining, soil discolouration or odours at the site. There is no apparent asbestos contamination. There is no apparent Prescribed Industrial Waste or Putrescible Waste. There is no apparent imported fill on-site.
Risk of Contamination	Based on all available information, this soil at the site has a Low risk of contamination. All soils analysed were BELOW the upper thresholds for NEPM HIL A, HSL A/B and ESLs (Urban Residential). As per the Ministerial Direction No. 1, Zone 1 of the site is suitable for a sensitive use (defined as residential, child-care centre, pre-school centre or primary school), agriculture or public open space.

ESA then undertook a further soil investigation that is detailed in the report "Further Soil Investigation - 76-156 Canterbury Road East, 705-775 & 785-805 Princes Hwy, Lara – ESA/2023/005 (12 January 2023) – Environmental Site Assessments Pty Ltd".

The conclusions of the investigation were as follows:

- Additional soil samples were collected on-site on 6 January 2023 by ESA to provide information to assist a PRSA. Samples were analysed for COPCs at NATA accredited laboratories.
  The results were compared with:
  - National Environment Protection (Assessment of Site Contamination) Measure 1999 (As Amended) HIL A, HSL A/B and ESLs/EILs (Urban Residential); and
  - AS 2159-2009 - Piling - Design and installation.
- The results were as follows:
  - There were two pH results in excess of the HIL A upper threshold and EILs (6-8);
  - There were no results in excess of HSL A/B or ESLs (Urban Residential); and
  - The soils were classified as "Mild/Non-Aggressive" for concrete piles and "Non-Aggressive" for steel piles.
- All soils encountered were aesthetically suitable for a sensitive use and no Asbestos Containing Material ('ACM') was observed.
- ESA asserts that the low soil pH values exceeding HIL A and EILs are naturally occurring and hence, not pollution.

As part of the PRSA, validation that landfill gas and odours do not impact the site is required due to the proximity of the site to a closed landfill and various industry.

1.1 Scope of Work Undertaken

Based on the project understanding, ESA undertook the following scope of works:

- The installation of two landfill gas bores (**Appendix 1**) on the southeast of the site;
- Two landfill gas validation events at least one month apart;
- Two odour validation events; and
- A report of the findings, conclusions and recommendations.

2.0 LANDFILL GAS VALIDATION PROGRAM

2.1 Background

As part of the historical review of the site, a closed landfill (Corio Landfill) was identified 354m to the south at 1500-1580 Biddlecombe Ave, Corio. The landfill (landfill register # 11077) closed in 2011 but formerly accepted asbestos, contaminated soil (Cat C), tyres (shredded), solid inert waste, putrescible waste, tannery & wool scouring waste, commercial food waste and green waste.

The landfill is the subject of an ongoing environmental audit and also has a gas extraction system installed to reduce the likelihood of landfill gas ('LFG') migration off-site. Mr Peter J Ramsey is the Auditor.

As part of the audit, an assessment of landfill gas (both surface and sub-surface) was undertaken. Mr Ramsey concluded in his report dated October 2017 (CARMS ID: 59647-15):

"LFG monitoring results indicate only low carbon dioxide concentrations and no methane above the Action levels. This is reasonably consistent since the beginning of LFG monitoring (November 2011). In view of this, it is considered likely that there is negligible impact due to LFG to the on-site and nearby off-site receptors."

Based on this statement and the distance to site from the former landfill, the likelihood of lateral migration of LFG is considered to be low.

To validate this, two sub-surface landfill gas monitoring bores (LFG01 & LFG02) were installed on-site by Drillworx on 18 January 2023 (**Appendix 2**). It was noted that the top 500mm of soil was reworked natural soil as the site has been used for cropping in the past which would have required ploughing.

Both monitoring bores were installed in accordance with EPA Publication 788.3 to a depth of 6m below ground surface, with a screened section between 1m and 6m below ground level. A 0.5m bentonite and concrete seal and casing section was then installed back to surface and the casing fitted with a quick connect landfill gas cap.

Sub-surface geology encountered is shown in **Appendix 2**. No fill or putrescible waste was encountered during installation of the monitoring bores. No volatile organic compounds were detected during installation while using a photoionisation detector ('PID'). Both bores were tested for leaks and none were detected. The PID calibration form is in **Appendix 3**.

Groundwater was not encountered during drilling and installation works.

2.2 LFG Validation Event – 30 January 2023

The first round of sub-surface landfill gas validation was undertaken on 30 January 2023.

Sub-surface landfill gas emissions monitoring was undertaken in general accordance with "EPA Publication 1684 Landfill gas fugitive emissions monitoring guideline, 2018" using a GA5000 landfill gas analyser.

Flow rate and pressure measurements were undertaken prior to monitoring and recording of gas concentrations. Monitoring results were taken over a 3-minute period for methane, carbon dioxide, carbon monoxide, hydrogen sulphide, oxygen, and balance gases.

Flow, pressure, and gas concentration measurements are presented in **Appendix 4**.

A summary of the recorded landfill gas emissions and flow rate are presented in the table below showing peak conditions from the emissions monitoring undertaken.

Table 2.2.1 Peak recorded landfill gas concentrations and flow rate (LFG01)

Methane (%v/v)	Carbon Dioxide (%v/v)	Oxygen (%v/v)	Carbon Monoxide (ppm)	Hydrogen Sulfide (ppm)	Balance (%v/v)	Flow Rate (L/hr.)
0.0	0.1	20.5	0.0	0.0	79.4	0.3

Landfill gas emissions monitoring detected a slightly elevated concentration of permanent gas carbon dioxide (0.1% v/v) at levels consistent with concentrations attributed in CIRIA C665, 2007 to made ground (reworked natural ground) as a source i.e. carbon dioxide 0-10% v/v.

Table 2.2.2 Peak recorded landfill gas concentrations and flow rate (LFG02)

Methane (%v/v)	Carbon Dioxide (%v/v)	Oxygen (%v/v)	Carbon Monoxide (ppm)	Hydrogen Sulfide (ppm)	Balance (%v/v)	Flow Rate (L/hr.)
0.3	0.9	19.1	0.0	0.0	79.7	0.0

Landfill gas emissions monitoring detected elevated concentrations of permanent gases methane (0.3%v/v) and carbon dioxide (0.9%v/v) at levels consistent with concentrations attributed in CIRIA C665, 2007 to made ground (reworked natural ground) as a source i.e. methane 0-20% v/v, carbon dioxide 0-10% v/v.

Daily observations for 30 January 2023 from the closest weather station (Avalon) sourced from the Bureau of Meteorology ('BOM') showed that monitoring was conducted during a period of shallow low barometric pressure, of approximately 1013 – 1015 hPa.

No rainfall occurred during the 24-hour period encompassing the monitoring works (0 mm).

Observations from the nearest weather station at Avalon, approximately 4km east of the site are presented in **Appendix 5**.

Both monitoring bores were noted to be in good condition and, consistent with *EPA Publication 1684*, there were no apparent leaks able to be seen in the gas balance, pressure and flow monitoring data and low to no flow rate detected.

A calibration certificate for the GA5000 landfill gas analyser is presented in **Appendix 4**.

2.3 LFG Monitoring Event – 27 February 2023

The second round of sub-surface landfill gas validation was undertaken on 27 February 2023.

Sub-surface landfill gas emissions monitoring was undertaken in general accordance with "EPA Publication 1684 Landfill gas fugitive emissions monitoring guideline, 2018" using a GA5000 landfill gas analyser.

Flow rate and pressure measurements were undertaken prior to monitoring and recording of gas concentrations. Monitoring results were taken over a 3-minute period for methane, carbon dioxide, carbon monoxide, hydrogen sulphide, oxygen, and balance gases.

Flow, pressure, and gas concentration measurements are presented in **Appendix 4**.

A summary of the recorded landfill gas emissions and flow rate are presented in the table below showing peak conditions from the emissions monitoring undertaken.

Table 2.3.1 Peak recorded landfill gas concentrations and flow rate (LFG01)

Methane (%v/v)	Carbon Dioxide (%v/v)	Oxygen (%v/v)	Carbon Monoxide (ppm)	Hydrogen Sulfide (ppm)	Balance (%v/v)	Flow Rate (L/hr.)
0.0	2.1	19.1	0.0	0.0	78.8	0.0

Landfill gas emissions monitoring detected a slightly elevated concentration of permanent gas carbon dioxide (2.1% v/v) at levels consistent with concentrations attributed in CIRIA C665, 2007 to made ground (reworked natural ground) as a source i.e. carbon dioxide 0-10% v/v.

Table 2.3.2 Peak recorded landfill gas concentrations and flow rate (LFG02)

Methane (%v/v)	Carbon Dioxide (%v/v)	Oxygen (%v/v)	Carbon Monoxide (ppm)	Hydrogen Sulfide (ppm)	Balance (%v/v)	Flow Rate (L/hr.)
0.0	1.8	20.1	0.0	0.0	78.1	0.0

Landfill gas emissions monitoring detected a slightly elevated concentration of permanent gas carbon dioxide (1.8% v/v) at levels consistent with concentrations attributed in CIRIA C665, 2007 to made ground (reworked natural ground) as a source i.e. carbon dioxide 0-10% v/v.

Daily observations for 30 January 2023 from the closest weather station (Avalon) sourced from the BOM showed that monitoring was conducted during a period of shallow low barometric pressure, of approximately 1015.7 hPa.

Minimal rainfall occurred during the 24-hour period encompassing the monitoring works (0.4 mm).

Observations from the nearest weather station at Avalon, approximately 4km east of the site are presented in **Appendix 5**.

Both monitoring bores were noted to be in good condition and, consistent with *EPA Publication 1684*, there were no apparent leaks able to be seen in the gas balance, pressure and flow monitoring data and low to no flow rate detected.

A calibration certificate for the GA5000 landfill gas analyser is presented in **Appendix 4**.

3.0 ODOUR VALIDATION PROGRAM

3.1 Odour Validation Event – 18 January 2023

An odour validation event ('OVE') was undertaken on-site by ESA staff on 18 January 2023. The OVE was undertaken in-line with "NSW EPA – Guide to conducting field odour surveys – June 2022". The locations of the OVE are presented in **Appendix 6** and the field notes are **Appendix 7**. No odours were detected at any of the locations chosen across the site.

3.2 Odour Validation Event – 30 January 2023

An odour validation event ('OVE') was undertaken on-site by ESA staff on 30 January 2023. The OVE was undertaken in-line with "NSW EPA – Guide to conducting field odour surveys – June 2022". The locations of the OVE are presented in **Appendix 6** and the field notes are **Appendix 7**. No odours were detected at any of the locations chosen across the site.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

- The site was historically used for farming purposes.
- A previous investigation undertaken by ESA concluded that the site soils had a low risk of contamination.
- Additional soil samples were collected on-site on 6 January 2023 by ESA to provide information to assist a PRSA.
- Samples were analysed for COPCs at NATA accredited laboratories. The results were compared with:
    - National Environment Protection (Assessment of Site Contamination) Measure 1999 (As Amended) HIL A, HSL A/B and ESLs/EILs (Urban Residential); and
    - AS 2159-2009 - Piling - Design and installation.
- The results were as follows:
    - There were two pH results in excess of the HIL A upper threshold and EILs (6-8);
    - There were no results in excess of HSL A/B or ESLs (Urban Residential); and
    - The soils were classified as "Mild/Non-Aggressive" for concrete piles and "Non-Aggressive" for steel piles.
    - All soils encountered were aesthetically suitable for a sensitive use and no Asbestos Containing Material ('ACM') was observed.
- ESA asserts that the low soil pH values exceeding HIL A and EILs are naturally occurring and hence, not pollution.
- ESA undertook a Landfill Gas and Odour Validation program on-site to validate that the site was not impacted by either due to the proximity to a closed landfill to the east and industrial sites to the west.
- The landfill is the subject of an ongoing environmental audit and also has a gas extraction system installed to reduce the likelihood of landfill gas ('LFG') migration off-site. Mr Peter J Ramsey is the Auditor.
- As part of the audit, an assessment of landfill gas (both surface and sub-surface) was undertaken. Mr Ramsey concluded in his report dated October 2017 (CARMS ID: 59647-15): "LFG monitoring results indicate only low carbon dioxide concentrations and no methane above the Action levels. This is reasonably consistent since the beginning of LFG monitoring (November 2011). In view of this, it is considered likely that there is negligible impact due to LFG to the on-site and nearby off-site receptors."
- Based on this statement and the distance to site from the former landfill, the likelihood of lateral migration of LFG is considered to be low.
- The results of the landfill gas validation events undertaken on-site verified that the site is not impacted by landfill gas migration from the closed landfill.
- No odours were noted by ESA during either of the two validation events undertaken on-site.

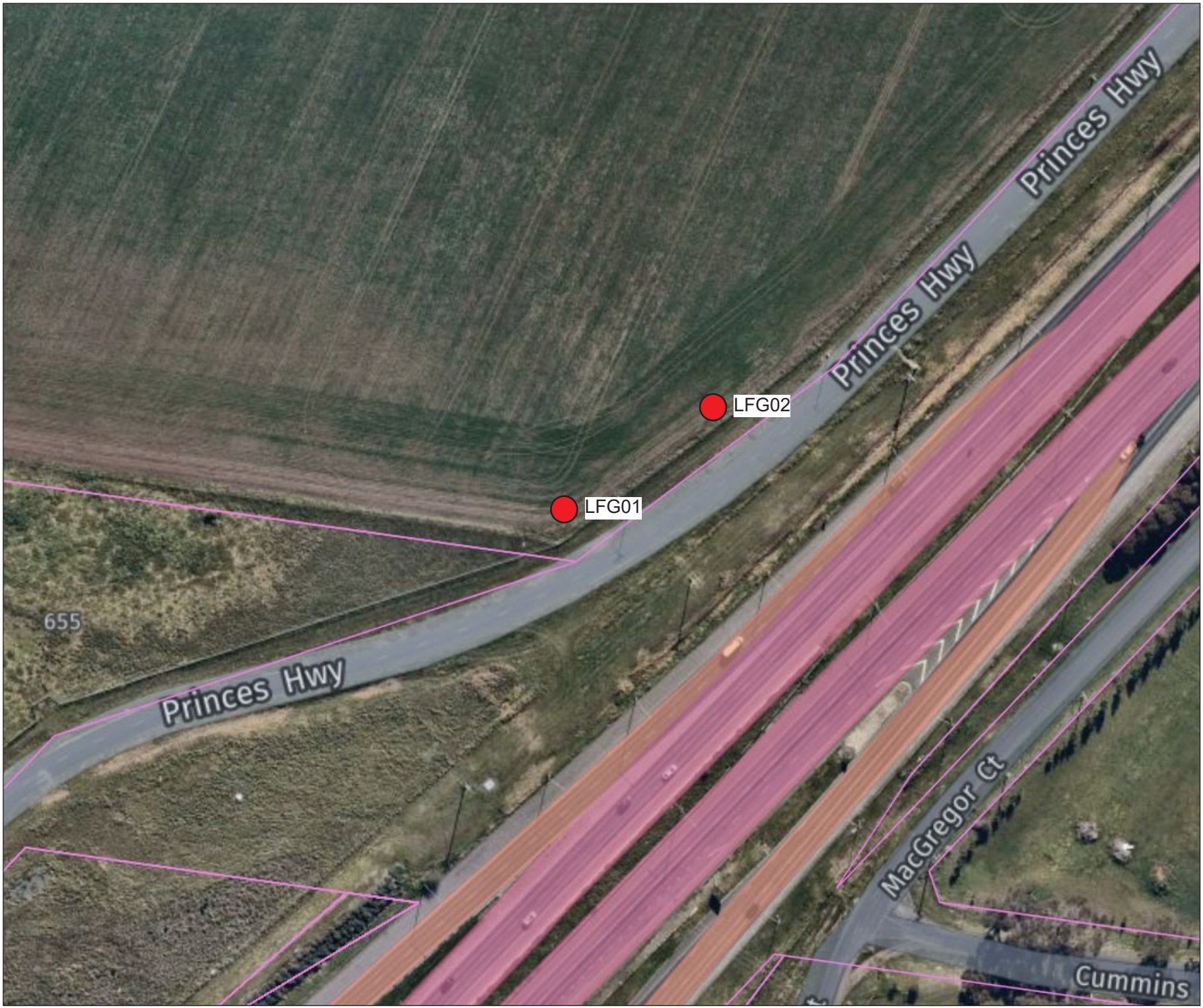
4.2 Recommendations

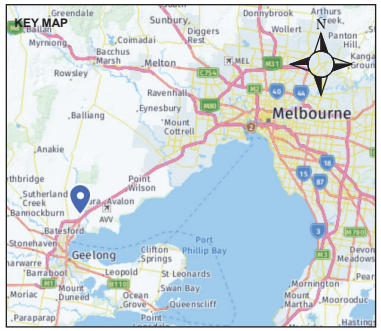
- No further investigation is required.

4.0 REFERENCES

- Department of Environment, Land, Water and Planning – Potentially Contaminated Land – Planning Practice Note 30 (July 2021).
- EPA Victoria - Publication 1828.2 – Waste Disposal Categories – Characteristics and Thresholds
- Friebel and Nadebaum (2011). CRC Care Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater.
- Ministerial Direction No. 1 – Potentially Contaminated Land ('Direction No. 1').
- National Environment Protection (Assessment of Site Contamination) Measure 1999 (As Amended).
- NSW EPA – Guide to conducting field odour surveys – June 2022.
- Standards Australia (2005). Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 1: Non-volatile and Semi-Volatile Compounds. Australian Standard AS 4482.1-2005.
- Standards Australia (1999). Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 2: Volatile Substances. Australian Standard AS 4482.2-1999.
- Standards Australia (1993) – Geotechnical Site Investigations AS 1726-1993.
- State Government of Victoria - Environment Protection Act 2017.
- State Government of Victoria – Environment Protection Regulations 2021.
- State Government of Victoria - Environment Reference Standard (26 May 2021).
- UK Construction Industry Research and Information Association (CIRIA) Publication C665 Assessing risks posed by hazardous ground gases to buildings, 2007.

Appendix 1: Landfill Gas Bore Locations





LEGEND

Sample Point

CLIENT
LARA FARMS PTY LTD

PROJECT
LANDFILL GAS / ODOUR VALIDATION

TITLE
BORE LOCATIONS

CONSULTANT

Environmental SITE ASSESMENTS

DD-MM-YYYY	19-01-2023
DESIGNED	SL
PREPARED	SL
APPROVED	SL

PROJECT NO.	REV.	FIGURE
ESA/2023/013	1	1

0 Metres 22

Environmental
SITE ASSESMENTS

Appendix 2: Bore Installation Logs

Environmental SITE ASSESMENTS

BOREHOLE NUMBER: LFG01

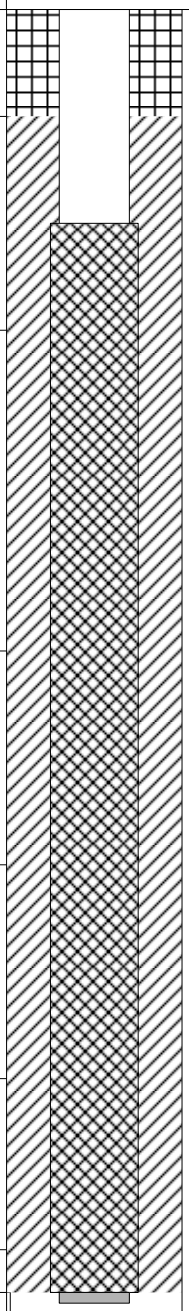
Client Lara Farms Pty Ltd
Project Number ESA/2023/013
Date Started 18/01/23 **Date Completed** 18/01/23
Drilling Contractor Drillworx
Equipment Geoprobe
Hole Size 50 inch

Project Name LFG/Odour Validation
Location Lara
Hole Location (GPS) -38.051660, 144.396450

Logged By S. Lillas
Notes

Depth (m)	Graphic Log	Classification Symbol	Material Description	PID (ppm)	Odour/ Staining
0		ML	CLAYEY SILT: High Plasticity, Brown, Firm, Dry	0.0	Nil
1		CL	CLAY: High Plasticity, Brown/White, Firm, Moist	0.0	Nil
2		GW	WEATHERED BASALT: Low Plasticity, Brown, Loose, Dry	0.0	Nil
3		GW	WEATHERED BASALT: Low Plasticity, Brown/Yellow, Loose, Dry	0.0	Nil
4		GW	WEATHERED BASALT: Low Plasticity, Brown, Loose, Dry	0.0	Nil
5		GW	WEATHERED BASALT: Low Plasticity, Brown/Orange, Loose, Dry	0.0	Nil
6		CL	CLAY: High Plasticity, Orange, Firm, Moist	0.0	Nil

Well Construction



Legend Title
- Bentonite
- Cap
- Casing
- Concrete
- Graded 8/16 Gravel
- Screen

Environmental SITE ASSESMENTS

BOREHOLE NUMBER: LFG02

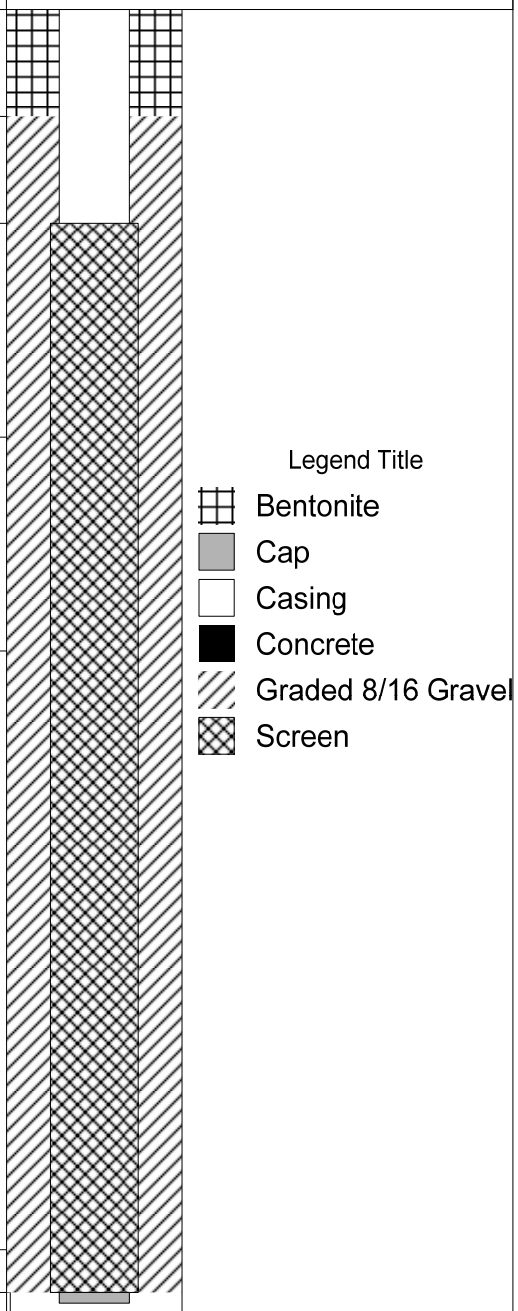
Client Lara Farms Pty Ltd
Project Number ESA/2023/013
Date Started 18/01/23 **Date Completed** 18/01/23
Drilling Contractor Drillworx
Equipment Geoprobe
Hole Size 50 inch

Project Name LFG/Odour Validation
Location Lara
Hole Location (GPS) -38.05141, 14439691

Logged By S. Lillas
Notes

Depth (m)	Graphic Log	Classification Symbol	Material Description	PID (ppm)	Odour/ Staining
0		ML	CLAYEY SILT: High Plasticity, Brown, Firm, Dry	0.0	Nil
		GW	BASALT: Low Plasticity, Brown, Loose, Dry (Floater)	0.0	Nil
1		GW	WEATHERED BASALT: Low Plasticity, Brown, Loose, Dry	0.0	Nil
2		GW	WEATHERED BASALT: Low Plasticity, Red/Brown, Loose, Dry	0.0	Nil
3		GW	WEATHERED BASALT: Low Plasticity, Brown, Loose, Dry	0.0	Nil
4					
5					
		CL	CLAY: High Plasticity, Orange, Firm, Moist	0.0	Nil
6					

Well Construction



Environmental
SITE ASSESMENTS

Appendix 3: PID Calibration Form

AES
sensing safety

Calibration and Service Report – PID

Company:	Environmental Site Assessment	**Manufacturer:**	RAE	**Serial #:**	595-000843
Contact:	Seton Lillas	**Instrument:**	MINIRAE LITE SN: 595-000843	**Asset #:**	
Address:	Factory 4 6-10 Apparel Close Breakwater VIC 3219	**Model:**	MINIRAE LITE	**Part #:**	059-A126-100
		Configuration:	VOC	**Sold:**	25.03.2013
		Wireless:	-	**Last Cal:**	26.04.2022
Phone:	0433 747 187	**Network ID:**	-	**Job #:**	143806
Fax:		**Unit ID:**	-	**Cal Spec:**	
Email:	seton@envirositeassessments.c	**Details:**		**Order #:**	0028

Calibration Certificate

Sensor	Type	Serial No.	Span Gas	Concentration	Traceability Lot #	CF	Reading	
							Zero	Span
Oxygen								
LEL								
PID	050-0000-004. 10.6EV 1/2 INCH LAMP	1062R129024	Isobutylene	100 PPM	4311-1-1		0	100.2
Battery	059-3051-000. LI-ION BATTERY FOR MINIRAE							
Toxic 1								
Toxic 2								
Toxic 3								
Toxic 4	-.							
Toxic 5								
Toxic 6								

Calibrated/Repaired by: STEVE PEARSE Date: 24.10.2022 Next Due: 24.04.2023

Environmental
SITE ASSESMENTS

Appendix 4: LFG Validation Field Notes and GA5000 Calibration Certificates

Environmental
SITE ASSESMENTS

Project Number: ESA/2023/013			**LFG Bore ID:** LFG02			
Project Name: LFG/Odour Verification			**Bore Condition:** Good			
Site Address: 705-775 Princes Hwy, Lara			**Barometric Pressure (hPa) from BoM:** 1013-1015 hPa			
Date: 30/01/23	**Time Start:** 9:30	**Time Finish:** 11:10	**Relative Pressure (mBar) (LFG Monitoring Device):** 0 mBar			
Field Staff: S. Lillas + C. Ford			**Bore Flow Rate:** 0.0 l/hr			
Weather: Overcast, slight breeze			**LFG Monitoring Device:** GA5000			
LD* (ppm) <10% of shroud: 0.0 ppm			**LD* % in shroud:** 93.2 ppm			
Time (min)	**CH4 (% v/v)**	**CO2 (% v/v)**	**O2 (% v/v)**	**CO (ppm)**	**H2S (ppm)**	**Bal (%)**
Stabilisation Criteria (minutes)	**+/- 0.2%**	**+/- 0.2%**	**+/- 0.2%**	**+/- 5 ppm**	**+/- 5 ppm**	**-**
0.5	0.3	0.9	19.1	0	0	79.7
1	0.3	0.9	19.1	0	0	79.7
1.5	0.3	0.9	19.1	0	0	79.7
2	0.3	0.9	19.1	0	0	79.7
2.5	0.3	0.9	19.1	0	0	79.7
3	0.3	0.9	19.1	0	0	79.7

Take flow rate before gas concentrations.
*** Leak Detection Gas.**
Note BoM 24hr rainfall amount if applicable.

Environmental SITE ASSESMENTS

Project Number: ESA/2023/013	**LFG Bore ID:** LFG01
Project Name: LFG/Odour Verification	**Bore Condition:** Good
Site Address: 705-775 Princes Hwy, Lara	**Barometric Pressure (hPa) from BoM:** 1013-1015 hPa
Date: 30/01/23 **Time Start:** 9.30 **Time Finish:** 11.10	**Relative Pressure (mBar) (LFG Monitoring Device):** 0.03m Bar
Field Staff: S. Lillas + C. Ford	**Bore Flow Rate:** 0.3 l/hr
Weather: Overcast, slight breeze	**LFG Monitoring Device:** GAS000
LD* (ppm) <10% of shroud: 0.0ppm	**LD* % in shroud:** 90.4 ppm

Time (min) Stabilisation Criteria (minutes)	CH4 (% v/v) +/- 0.2%	CO2 (% v/v) +/- 0.2%	O2 (% v/v) +/- 0.2%	CO (ppm) +/- 5 ppm	H2S (ppm) +/- 5 ppm	Bal (%) -
0.5	0.0	0.1	20.5	0	0	79.4
1	0.0	0.1	20.5	0	0	79.4
1.5	0.0	0.1	20.5	0	0	79.4
2	0.0	0.1	20.5	0	0	79.4
2.5	0.0	0.1	20.5	0	0	79.4
3	0.0	0.1	20.5	0	0	79.4

Take flow rate before gas concentrations.
*** Leak Detection Gas.**
Note BoM 24hr rainfall amount if applicable.

Equipment Calibration Form
GA5000

enqip

Enqip #: 18591
Company: Environmental Site Assessment
Consultant: Seton Lillas
PO #: Credit Card
Certificate #: 27310

INSTRUMENT IDENTIFICATION

Model Number: GA5KA0F-100
Serial Number: G506198
Instrument Type: GTI - GA5000

INSPECTION RECORD

Date & Time: PASS
Flow Rate: 641 mL/min

CALIBRATION DETAILS

Sensor	Standard	Reading	Traceability Lot #
CH_4	N_2 UHP	0 %	10004-4
	2.5 %	2.5 %	220031
	60 %	60.0 %	10013-2
CO_2	5 %	5.0 %	10026-1
	40 %	40.0 %	10013-2
O_2	N_2 UHP	0 %	10004-4
	20.9 %	20.9 %	N/A
CO	N_2 UHP	0 ppm	10004-4
	100 ppm	100 ppm	220031
H_2S	N_2 UHP	0 ppm	10004-4
	25 ppm	25 ppm	10012-3

Calibration Successful: YES

Calibrated By: Matt Sorati

Test Date: 27/01/2023

enqip
116 Thistlethwaite St, South Melbourne 3205
P 1300 218 987
E info@enqip.com.au | **W** www.enqip.com.au

Environmental SITE ASSESMENTS

Project Number:				**LFG Bore ID:** LFG01			
Project Name: Lara Farms Pty Ltd.				**Bore Condition:** Good			
Site Address:				**Barometric Pressure (hPa) from BoM:** 1015.7			
Date: 27/2/23	**Time Start:** 8.45	**Time Finish:** 9.05		**Relative Pressure (mBar) (LFG Monitoring Device):** 0.03			
Field Staff: S. Villas				**Bore Flow Rate:** 0.0 l/hr			
Weather: Over cast, light rain				**LFG Monitoring Device:** GA5000			
LD* (ppm) <10% of shroud: –				**LD* % in shroud:** –			
Time (min)	**CH4 (% v/v)**	**CO2 (% v/v)**		**O2 (% v/v)**	**CO (ppm)**	**H2S (ppm)**	**Bal (%)**
Stabilisation Criteria (Minutes)	**+/- 0.2%**	**+/- 0.2%**		**+/- 0.2%**	**+/- 5 ppm**	**+/- 5 ppm**	-
0.5	0.0	2.1		19.1	0	0	78.8
1	0.0	2.1		19.1	0	0	78.8
1.5	0.0	2.1		19.1	0	0	78.8
2	0.0	2.1		19.1	0	0	78.8
2.5	0.0	2.1		19.1	0	0	78.8
3	0.0	2.1		19.1	0	0	78.8

Take flow rate before gas concentrations.
*** Leak Detection Gas.**
Note BoM 24hr rainfall amount if applicable.

vironmental Site Assessments Pty Ltd
t 4, 6-10 Apparel Close, Breakwater VIC 3219, Australia
e@esagroup.com.au | 0433 747 187 | esagroup.com.au

Environmental
SITE ASSESMENTS

Project Number:			**LFG Bore ID:** LFG02				
Project Name: Lara Farms Pty Ltd			**Bore Condition:** Good				
Site Address:			**Barometric Pressure (hPa) from BoM:** 1015.7				
Date: 27/2/23	**Time Start:** 9.05	**Time Finish:** 9.30	**Relative Pressure (mBar) (LFG Monitoring Device):** 0.07mb				
Field Staff: S.Villas			**Bore Flow Rate:** 0.0 l/hr				
Weather: Overcast, slight breeze			**LFG Monitoring Device:** GA5000				
LD* (ppm) <10% of shroud:			**LD* % in shroud:** –				
Time (min)	**CH4 (% v/v)**	**CO2 (% v/v)**	**O2 (% v/v)**	**CO (ppm)**	**H2S (ppm)**	**Bal (%)**	
Stabilisation Criteria (Minutes)	**+/- 0.2%**	**+/- 0.2%**	**+/- 0.2%**	**+/- 5 ppm**	**+/- 5 ppm**	**-**	
0.5	0.0	1.8	20.1	0	0	78.1	
1	0.0	1.8	20.1	0	0	78.1	
1.5	0.0	1.8	20.1	0	0	78.1	
2	0.0	1.8	20.1	0	0	78.1	
2.5	0.0	1.8	20.1	0	0	78.1	
3	0.0	1.8	20.1	0	0	78.1	

Take flow rate before gas concentrations.
*** Leak Detection Gas.**
Note BoM 24hr rainfall amount if applicable.

Environmental Site Assessments Pty Ltd

Unit 4, 6-10 Apparel Close, Breakwater VIC 3219, Australia
office@esagroup.com.au | 0433 747 187 | esagroup.com.au

Equipment Calibration Form
GA5000

Enqip #: 18671
Company: Environmental Site Assessment
Consultant: Seton Lillas
PO #: Credit Card
Certificate #: 27695

INSTRUMENT IDENTIFICATION

Model Number: GA5KA0F-100
Serial Number: G502985
Instrument Type: GTI - GA5000

INSPECTION RECORD

Date & Time: PASS
Flow Rate: 598 mL/min

CALIBRATION DETAILS

Sensor	Standard	Reading		Traceability Lot #
CH_4	N_2 UHP	0	%	10004-4
	2.5 %	2.5	%	302-402196958
	60 %	60.0	%	10013-2
CO_2	5 %	5.0	%	10026-5
	40 %	40.0	%	10013-2
O_2	N_2 UHP	0	%	10004-4
	20.9 %	20.9	%	N/A
CO	N_2 UHP	0	ppm	10004-4
	100 ppm	100	ppm	302-402196958
H_2S	N_2 UHP	0	ppm	10004-4
	25 ppm	25	ppm	10066-2

Calibration Successful: YES

Calibrated By: Matt Sorati **Test Date:** 24/02/2023

enqip
116 Thistlethwaite St, South Melbourne 3205
P 1300 218 987
E info@enqip.com.au | **W** www.enqip.com.au

Appendix 5: BOM Weather Observations

Avalon, Victoria
January 2023 Daily Weather Observations

Australian Government
Bureau of Meteorology

Date	Day	Temps		Rain	Evap	Sun	Max wind gust			9am						3pm					
		Min	Max				Dirn	Spd	Time	Temp	RH	Cld	Dirn	Spd	MSLP	Temp	RH	Cld	Dirn	Spd	MSLP
		°C	°C	mm	mm	hours		km/h	local	°C	%	eighths		km/h	hPa	°C	%	eighths		km/h	hPa
1	Su	17.0	37.7	0			WNW	46	22:36	22.6	74		ENE	11	1010.4	35.8	26	3	SW	9	1007.1
2	Mo	20.2	33.1	2.8			SSW	46	09:36	29.7	48	1	N	24	1004.7	23.6	64		S	30	1006.3
3	Tu	14.8	21.8	1.0			S	43	14:52	16.5	72	8	S	17	1010.7	19.7	57	8	SSW	31	1009.5
4	We	12.9	19.9	0.2			S	56	15:31	16.1	48	6	SSW	31	1011.4	17.7	55	8	S	39	1011.8
5	Th	14.0	22.8	0			SSW	50	14:00	16.9	76	8	SSE	26	1015.8	21.8	52		S	37	1015.5
6	Fr	14.8	24.8	0			SSE	50	16:44	18.8	66	1	ESE	30	1018.3	23.9	44		ESE	31	1016.3
7	Sa	10.7	28.5	0			ESE	46	23:04	19.0	64		E	15	1014.7	27.3	43		ESE	33	1011.6
8	Su	12.2	30.7	0			ESE	35	16:48	21.0	74		SE	9	1013.0	29.8	28		ESE	19	1010.7
9	Mo	14.6	28.5	0			S	56	15:18	23.7	56		SW	15	1012.4	23.5	63		S	41	1013.2
10	Tu	15.7	24.5	0			ESE	48	22:16	17.1	64	8	SSE	13	1016.7	23.2	54		E	17	1014.1
11	We	16.7	29.7	0			ESE	43	23:24	21.8	66		ENE	9	1011.4	29.1	52		S	28	1009.1
12	Th	13.9	26.1	0			S	39	17:19	16.3	89	8	WSW	17	1014.5	25.8	59		S	26	1014.1
13	Fr	15.4	26.7	0			S	41	16:57	20.3	73		SSE	11	1017.5	25.1	61	3	S	20	1015.8
14	Sa	19.4	38.3	0			NW	50	16:56	22.1	82	8	NE	13	1012.8	32.6	46		SE	19	1006.9
15	Su	17.3	22.4	0			WSW	54	00:41	18.1	66	8	S	35	1018.4	21.2	49	8	S	31	1020.2
16	Mo	13.3	27.9	0			ESE	30	21:00	18.3	73	8	E	13	1019.5	22.5	59	7	SE	15	1017.7
17	Tu	16.0	38.1	0			W	81	17:57	25.8	63		NE	11	1014.7	33.5	37	5	ESE	20	1009.3
18	We	18.1	19.0	4.8			S	50	16:11	18.7	93	8	W	17	1011.0	16.1	85	8	SSW	26	1012.6
19	Th	10.1	20.9	0.6			S	50	09:06	17.0	45	8	S	31	1017.4	19.4	44	8	S	33	1017.3
20	Fr	14.1	22.6	0			S	37	15:39	16.7	59	8	SE	13	1018.0	20.2	48	6	ESE	17	1016.3
21	Sa	11.1	24.5	0			S	48	16:53	17.2	84	2	WSW	13	1016.3	23.6	55	1	S	30	1014.8
22	Su	16.8	25.5	0			S	44	13:32	20.5	76	8	SE	20	1017.5	24.0	59	1	S	31	1015.8
23	Mo	15.1	27.0	0			ESE	33	14:15	18.8	78	8	NW	9	1016.3	25.6	51		ESE	24	1012.6
24	Tu	14.5	25.8	0			NW	57	12:51	20.8	85	5	WSW	2	1011.2	17.6	91	8	SW	28	1010.6
25	We	16.5	30.0	1.0			SSW	50	18:35	19.4	81	8	NNW	7	1012.1	25.8	62	5	S	26	1009.5
26	Th	13.3	23.2	0.2			S	43	13:39	17.3	81	8	WSW	13	1015.9	23.1	45	1	S	28	1016.5
27	Fr	9.6	28.5	0			ESE	30	08:04	18.6	58	1	E	17	1016.5	24.1	41		ESE	19	1013.3
28	Sa	10.7	34.0	0			SSW	46	15:11	27.9	22		NNE	26	1006.7	31.5	22		S	20	1007.2
29	Su	17.9	21.1	0.2			S	35	13:04	19.2	93	8	NNE	7	1012.7	19.5	82	8	S	24	1013.0
30	Mo	17.0	24.0	0			SSE	37	14:04	18.1	71	8	SE	15	1015.0	22.8	50	1	SSE	24	1012.5
31	Tu	12.1	24.2	0			S	35	15:45	16.1	77	8	W	11	1010.3	22.6	48	1	ESE	20	1007.7
Statistics for January 2023																					
	Mean	14.7	26.8							19.7	69	6		16	1014.0	24.3	52	5		25	1012.5
	Lowest	9.6	19.0							16.1	22	1	WSW	2	1004.7	16.1	22	1	SW	9	1006.3
	Highest	20.2	38.3	4.8			W	81		29.7	93	8	S	35	1019.5	35.8	91	8	S	41	1020.2
	Total			10.8																	

Observations were drawn from Avalon Airport {station 087113}

Some cloud observations are from automated equipment; these are somewhat different to those made by a human observer and may not appear every day.

IDCJDW3003.202301 Prepared at 13:01 UTC on 21 Feb 2023

Avalon, Victoria
February 2023 Daily Weather Observations

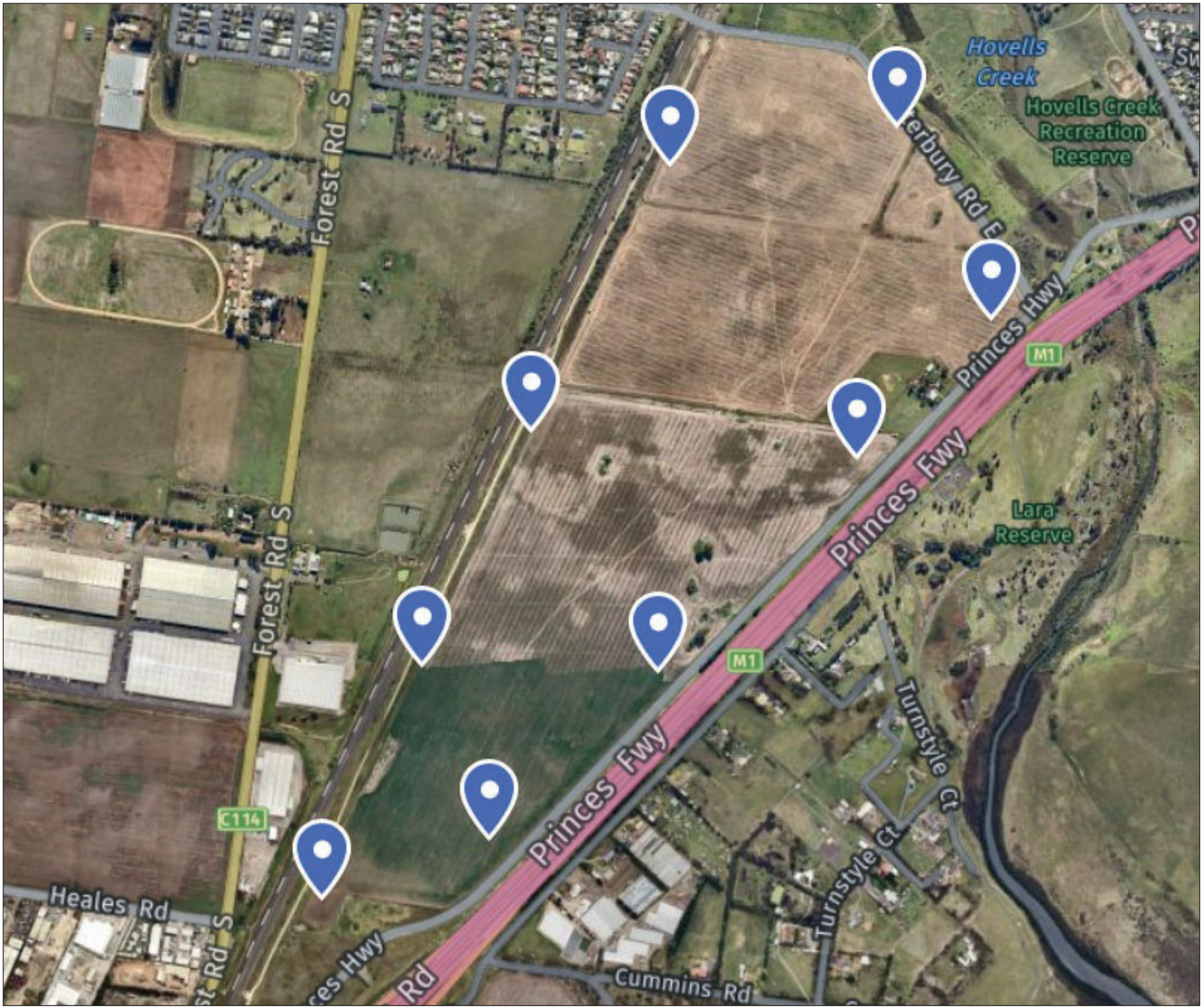
Australian Government
Bureau of Meteorology

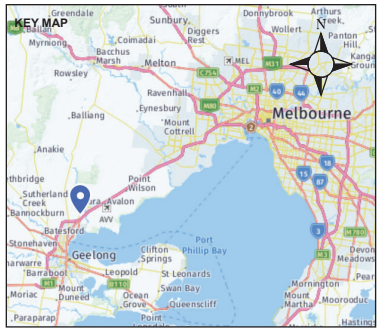
Date	Day	Temps		Rain	Evap	Sun	Max wind gust			9am						3pm					
		Min	Max				Dirn	Spd	Time	Temp	RH	Cld	Dirn	Spd	MSLP	Temp	RH	Cld	Dirn	Spd	MSLP
		°C	°C	mm	mm	hours		km/h	local	°C	%	eighths		km/h	hPa	°C	%	eighths		km/h	hPa
1	We	9.6	20.2	0			SSW	48	09:54	17.6	71	2	WNW	17	1006.4	17.9	59	7	S	26	1006.7
2	Th	12.7	23.3	0			WSW	72	14:27	16.1	47		NW	30	997.5	19.7	45	7	NW	37	988.8
3	Fr	9.5	18.8	2.2			WNW	61	11:13	12.5	64	8	NW	33	992.3	17.8	49	1	WNW	41	993.9
4	Sa	10.9	22.0	4.6			W	59	15:39	15.0	88	8	W	31	1004.2	20.0	49	7	WSW	33	1008.4
5	Su	12.3	19.8	0.2			W	35	05:44	16.8	71	1	W	20	1017.2	18.8	63	7	S	9	1017.6
6	Mo	14.5	23.0	0			S	33	16:19	16.4	75	8	WNW	13	1020.7	22.3	50		SSE	17	1019.8
7	Tu	14.8	21.7	0			S	39	16:52	17.6	63	8	SSW	13	1020.1	20.8	56	5	S	22	1018.8
8	We	13.3	22.9	0			SSE	33	15:19	18.0	65		SE	9	1017.5	22.4	56		S	17	1015.2
9	Th	14.3	27.2	0			SSW	35	15:13	19.1	75	1	S	6	1010.6	25.9	50		ESE	20	1007.6
10	Fr	13.0	27.1	0			S	35	14:25	15.5	96	8	NW	9	1007.4	26.0	52		S	24	1004.4
11	Sa	14.4	29.3	0			W	56	12:15	18.8	93		WNW	13	1000.5	26.6	46		WSW	28	1001.2
12	Su	16.2	22.2	0			S	54	13:32	17.7	72	8	WSW	17	1010.1	19.8	49	8	S	41	1012.5
13	Mo	12.4	21.5	0.2			SSW	44	12:22	16.3	64	8	S	17	1015.6	20.3	47	8	SSW	30	1014.9
14	Tu	9.2	23.3	0			SE	39	15:46	17.8	70		SE	20	1015.9	21.6	48		E	20	1014.4
15	We	8.7	31.4	0			SSE	37	17:14	16.9	75		NNE	9	1013.5	30.1	34		ESE	22	1011.3
16	Th	13.8	38.1	0			NNW	52	01:44	22.2	57		ENE	11	1012.5	37.8	16		NW	20	1010.2
17	Fr	21.0	40.8	0			NW	57	11:10	29.3	34	7	NNE	24	1008.7	30.1	40		S	46	1006.4
18	Sa	14.5	24.5	0			SSE	44	22:28	17.1	74	8	W	15	1014.7	23.7	50		E	24	1015.0
19	Su	11.2	27.2	0			S	37	16:26	17.2	80	5	W	13	1019.5	25.1	52		ESE	22	1017.3
20	Mo	11.4	26.0	0			S	39	15:25	16.2	91		W	6	1020.5	25.0	53		ESE	22	1020.6
21	Tu	16.2	21.5	0			ESE	59	22:46	17.2	69	8	SSE	28	1028.5	20.8	44		S	33	1028.8
22	We	15.6	28.6	0			ESE	59	23:51	20.3	59	5	E	26	1024.7	27.1	44		ESE	28	1021.7
23	Th	13.7	32.5	0			NNE	39	08:22	22.9	41		N	24	1020.3	31.2	31	1	ESE	24	1018.0
24	Fr	15.9	34.5	0			N	54	13:40	22.8	48		NNE	26	1016.6	33.2	27		NNE	28	1012.9
25	Sa	20.7	25.5	0			WSW	39	18:05	24.0	49	8	ESE	6	1012.2	20.9	82	8	ESE	11	1011.7
26	Su	13.0	24.5	0.6			WSW	44	13:03	16.0	80	7	W	24	1012.4	23.4	54	8	W	28	1011.4
27	Mo	15.5	20.4	0.4			S	39	14:00	16.0	93	8	SSW	15	1015.8	18.9	72	8	SSW	26	1016.1
28	Tu	15.5		0.2						15.8	78	8	SW	17	1013.6	18.0	63	8	SSW	22	1011.7
Statistics for the first 28 days of February 2023																					
	Mean	13.7	25.8							18.2	69	6		17	1013.2	23.8	49	6		25	1012.0
	Lowest	8.7	18.8							12.5	34	1	#	6	992.3	17.8	16	1	S	9	988.8
	Highest	21.0	40.8	4.6			WSW	72		29.3	96	8	NW	33	1028.5	37.8	82	8	S	46	1028.8
	Total			8.4																	

Observations were drawn from Avalon Airport {station 087113}
Some cloud observations are from automated equipment; these are somewhat different to those made by a human observer and may not appear every day.

IDCJDW3003.202302 Prepared at 05:36 UTC on 28 Feb 2023

Appendix 6: Odour Validation Locations





CLIENT
LARA FARMS PTY LTD

PROJECT
LANDFILL GAS / ODOUR VALIDATION

TITLE
OVE LOCATIONS

CONSULTANT
Environmental SITE ASSESMENTS

DD-MM-YYYY	19-01-2023
DESIGNED	SL
PREPARED	SL
APPROVED	SL

PROJECT NO.	REV.	FIGURE
ESA/2023/013	1	1

0 Metres 200

Environmental
SITE ASSESMENTS

Appendix 7: Odour Validation Field Notes

Odour survey field record sheet: rapid screening and 360-degree surveys

Assessor's name: S. Lillis Others present: – Date: 18/01/2023 Report no/s: 1 Sheet: 1 of 2

Reason for survey (circle): Rapid screening survey/360-degree survey/Other _____ General area/suburb of assessment: Lara

Location	Time	Wind speed	Wind direction	Was an odour detected?	Odour intensity	Odour character	Hedonic tone	Comments on the odour experience
Identification, description or GPS coordinates		Wind-gauge or Beaufort scale (see overleaf)	Measure with compass	(Y/N)	(Strength) See scale overleaf	(What does it smell like?) See list overleaf	(Pleasantness) See scale overleaf	Did the odour interfere with your comfort? If so, how? Were you impacted physically or mentally by the odour? If so, describe? Did you take any evasive actions due to the odour? If so, what?
-38.051635, 144.393441	9.00	17 km/hr	S	N	–	–	–	–
-38.047213, 144.395835	9.10	17 km/hr	S	N	–	–	–	–
-38.042762, 144.398463	9.20	16 km/hr	S	N	–	–	–	–
-38.037716, 144.401792	9.30	17 km/hr	S	N	–	–	–	–
-38.036965, 144.407281	9.40	18 km/hr	S	N	–	–	–	–
-38.040636, 144.409549	9.50	17 km/hr	S	N	–	–	–	–
-38.043258, 144.406291	10.00	18 km/hr	S	N	–	–	–	–
-38.047312, 144.401522	10.10	17 km/hr	S	N	–	–	–	–
-38.050487, 144.397455	10.20	17 km/hr	S	N	–	–	–	–

Consider plotting locations on a map. All parts of the field sheet should be completed. Avoid leaving sections blank.

Scale of odour intensity (strength)

Scale	Description
6	Extremely strong
5	Very strong
4	Strong
3	Distinct
2	Weak
1	Very weak
0	No odour

Scale of hedonic tone

Scale	Description
–4	Extremely unpleasant
–3	
–2	
–1	
0	Neutral
+1	
+2	
+3	
+4	Extremely pleasant

Beaufort scale for wind speed

Scale	Description	How to recognise	~m/s
0	Calm	Smoke rises straight up	0..0–0.2
1	Light air	Smoke drifts	0.3–1.5
2	Light breeze	Wind felt on face; leaves rustle	1.6–3.3
3	Gentle breeze	Flags flap; twigs move all the time	3.4–5.4
4	Moderate breeze	Papers blow; small branches move	5.5–7.9
5	Fresh breeze	Small trees sway	8.0–10.7
6	Strong breeze	Large branches move, wind whistles	10.8–13.8
7	Near gale	Whole trees sway	>13.8

Odour character description examples: add descriptions as appropriate

Number	Description	Number	Description	Number	Description	Number	Description
1	Fragrant	11	Bark-like	21	Like blood, raw meat	31	Like gasoline, solvent
2	Perfumy	12	Woody, resinous	22	Rubbish	32	Fishy
3	Sweet	13	Medicinal	23	Compost	33	Putrid, foul, decayed
4	Fruity	14	Burnt, smoky	24	Silage	34	Paint-like
5	Bakery (fresh bread)	15	Soapy	25	Sickening	35	Rancid
6	Coffee-like	16	Garlic, onion	26	Musty, earthy, mouldy	36	Sulphur smelling
7	Spicy	17	Cooked vegetables	27	Sharp, pungent, acid	37	Dead animal
8	Meaty (cooked, good)	18	Chemical	28	Metallic	38	Faecal (like manure)
9	Sea/marine	19	Etherish, anaesthetic	29	Tar-like	39	Sewer odour
10	Herbal, green, cut grass	20	Sour, acrid, vinegar	30	Oily, fatty	40	Other – please describe

Odour survey field record sheet: rapid screening and 360-degree surveys

Assessor's name: S. Lillas Others present: — Date: 30/01/2023 Report no/s: 2 Sheet: 1 of 2

Reason for survey (circle): Rapid screening survey/360-degree survey/Other _____ General area/suburb of assessment: Lara

Location	Time	Wind speed	Wind direction	Was an odour detected?	Odour intensity	Odour character	Hedonic tone	Comments on the odour experience
Identification, description or GPS coordinates		Wind-gauge or Beaufort scale (see overleaf)	Measure with compass	(Y/N)	(Strength) See scale overleaf	(What does it smell like?) See list overleaf	(Pleasantness) See scale overleaf	Did the odour interfere with your comfort? If so, how? Were you impacted physically or mentally by the odour? If so, describe? Did you take any evasive actions due to the odour? If so, what?
-38.051435, 144.393441	8.00	17 km/hr	SE	N	—	—	—	—
-38.047213, 144.395835	8.10	17 km/hr	SE	N	—	—	—	—
-38.042762, 144.398463	8.20	17 km/hr	SE	N	—	—	—	—
-38.037716 144.401792	8.30	19 km/hr	SSE	N	—	—	—	—
-38.036965 144.407281	8.40	19 km/hr	SSE	N	—	—	—	—
-38.040636, 144.409549	8.50	19 km/hr	SSE	N	—	—	—	—
-38.043258 144.406291	9.00	15 km/hr	SE	N	—	—	—	—
-38.047312, 144.401522	9.10	15 km/hr	SE	N	—	—	—	—
-38.050487, 144.397455	9.20	15 km/hr	SE	N	—	—	—	—

Consider plotting locations on a map. All parts of the field sheet should be completed. Avoid leaving sections blank.

Scale of odour intensity (strength)

Scale	Description
6	Extremely strong
5	Very strong
4	Strong
3	Distinct
2	Weak
1	Very weak
0	No odour

Scale of hedonic tone

Scale	Description
–4	Extremely unpleasant
–3	
–2	
–1	
0	Neutral
+1	
+2	
+3	
+4	Extremely pleasant

Beaufort scale for wind speed

Scale	Description	How to recognise	~m/s
0	Calm	Smoke rises straight up	0..0–0.2
1	Light air	Smoke drifts	0.3–1.5
2	Light breeze	Wind felt on face; leaves rustle	1.6–3.3
3	Gentle breeze	Flags flap; twigs move all the time	3.4–5.4
4	Moderate breeze	Papers blow; small branches move	5.5–7.9
5	Fresh breeze	Small trees sway	8.0–10.7
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Odour character description examples: add descriptions as appropriate

Number	Description	Number	Description	Number	Description	Number	Description
1	Fragrant	11	Bark-like	21	Like blood, raw meat	31	Like gasoline, solvent
2	Perfumy	12	Woody, resinous	22	Rubbish	32	Fishy
3	Sweet	13	Medicinal	23	Compost	33	Putrid, foul, decayed
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5	Bakery (fresh bread)	15	Soapy	25	Sickening	35	Rancid
6	Coffee-like	16	Garlic, onion	26	Musty, earthy, mouldy	36	Sulphur smelling
7	Spicy	17	Cooked vegetables	27	Sharp, pungent, acid	37	Dead animal
8	Meaty (cooked, good)	18	Chemical	28	Metallic	38	Faecal (like manure)
9	Sea/marine	19	Etherish, anaesthetic	29	Tar-like	39	Sewer odour
10	Herbal, green, cut grass	20	Sour, acrid, vinegar	30	Oily, fatty	40	Other – please describe

Appendix E Data Usability Assessment

Data Quality Evaluation

General

In accordance with the guidelines issued by EPA, the data quality has been reviewed with regard to compliance with Schedule B2 of the ASC NEPM.

Data Quality Objectives

The following table presents the Data Quality Objectives (DQO) established for the project by the Auditor.

Table F1 – Data Quality Objectives

Material	Disposal Site
State the Problem	Soil at the site may have been contaminated as a result of onsite historical activities. Soil contamination may pose a risk to the environment and/or human health in the context of the proposed development of the site for rural residential purposes.
Identify the Decision	To assess whether the identified potentially contaminating activities have resulted in contamination of soil which is significant with respect to risks to the environment and/or human health.
Identify Inputs into the Decision	The inputs required to make the decision include site history and setting information as well as data from the targeted site soil investigations.
Define the Boundaries of the Study	The study area is defined as the Site boundary as shown in Figure 1.
Develop a Decision Rule	The assessment criteria for the chemical substances of concern in soil are discussed in Section 5.
Specify Acceptable Limits of Decision Errors	Initially, the acceptable limits will be concentrations below the applicable criteria. If further assessment is required, an Environmental Audit will be recommended. If there is a risk of groundwater contamination as a result of soil contamination or historical site uses, then an Environmental Audit will be recommended.
Optimise the Design for Obtaining Data	Targeted sampling of soil is considered appropriate to supplement the information provided in the PSI and support the conclusions of the PRSA.

Sampling, Analysis and Quality Plans

The Auditor considers that the PSI reviewed by the Auditor contained adequate information relating to the DQOs, proposed scope of works, methodology and QA/QC.

Data Usability

The Auditor's assessments regarding the field and laboratory measures and QC results during the preliminary investigations completed by Environmental Site Assessments Pty Ltd are presented below in Table F2.

Table F2 – Data Usability Assessment – Soil Assessment

Aspect	DQI	Requirement	Auditor Assessment
Precision	Intra-Laboratory Duplicates (blind)	Collected at a rate of 1/20 primary samples for each sampling batch. Analysed for primary contaminants of concern at a minimum, with analysis for secondary contaminants of concern to be based on professional judgement. RPDs less than 30% should be considered as indicative of acceptable precision. RPDs above 30% should be discussed (i.e. likely cause, consequences for data interpretation).	Two blind duplicate samples were collected as part of the initial soils investigations completed at the site in 2019: • QC04 - duplicate of SP05/0-0.15, and • QC06 - duplicate of SP25/0-0.15. All calculated RPDs were all below the acceptance criterion. One blind duplicate sample was collected as part of the further soils investigations completed at the site in 2023. • QC01 - duplicate of SP57/0.0-0.15 All calculated RPDs were all below the acceptance criterion.
	Inter-laboratory duplicates (split)	Collected at a rate of 1/20 primary samples for each sampling batch. Analysed for primary contaminants of concern at a minimum, with analysis for secondary contaminants of concern to be based on professional judgement. RPDs less than 30% should be considered as indicative of acceptable precision. RPDs above 30% should be discussed (i.e. likely cause, consequences for data interpretation).	Two split duplicate samples were collected as part of the initial soils investigations completed at the site in 2019: • QC05 - duplicate of SP05/0-0.15, and • QC07 - duplicate of SP25/0-0.15. All calculated RPDs were all below the acceptance criterion with the following exceptions: • Barium (40% - QC05 and 67% QC07), • Total Chromium (50% - QC05 and 47% QC07), • Cobalt (53% - QC05 and 44% QC07), • Copper (40% - QC05 and 35% QC07), • Manganese (47% - QC05 and 38% QC07), • Nickel (40% - QC05 and 48% QC07), • Vanadium (51% - QC05 and 45% QC07), and • Zinc (63% - QC05). The secondary laboratory consistently reported the higher results for each duplicate pair. Both the primary and secondary laboratory results were below the screening

Aspect	DQI	Requirement	Auditor Assessment
			assessment criteria (with the exception of manganese which is considered naturally occurring) and so the variations reported would not influence the interpretation of the results. One split duplicate sample was collected as part of the further soils investigations completed at the site in 2023. • QC01 – duplicate of SP57/0.0-0.15 All calculated RPDs were all below the acceptance criterion with the exception of zinc (34%). The elevated RPD was considered to be the result of variations in relatively low concentrations.
	Laboratory duplicates	Laboratory duplicates to be performed as required by NATA accreditation. RPDs to be <30%. RPDs above 30% should be discussed (i.e. likely cause, consequences for data interpretation).	Laboratory duplicates were performed as necessary. RPDs were within acceptable limits
Accuracy	Field rinsate blanks	Collected at a rate of 1 per piece of decontaminated sampling equipment per day of sampling. Analysed for primary contaminants of concern at a minimum, with analysis for secondary contaminants of concern to be based on professional judgement. Laboratory results below laboratory reporting limits should be considered to be indicative of adequate decontamination procedures. Detections above laboratory reporting limits should be discussed (i.e. likely cause, consequences for data interpretation).	One rinsate blank (QC08) was collected during the soil sampling event in 2019. One rinsate / equipment blank (RB01/060123) was collected during the soil sampling event in 2023. The rinsate blanks reported all results below the LOR indicating a low risk of cross contamination occurring.
	Field blanks	Collected at a rate of 1 per day of sampling where primary contaminants of concern include volatiles. Analysed for volatiles of concern. Laboratory results below laboratory reporting limits should be considered to be indicative of no significant cross contamination in the field. Detections above laboratory reporting limits should be discussed (i.e. likely cause,	A field blank (QC03) was collected during the soil sampling event in 2019. The field blank reported all results below the LOR indicating a low risk of cross contamination occurring. Significant volatile contamination was not

Aspect	DQI	Requirement	Auditor Assessment
		consequences for data interpretation).	identified suggesting a low risk for this issue. The absence of a field blank in the 2023 program does not affect the integrity of the data set.
	Field trip blanks	Collected at a rate of 1 per day of sampling where primary contaminants of concern include volatiles. Analysed for volatiles of concern. Laboratory results below laboratory reporting limits should be considered to be indicative of no significant cross contamination during sample transport. Detections above laboratory reporting limits should be discussed (i.e. likely cause, consequences for data interpretation).	Two trip blanks (QC01 and QC02) were collected during the soil sampling event in 2019. The field blanks reported all volatiles results below the LOR indicating a low risk of cross contamination occurring. Significant volatile contamination was not identified suggesting a low risk for this issue. The absence of a trip blank in the 2023 program does not affect the integrity of the data set.
	Field trip spikes	Collected at a rate of 1 per batch where primary contaminants of concern include volatiles. Analysed for volatiles of concern. Laboratory results within =/-30% of the spike concentration should be considered to be indicative of no significant volatile loss during sample transport. Recoveries outside =/-30% should be discussed (i.e. likely cause, consequences for data interpretation).	No trip spikes were collected. Significant volatile contamination was not identified suggesting a low risk for this issue.
	Laboratory surrogate spikes	Surrogate spikes to be performed as required by NATA accreditation. Recoveries to be within 70-130%, or 30%-130% (phenols only). Recoveries outside these ranges should be discussed (i.e. likely cause, consequences for data interpretation).	Surrogate spikes were performed as necessary and results were within acceptable limits.
	Laboratory method blanks	Laboratory method blanks to be performed as required by NATA accreditation. Method blank results to be below laboratory reporting limits. Detections above laboratory reporting limits should be discussed i.e. likely cause, consequences for data interpretation).	Laboratory method blanks were performed as necessary and results were below laboratory reporting limits.

Aspect	DQI	Requirement	Auditor Assessment
	Laboratory control samples	Laboratory control samples to be performed as required by NATA accreditation. Recoveries to be within 70-130%, or 30%-130% (phenols only). Recoveries outside these ranges should be discussed (i.e. likely cause, consequences for data interpretation).	Laboratory control samples were performed as necessary and results were within acceptable limits. The control sample results are considered to be acceptable.
	Laboratory matrix spikes	Matrix spikes to be performed as required by NATA accreditation. Recoveries to be within 70-130%, or 30%-130% (phenols only). Recoveries outside these ranges should be discussed (i.e. likely cause, consequences for data interpretation).	Matrix spikes were performed as necessary and results were within acceptable limits, with some minor exceptions which are not considered to be of significance.
	Data transcription	ESDAT system to be used in order to minimise risk of data transcription errors.	Data was reported in ESDAT format.
Representative-ness	Soil sampling locations	Probability based: Where appropriate, samples to be collected using a square grid for the detection of circular hotspots in accordance with AS4482.1. Judgement based: Where appropriate, samples to be collected at targeted locations based upon the findings of the PSI.	As noted in the text, a grid type sampling approach was adopted for the investigation which was consistent with the requirements of the PRSA where there was limited evidence of point sources of contamination.
	Soil sampling depths	Soil sampling locations to be extended to depths which are sufficient to delineate the vertical extent of fill material, delineate the vertical extent of potentially contaminated material (based on field observations) and extent beneath any known buried contamination sources.	The shallow soils were considered to be natural.
	Soil sampling methodology	Soil samples to be collected using a methodology which is appropriate for the primary contaminants of concern.	Soil samples were collected using mechanical and hand auger sampling methodologies which the Auditor considered to be appropriate to assess the primary contaminants of concern.
	Soil sampling containers	Soil samples to be collected into laboratory supplied, clean and unpreserved jars.	The DQI requirement was met.
	Soil sample headspace	Soil samples to be collected with zero headspace, unless volatiles are of no concern.	The DQI requirement was met.
	Soil sample storage	Soil samples to be placed in an insulated container and chilled using ice bricks.	The DQI requirement was met.

Aspect	DQI	Requirement	Auditor Assessment
	Soil sampling equipment decontaminati on	Soil sampling equipment to be decontaminated between sampling locations, or between different sampling depths where significant contamination is encountered.	The DQI requirement was met.
	Soil sample collection intervals	Soil samples to be collected at regular intervals based upon stratigraphy and field evidence of contamination.	The DQI requirement was met.
	Soil sample contamination screening	Soil samples to be screened for contamination via visual/olfactory observations and PID measurement.	The DQI requirement was met.
	Soil sampling transport from field to laboratory	Soils to be transported to laboratory under chain of custody conditions.	The DQI requirement was met.
	Laboratory sample receipt advice	No damaged containers. No samples with inappropriate headspaces. No samples submitted without sufficient time to comply with recommended holding times. No samples submitted in containers which have not been chilled.	The DQI requirement was met.
	Holding times	Samples to be extracted and analysed within recommended holding times.	The DQI requirement was met.
	Analytical method	Samples to be analysed using a NATA accredited methodology.	The DQI requirement was met.
Completeness	Sampling, analysis and quality plan completeness	100% of sampling, analysis and quality plan to be implemented.	The DQI requirement was generally met. Blind duplicate and rinsate blank samples were not analysed.
	Field documentation	All relevant field documentation to be collated, including sampling logs and calibration records.	The DQI requirement was met.
	Laboratory documentation	All relevant laboratory documentation to be collated, including chain of custody records, sample receipt advice and analytical reports.	The DQI requirement was met.
	Critical sample validity	All critical sample data to be valid.	The DQI requirement was met.
Comparability	Sampling, analysis and quality approach	Adequately comparable sampling, analysis and quality approach to be used throughout project.	The DQI requirement was met (sampling events were conducted by trained samplers). Standard sampling procedures were used consistent with industry standards.
	Sampler	Samplers used throughout project to have sufficient experience.	The DQI requirement was met (sampling events were conducted by trained samplers).

Aspect	DQI	Requirement	Auditor Assessment
	Climatic conditions	Samples to be collected during similar climatic conditions. Where this is not possible, consideration to be given to significance of climatic variation.	The DQI requirement was met to the extent possible.
Summary	-	-	The Auditor considers that the soil data is adequately reliable for the purposes of the PRSA.